

## II. THE ARCHAEOLOGY OF GRANITE POINT, PERSHING COUNTY, NEVADA

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## INTRODUCTION

Granite Point is the name applied to a prominent escarpment of granitic rocks occurring on the northwestern edge of the valley of the lower Humboldt River. It is located thirteen miles southwest of Lovelock, and is identified by the Indians as Tohateka ("white rock sticking out"). The locale is immediately adjacent to U.S. Highway 40 and the parallel course of the Southern Pacific Railroad. Visible from the point are the railroad stations of Toulon and Toy, some six and fourteen miles to the southwest respectively; Humboldt Lake; and such corresponding archaeological sites as Leonard Rockshelter (26-Pe-14) and the limestone prominence containing Lovelock Cave which lies almost directly across the valley floor to the south. The structure of Granite Point consists of a table-like base topped by an impressive, almost vertical mass of rock.

The base is easily approached by automobile. It is approximately 3,000 feet in width and 65 feet in height, and rises sharply from the sands and gravels of the valley floor, appearing to support the main rock formation which occurs 800 feet to the north. Covering the top of the base are sands and gravels corresponding to those of the valley. These deposits show marked erosion.

The main peak, which rises almost 225 feet above the valley floor, is the formation which gives Granite Point its name. An imposing mass of eroded granitic rock, it is roughly rectangular in shape and exposed to the valley on three sides. Its highest point is 335 feet above the valley floor and 4,260 feet above sea level. Around the lower half of the peak is a large amount of loose talus which somewhat decreases the abrupt angle of thrust. Despite this, the structure, by its height and unusual snout-like appearance, is easily the most dominant natural feature of the area.

Granite Point has been the subject of several different forms of mining operations in the past. These have occurred mainly in the extensive facing of the table base, and even though gravel removal, open face excavation, and some tunnel mining are apparent, it is doubtful that these have altered the value of Granite Point proper as an archaeological site.

There is, however, one mining operation which has actively affected archaeological work in this valley in the past and continues to do so. This is the practice of removing large quantities of bat guano for fertilizer purposes. This substance, which has accumulated through centuries and is found in likely rock crevices, shelters, and caves, is often

directly associated with the cultural remains of the prehistoric peoples. Its removal by persons untrained or uninterested in archaeological techniques has undoubtedly destroyed large quantities of valuable material (Loud and Harrington 1929:34-35). Such has been the case at several sites in the Humboldt Valley area and at Granite Point rockshelter.

Granite Point cave and Granite Point rockshelter are both located in this rocky prominence—the shelter near its base and the cave some 250 feet higher. Collections from these sites are housed in the University of California Lowie Museum of Anthropology, and will be described separately in the following pages.

#### GRANITE POINT CAVE (SITE 26-PE-12)

Granite Point cave is a small, well-formed rockshelter whose entrance is visible from a distance of but a few feet. It is 12 feet deep, 14 feet wide, and 9 feet high. The cave is located on the narrow ledge formed by the junction of the upper edge of the talus slope with the western face of the main peak, at an elevation of 4,185 feet above sea level. It is some 50 feet north of the south and west facings of the main peak and commands an imposing view of its difficult approaches as well as of the entire southern half of the lower Humboldt Valley. Visible too, and near the cave mouth, are the remains of ancient beach lines. The rock face in which the cave is located is covered with a layer of dendritic tufa several feet thick. Both this tufa and the beach lines are features believed to have been caused by the waters of glacial Lake Lahontan. The interior of the cave itself is entirely lined with the tufa formation, except for a portion of the north wall and outer face which show the remains of a stratum of granitic conglomerate.

The cave was visited on June 26, 1950 by a petroglyph site survey party of the University of California Archaeological Survey composed of three members: Thomas Bolt, Albert Elsasser, and Norman Roust, all students of an archaeological expedition then working in the area under the direction of Dr. Robert F. Heizer. The guano deposits in the cave were found to have been disturbed and partially removed, presumably by commercial guano diggers. The deposits had been excavated to a 2 foot depth and thrown out of the cave entrance to rest on the talus ledge. Several small pieces of wickerwork and coiled basketry were found lying on the surface. Excavation of the cave commenced on July 13, 1950 and continued for several days.

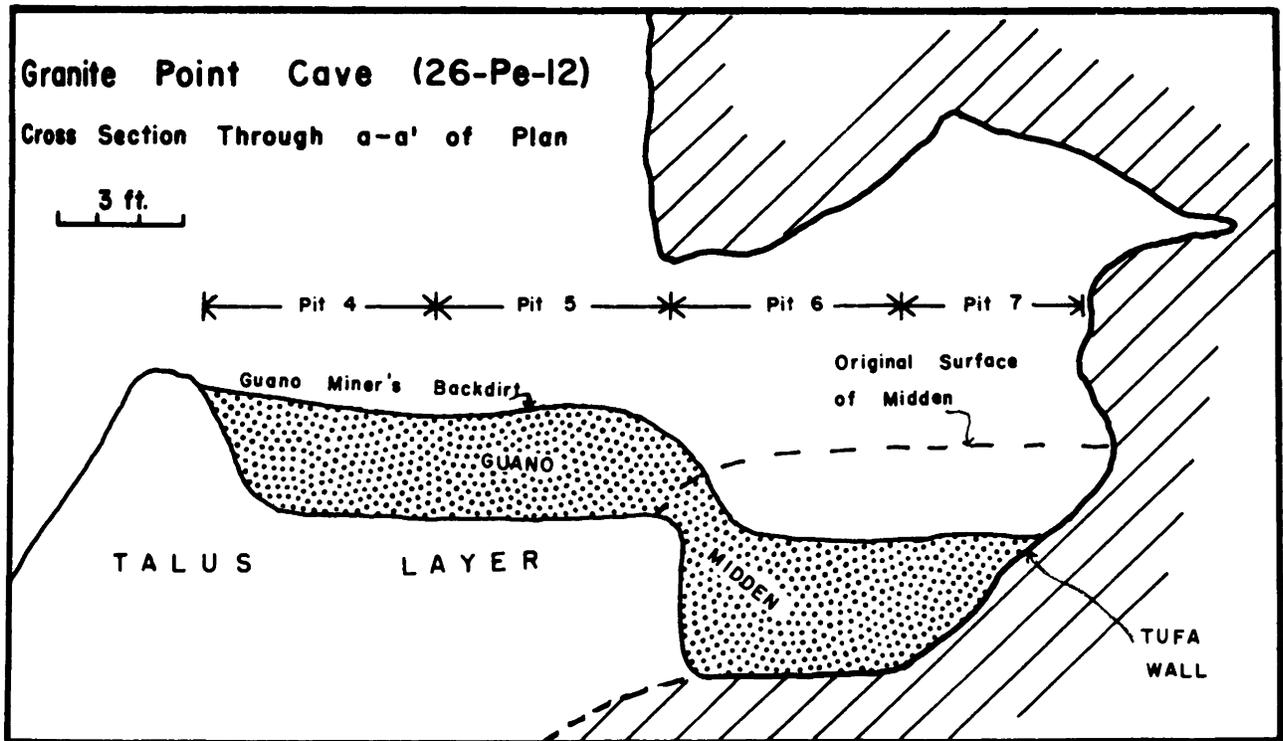
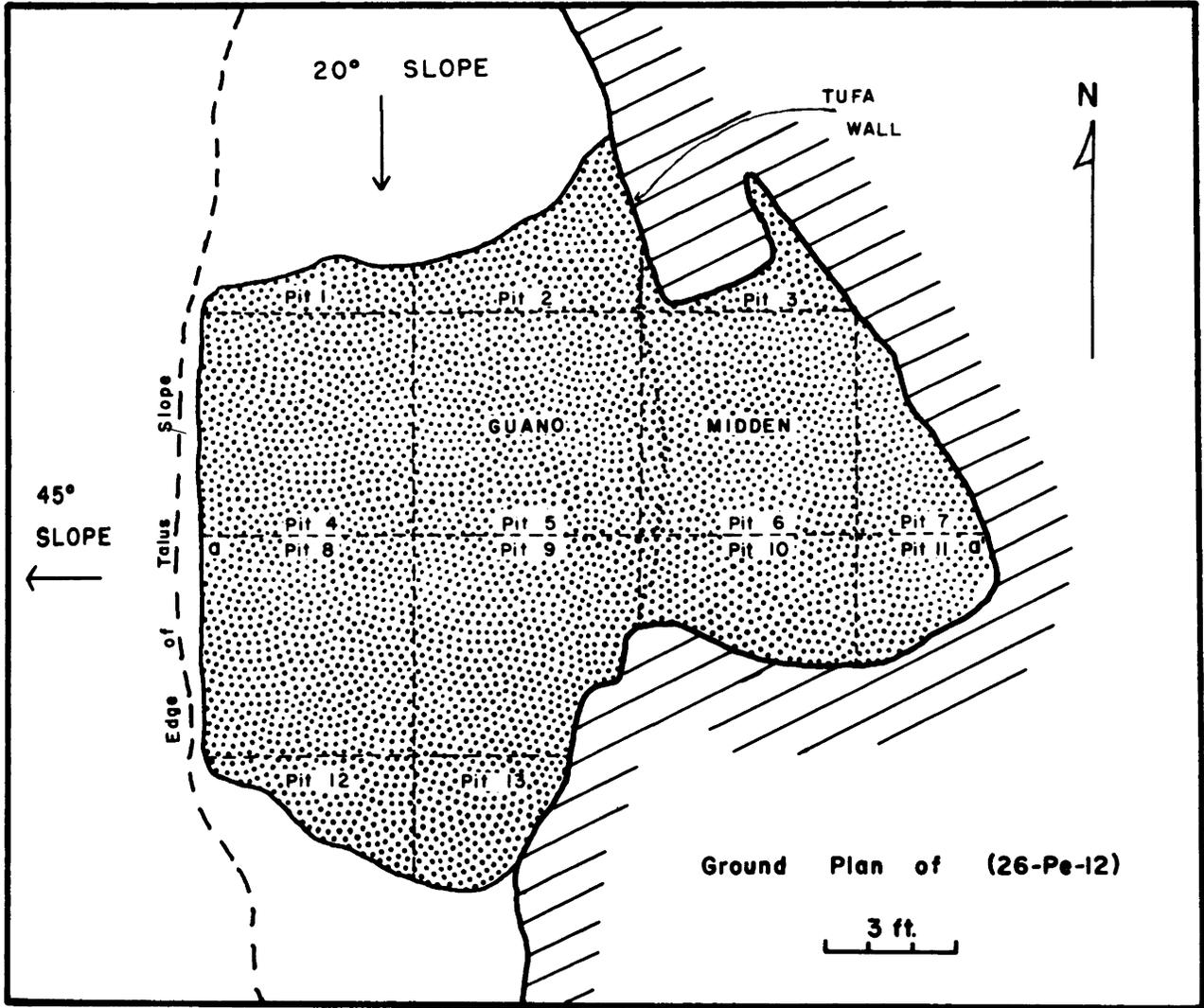


Figure 1

Because the loose guano backdirt represented the former surface deposits of the cave, it was decided to screen and remove this fill prior to the interior excavation. Accordingly, all deposits were measured off into 5 foot squares formed along a north-south, east-west base line, and were screened or excavated in 3 inch layers (see fig. 1). The pits were numbered according to plan and after removal of the loose backdirt were all excavated in turn. Pits occurring on the interior of the cave were numbers 3, 6, 7, 10, and 11. These represented presumably undisturbed deposits, with pits 10 and 11 yielding the great bulk of cultural material.

### Basketry

Basketry constitutes the greater part of the Granite Point cave collection. Of the total of 475 artifacts collected from this small site, 351 are basketry fragments. There are no complete specimens, and the fragments for the most part are small, generally not over 96 sq. cm. in surface area and averaging about 25 sq. cm. The specimens are identical with, or strongly resemble, the basketry types occurring elsewhere in the Humboldt Valley. However, while the basic complex is that characteristic of this general area, minor differences in decor and foundation techniques occur.

Three types of basketry are present: wickerwork, coiled basketry, and twined basketry. Of the 351 specimens collected, 140 (39.9 per cent) are of wickerwork; 181 (51.6 per cent) of coiled basketry; and 30 (8.5 per cent) are twined fragments. These figures, however, are not representative of the true proportions of the basketry types. For example, the 140 wickerwork specimens represent fragments of only one large basket, while the coiled and twined specimens are varied, representing several baskets and basketry types.

#### Wickerwork

It is believed that the 140 small specimens of wicker recovered were all part of one large, conical, burden basket identical to those reported from Lovelock and Humboldt caves (Loud and Harrington, 1929, pls. 27, 28; Heizer and Krieger 1956, pls. 21, 22; see also pl. 1a, c, d herein). Although many sections are missing, including those of the rim and apex, it is thought that this basket originally measured some 75 cm. in height and 60 cm. in width at the mouth.

The majority of specimens were found concentrated en masse in pits 10 and 11, at a depth of 3 to 33 inches. Several of the larger fragments were in direct contact with, or were supporting elements for, one large segment (pl. 1a) measuring 21.5 by 9.0 cm., which appeared to be undisturbed. This segment, occurring at a depth of 18 inches, was reinforced on the outer surface by a layer of coarse matting (Juncus?) measuring 1.2 cm. in thickness, occurring parallel to and in direct association with the curvilinear wickerwork. Between these two pieces was found a filler of compacted earth mainly composed of bat guano deposit, very similar to that characteristic of the site whole. This filler, averaging 3.2 mm. in width, was, however, more closely compacted than the surrounding sediments, and acted as a cohesive agent between the two fabric layers. On excavation, the guano filler adhered to the matting and at present retains the impression of the wickerwork interior (UCMA 2-26297).<sup>\*</sup> Whether this filler was intentionally placed between the two fabric sections for adhesive purposes, or is merely the result of soil infiltration, is impossible to determine.

The total surface area of the recovered wicker specimens is approximately 80 sq. cm. It is believed that the upper basket section was destroyed and removed by the previous guano excavation. The small wickerwork fragments occurring outside of pits 10 and 11 were found in the loose backdirt areas of the site. These sections are of generally finer weave than those from the concentrated area. The conical shape of the basket was determined by the appearance of fragments on excavation, and the smaller number of such fragments at the lowest levels. The latter are of generally heavier type, and covered with a fine coating of gray clay (2-26189, 2-26260).

The warp of the basket consists of relatively uniform willow twigs, peeled to a 3mm. diameter. These are laid parallel to each other and are so close together that an average of 23 occur per 10 cm. Some variation is noted, however, in the warp diameters of fragments occurring near the basket's extremities. Warps of smaller diameter are found in the upper sections (to 1.5 mm.) and warps of larger diameter occur in the lower sections (to 4.5 mm.). In order to maintain the proper conical shape of the basket, new warps were introduced into the body weave at various intervals.

The weft consists of two remarkably thin and uniform willow splints averaging 3 mm. in width. It is evident that in the manufacture an attempt

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<sup>\*</sup>Accession numbers in all cases are those of the University of California Lowie Museum of Anthropology, Berkeley.

was made to completely superimpose one weft splint on the other in a tight "over-under" technique. Consequently, the great majority of the pieces appear at first glance to have only one weft splint strand.

Wickerwork weave differs from true plaiting in that the latter employs both warp and weft as active elements, whereas in wickerwork the warps are stiff and inactive and the wefts are the only active element. The wicker is in all cases woven one under and one over, with occasional crossing of newly introduced warps. If the basket's rim was completed by the rim-selvage technique, no evidence of it is present.

Repair work is evident in several of the recovered pieces, the best example being evident in the large segment (pl. 1a) already referred to. This tear, the result of a set of passive warps breaking along a somewhat even line, was repaired by the use of a large clinch stitch often 3.5 cm. in width. This stitch was sewn so that in reality it serves as a supplementary warp by crossing the tear alternately, first on the inner and then on the outer surfaces of the basket. On completion of the clinch stitching, the single willow splint used as the repair element was brought back over the length of the tear, binding the warp repair stitches into irregular groups of twos, threes, and fours.

Only one fragment of the recovered wicker bears any decoration. This piece (pl. 1c) was found in the loose surface soil of pit 3, immediately adjacent to the area of highest basket concentration, pits 10 and 11. This specimen is of relatively fine weave, with 26 warp courses occurring per 10 cm. It is 6.3 cm. in length and 5 cm. in width. Both the inner and outer surfaces show evidence of decoration. The inner side bears a pattern of brown, unpeeled willow splints. It is believed that this pattern is unintentional and is merely the back of the formalized and clearly distinct pattern on the opposite side of the specimen. Like those reported from the collections of Lovelock Cave (Loud and Harrington 1929, fig. 13c,i), the design of this basket consists of a zigzag or "W" stripe running the same direction as the weft. The design occurs only in the weft elements which are brown, unpeeled willow splints. The pattern differs from usual valley types in that it apparently consists of a double zigzag of unpeeled bark. Two adjacent courses of unpeeled bark weft lie next to two peeled courses, which in turn are followed by a repeat of the two unpeeled courses. It is impossible to determine of what the remainder of the design may consist. The pattern as represented is distinctive, however, and is probably characteristic of the entire upper portion of the basket.

This wicker basket is representative of the wickerwork of Humboldt Valley. Partially or completely reinforced with matting, it was apparently used as a cache and buried as deeply in the deposit of bat guano as the underlying rock floor of the cave would permit. During the excavations, specimens appeared within 3 inches of the surface and continued to the rock base. Considering the prior removal by the guano diggers of the surface layers over this level, it is highly probable that this basket was intrusively buried some 14 to 18 inches below the surface. Nothing significant was recovered within what would be the normal content of the cache in situ, but no other satisfactory explanation can be made for such a recovery. The idea is further supported by the fact that the southwest corner of the cave, in which the basket was located, is virtually the only place in the cave suitable for a cache. On excavation, it was found that the surface level above this particular spot was lower than the surrounding areas. This is believed to have been due to natural causes, probably to settling of loose fill.

#### Coiled Basketry

One hundred and eighty-one specimens of coiled basketry were recovered from Granite Point cave. The pieces are small for the most part, and while they are similar to typical Humboldt Valley types, some distinct variations occur. It is believed that the fragments represent a maximum of two circular roasting trays, one a bowl-like basket of fine weave and the second a vessel of undetermined design.

Circular roasting trays:— Of the 181 specimens recovered, 170 are unmistakably roasting tray fragments. These represent not more than two circular trays of approximately identical size, probably 67 to 75 cm. in diameter. Construction variation makes differentiation possible. As each of these trays is of a distinct type, they will be discussed in turn.

Tray no. 1 is a relatively thin roasting tray of an estimated 75 cm. diameter. It is represented by 165 of the recovered coil fragments, and is composed of willow rods, slats, and splints; the former two are used for the foundation coil, and the latter for the stitching element. The foundation rods average not over 2.5 mm. In large sections of the tray these are so loosely stitched together that the tray is weakened and therefore highly pliant. It is doubtful that such a loose construction would be capable of supporting the weight a normal roasting tray would be required to carry. Possibly this tray, although similar in construction and appearance to typical roasting trays of the Humboldt Valley vicinity, was not originally intended to serve as a roasting tray,

but was only so utilized through necessity. The extensive repair work evident in the specimen also bears out this conjecture. The center section of the tray shows scorching to a diameter of 30 cm. and, due to the thinness of construction, is almost entirely burned through.

The coil of the tray is of peeled willow twigs combined into a two-rod and bundle foundation. Although the majority of the tray specimens exhibit this as the basic type of foundation, some variations occur, including horizontal three-rod and slat (2-26185) and triangular three-rod and slat (2-26006). Foundation rods average 2.5 mm. in diameter, and there are 25 coil courses per 10 cm.

The stitches of this tray are split with regularity on both coiling surfaces. Stitches which are not split occur, but it is believed these were not intentional. Stitches pass around all or part of the underlying coil. An average of 35 stitches occur per 10 cm. The sewing element is a willow splint, originally about 2 mm. wide, but enlarged up to a 3 mm. width by the splitting process. Structural technique of the basket is identical with the representative Humboldt Valley type, consisting of a spiral construction proceeding clockwise from the center.

Repair of this tray occurs in several places, the best example being presented by the specimen shown in Plate 1**b**. This piece, measuring 14 by 3.8 cm., has a curvilinear tear throughout its length. This tear occurs along the juncture line of two foundation coils, and is obviously a fracture of the stitches which held the two coils together. To repair this break, one additional foundation rod has been added to each side of the tear. This rod is parallel to the course at a distance of 2 mm. and serves as an additional support for the large clinch stitch which closes the tear. This stitch appears on alternate sides of the basket and runs the length of the tear, crossing it at right angles. The stitches are 1.4 cm. in width, with the interval between them averaging 5 mm. The tray thickness is enlarged at this point to 8.5 mm., due to the added width of the extra foundation rod and the repair stitch.

No decoration is apparent on this tray. The majority of the larger fragments occurred in pits 10 and 11.

Tray no. 2, of which only a few pieces were present, is a coarsely constructed, circular roasting tray of an estimated 75 cm. diameter. It is composed entirely of willow rods, slats, and splints. The rods are wide and vary from 3 to 5 mm., with the average diameter being about 3.5 mm. As a consequence, this tray's thickness is considerably greater than that of Tray No. 1.

The foundation of this tray is of the two-rod and bundle and the triangular three-rod and bundle varieties, with the latter occurring more frequently (examples: 2-26400, 2-26006). The average coil diameter is 9 mm., with 19 stitches occurring per 10 cm.

Stitches are noninterlocked and are split on one side of the basket only. Although some splitting is evident on the reverse, it is believed that this was unintentional. The stitching element is a willow splint normally 3 mm. wide, but enlarged up to 7 mm. by the splitting. Stitches pass completely around the new coil and through the bundle part of the underlying coil. Twenty-three stitches occur per 10 cm., and construction technique is apparently identical to that of other specimens from the area.

Recognition of any decorative pattern is impossible, but traces of gray clay and pitch are evident on several of the specimens. The addition of these substances serves both as decorative and strengthening elements. All fragments recovered were in shallow, backfill deposits, indicating that the basket was probably originally located within a few inches of the surface.

#### Fine Coiled Basketry

Five small fragments of finely coiled basketry were recovered from Granite Point cave. It is believed from the curvature and wear of the specimens (2-26005, 2-26029, 2-26188, 2-26322, 2-26352) that these pieces represent a relatively small, well-made bowl basket. The largest and most representative specimen (2-26005) measures 6 by 3 cm. Using this fragment as a guide, an estimated 40 foundation coils and 62 to 67 stitches occur per 10 cm. This compares favorably with certain pieces from Lovelock Cave (Loud and Harrington 1929:66, type a, narrow stitch).

The primary foundation techniques employed in this vessel are that of the single-rod, the single-rod and slat, and the two-rod and bundle. This foundation aids the construction in that a finer weave is possible. Where a single-rod is employed, it averages about 1.5 mm. in diameter, with a corresponding total coil diameter of 2 mm. Where a single-rod and slat foundation has been employed, the rod is of decreased diameter to allow for the slat, and the corresponding coil diameter remains the same. This is further carried out in the two-rod and bundle coiling. (Examples: 2-26005, 2-26188, 2-26352)

Stitching occurs straight up and down, and is split on one side. In three specimens (2-26029, 2-26322, 2-26188) the stitches are more

loosely woven and the stitch frequency is consequently reduced from 62-67 to 50 per 10 cm. The stitching element is a single willow splint not over 1 mm. in width, and all specimens show noninterlocked stitching.

No decoration is evident beyond the gray clay applied to the external surfaces. All specimens were recovered from the backfill areas or surface deposits of the site, indicating a possible surface or near-surface original deposition.

### Other Coiled Basketry

The last coiled fragment to be discussed is perhaps the most interesting of all. This piece (2-26184), measuring only 3 by 3.5 cm. in area and 1 cm. in thickness, is entirely distinct in appearance from any other specimens recovered in the cave. It appears to be a crude combination of most of the basic coiling techniques, and employs straight stitching, single and double-split stitching, and interlocked and noninterlocked stitches. These occur in apparently haphazard fashion, without regard to vertical symmetry. The foundation coils, measuring 7 mm. in diameter, are chiefly of the rod-bundle variety, and are composed of willow rods and slats and a rough unidentified fibrous element. They are irregular and uneven, adding further to the crude appearance of the specimen. This fragment occurred at a depth of 10 inches in pit 3. There are approximately 17 coil courses per 10 cm. An accurate estimate of the stitch frequency is impossible, however, due to the very nature of the stitching itself. Consideration of the specimen leads to one of three possible conclusions: (1) the piece is of manufacture foreign to this valley and was introduced through trade, migration, or conquest; (2) it is a child's attempt at basketry; or, (3) it represents an ancient ancestor of the present Humboldt Valley types. At any rate, no similar specimen has been reported previously from this vicinity, and the writer knows of no corresponding specimens from adjacent areas. Its very distinctiveness is intriguing, and it is, without doubt, the most significant and puzzling basketry fragment from the site.

### Twined Basketry

Twined basketry can be catalogued into one of two classes: the stiff-twined and the flexible close-twined varieties. Representative specimens of the two classes often occur together in the same site, but only the stiff-twined variety was recovered from Granite Point cave. Of the 30 fragments recovered, 27 are apparently portions of the same basket.

The 3 remaining specimens each represent a distinct basket and show individual weaves. Thus, four distinct stiff-twined techniques are apparent, and each will be discussed in turn.

Open work twining:— The bulk of the fragments recovered show an open warp with 2 and 3 strand wefts. Many of these are rim selvage fragments and, because no lower sections of a twined basket are represented, it is possible that these pieces are the remains of a wicker burden basket rim. However, the unpliant nature, weakness of weave, and general construction technique tend to repudiate this theory. It is believed, rather, that the fragments represent a completely twined basket with its own selvage rim. The shape is believed to have been conical. This is determined by the curvature of the individual weft courses and the fact that the straight warp intervals in the rim sections are larger than those of other pieces.

All warps are of peeled willow, averaging 2.5 mm. in diameter. The warps are vertical and occur singly in intervals of 2 to 5.5 mm., depending on the desired taper of the specimen. The warps are stiff and passive, all twining being done in the weft courses.

The weft courses are of unpeeled willow, of approximately the same diameter as the warp. The courses run at approximate right angles to the warp, occur singly at intervals of 10 cm., and appear to alternate between 2 and 3 strands. All are woven down to the right, with 2-strand wefts about 6 mm. in diameter and 3-strand wefts up to 7.5 mm. The weave is rigid and nonflexible, of the simple twist-twining technique. The 3-strand course varies from the 2-strand in only one way—in the 3-strand technique a double strand is used in place of the single strand of the 2-strand technique. Otherwise, they are identical. A ragged appearance is presented in some of the specimens due to the disruption of the bark caused by the twisting of the weft.

The final or rim course of the basket is completed by a selvage technique in which about 8 mm. of the protruding warp is bent back along the rim edge and hooked under a similar bend in the warp just preceding. No further locking is needed, and as the warps' ends are thus hooked on the inner surface of the basket, the exterior rim edge presents a solid and even appearance. This selvage technique, in addition to the immediately adjacent and underlying 3-ply weft course, gives the basket rim a considerably heavier appearance than that of the basket wall. If the assumption is correct that this was a conical, open-twined burden basket, then it is believed, due to the curvature of the rim sections, to have measured a minimum of 60 cm. across the mouth.

Wicker twining:— One specimen (2-26080) shows a combination of wickerwork-twined weaving techniques. This piece, apparently a rim section of a wicker burden basket (perhaps that of the recovered wicker basket), is identical in technique to wicker-border sections described by Loud and Harrington (1929:61; pl. 27c). It measures 26 by 30 cm. The single warps of the wickerwork body are tightly combined into pairs by two courses of twining. This weave has a two-fold purpose: that already mentioned; and the holding of the weft course ends of the upper rim. In contrast to the basket proper, these weft strands are doubled like the warp and are not at right angles to it. The technique is simple 2-strand diagonal twining.

Plain close twining:— One small example of this technique was recovered. This specimen (2-26138) measures 9 by 10 cm., with the single straight warps averaging 5 mm. in diameter, and the weft courses 4 mm. The warps are peeled willow twigs, the wefts are very thin double willow splints superimposed on each other in the over-under technique, as in Lovelock wicker, and woven as one (Loud and Harrington 1929:60). It is impossible to determine what type of basket is represented by this piece. The warps, however, show marked taper, indicating a pronounced conical shape. If this is the case, the fragment may well be part of the apex of any of the other previously described baskets from the site. The weave is close, with an estimated 6 weft courses and 4 to 4½ warp courses occurring per 10 cm.

Small open twining:— One small conical piece (2-26448), measuring only 20 cm. in height and 14 cm. in diameter at the mouth, was at first believed to be the apex of a conical burden basket. Examination, however, shows that this specimen is a basket complete within itself. This is determined by the rim technique used, which is identical with that previously described for the open work twining. The purpose of such a small, rigid item can only be a matter of conjecture. It is the writer's belief that this open work, loose-twined object is a child's toy. The warps, ten in number, are of unpeeled willow not over 2 mm. in diameter. The wefts are 2-ply unpeeled willow splints, also ten in number, from apex to rim.

### Matting

Seven fragments of twined matting were recovered from Granite Point cave. Two of these specimens (2-26263, 2-26297) are of rush (Juncus); three (2-26009, 2-26128, 2-26195) are of tule (Scirpus lacustris), and two (2-26300, 2-26380) are of sagebrush bark (Artemisia tridentata). All

are of similar construction, showing a straight close warp with a single 2-ply weft at right angles to it. Two of the tule fragments (2-26009, 2-26195), sections of the same mat, are representative of the technique employed in all the fragments, and as such will be discussed below.

Warps are stiff and passive, and average 1 cm. in diameter. These are held closely together by a single course of 2-strand twisted weft, approximately 7 mm. in width. This occurs at right angles to the warp at intervals of 7 cm. The twining is of the simple over-under twist variety, and is always down to the right. Nine warps and ten weft courses occur in a 10 cm. distance. The matting shows marked wear, and is considerably flattened and compressed together.

Apparently four twined objects are represented by the seven fragments. The two rush specimens are parts of the matting which supported the wickerwork basket described above, and may represent a large, basket-like container. The two sagebrush specimens were found near each other at a depth of 37 cm., and are apparently portions of the same object. Due to the slight difference in texture and weave size presented, it is believed that the third tule fragment (2-26128) is part of a separate mat.

### Netting

Two fragments of netting were recovered from Granite Point cave. The larger of the two (2-26458) was found at a depth of 72.5 cm. in pit 10. The smaller piece (2-26340) is charred, and was found at a depth of 60 cm. in pit 6. Although this latter piece occurred 15 cm. below the lowest fire hearth found in the cave, it is possible that the fire area is the source of charring, and that the charred fragment was moved from its normal position by the guano deposit disruption.

It is apparent, however, that the two pieces are portions of the same net as both are of the same weave and material. Use is undetermined, but Loud identifies corresponding Lovelock Cave items as hair nets (Loud and Harrington 1929:91, pl. 41e).

The net is made of 2-strand, S-twist cordage, 0.6 mm. in diameter. Individual strands measure 0.2 mm. The material is believed to be of dogbane fiber (Apocynum). The color of the strands is a uniform black.

Weave is irregular, with mesh sizes varying from 7 by 11 mm. to 17 by 17 mm. A roughly rectangular weave is indicated, tied on the corners with the common mesh knot (Grégoire 1956, fig. 1).

## Cordage

The term cordage is used in its inclusive sense, covering three major divisions: rope, braid, and twine. As examples of all three were found in Granite Point cave, each will be discussed.

### Rope

The term rope, as used in this paper, implies a twisted length of fibrous material, measuring at least 7 mm. in width. It is differentiated from braid by the technique used, and from twine by the size of the strands.

Nine of the specimens recovered can be placed in this category. Of these, three are of sagebrush bark (Artemisia tridentata), two are of willow (Salix), two are of rush (Juncus), one is of tule (Scirpus lacustris), and one is of unidentified material.

The three sagebrush specimens (2-26151, 2-26300, 2-26366) are similar to each other in technique. All are composed of 2 strands with a Z-twist. They are twisted loosely and the fibers are soft. The strands average 3 mm. in diameter, with approximately ten twists occurring in 10 cm. distance.

One of the willow specimens (2-26033) may be a weft element of a twined basket, but the partial presence of a third strand in an unaccustomed position tends to overrule this idea. The other fragment (2-26032) has 3 strands, with the basic twist being the common 2-ply twining Z-twist technique, and with the third strand added apparently haphazardly. This strand intermeshes the other two at odd intervals, its only apparent purpose being one of reinforcement.

The two specimens of rush are examples of 2-ply, Z-twist technique. One fragment (2-26049) is larger than the other, however, and shows the technique involved on the introduction of a new rush into the 2-ply strand.

The tule twist is large and crude. It measures 2 cm. in diameter even though it is only of 2-ply technique. Elements of weed or grass stem accompany the main tule strand used as a base, while a double tule strand, woven as one, twists around it.

The final, unidentified specimen (2-26011) is a single length of a tule or grass stem, twisted tightly upon itself in Z-twist. Although its diameter is only 5 mm., its tensile strength appears to be as strong, if not stronger, than that of the other previously described specimens.

The use of these rope specimens is a matter of conjecture. The two willow fragments may be parts of the handle of a basket, and the other fragments would have been used in any one of the varied ways rope is characteristically utilized in such a society. All specimens save those of sagebrush were found on or near the surface of the cave deposits.

### Braid

Six specimens of braid were recovered. All are of rush (Juncus) and all, despite their individual appearance, use 3 strands only. These fragments (2-26067, 2-26148, 2-26191, 2-26210, 2-26291, 2-26333) vary from 6 to 13 mm. in braid width and are no longer than 15 cm. In one specimen (2-26191) the 3-ply braid has been attached on one end to a 2-ply cordage of the same material. This has been accomplished by a simple rolling of the 3-ply braid strand ends over the 2-ply twist.

### Twine

Seventeen specimens of twine cordage (less than 7 mm. in diameter) were recovered from the site. The three largest pieces (2-26068, 2-26214, 2-26334) are of twisted birdskin; the remainder are all small cords not over 2 mm. in diameter and believed to be of Apocynum. These fourteen specimens are all 2-ply, S-twist, with an average of 60 twists per 10 cm.

The birdskin fragments are of greatest interest as each presents an individual technique. The largest specimen (2-26334) measures 5 cm. in length, and is no more than a simple twist of one piece of unidentified birdskin. Specimen 2-26068 is a 2-ply Z-twist twine of two strips of feathered birdskin. This is tightly done and appears as one strand. Specimen 2-26214 is a birdskin overlay on a single strand twist of highly fibrous vegetable material, probably Apocynum. Both elements have a Z-twist with the birdskin strip wound loosely over the fiber center so that the center easily shows through.

All the twine cordage is in good repair. A tensile-strength test was made between one of the average specimens and a modern piece of cotton string. Both were 2-ply cord of equal diameter and were put under equalized pressure. When pulled taut, the Granite Point fragment held fast while the modern cord snapped in two.

## Stone Material

Twenty-seven chipped stone fragments were recovered from Granite Point cave. The bulk of these specimens are cores and flakes of various materials: 4 heavy basalt fragments; 4 jasper cores; 8 chert flakes; 2 obsidian flakes; and 4 chalcedony flakes. Undoubtedly these are residual materials from purposeful chipping, the intentional products of which are absent. If, as may be argued, the chips themselves represent tools, they are then so elementary in type that little specialized use could have been made of them.

The remaining five specimens, however, are distinct tools of more complex type, and merit discussion at some length. Four of these are of obsidian and one is of chert.

Obsidian core tool (pl. 1g):— This specimen is of red-black obsidian and measures approximately 2.5 cm. in diameter. It is classed as a distinct tool because of the secondary pressure chipping evident on the surface edges.

Obsidian scraper (pl. 1e):— This fine artifact is of red obsidian and measures 2.5 cm. in width, 4 cm. in length, and 8 mm. in thickness at its maximum. The piece is unusual in appearance in that the removal of four large chips gave the object its form. Originally a hognosed obsidian section, the piece shows the effect of a percussion blow which was sharply delivered from the butt end. This removed one large flake extending over the total dorsal surface. The area of this newly flaked surface was then decreased by the removal of a similar percussion flake from each side. Finally, the butt end itself was shaped to its present abrupt appearance by a percussion blow from the top. Secondary pressure chipping occurs on the bottom edge of the snub-shaped nose and parallel sides, increasing their cutting ability.

Obsidian drill (pl. 1f):— This drill is of black obsidian and is a modified "Y" shape. It consists of a long, slender point with an expanded, concave base. Considerable patination is evident. The point of the drill has been weathered dull and all the angular surfaces show similar modification. Fracture of one wing tip has occurred with the broken surface showing marked patination. No evidence of the broken tip was recovered. Estimating the broken wing of the drill to be of the same approximate size as the one now present, the original drill had the following dimensions: base width (distance from wing tip to wing tip), 1.6 cm.; total length, 3.2 cm.; maximum diameter, 5.5 mm. It is noted that the point of heaviest duress under normal use (i.e. the juncture of

the three stems) has been left slightly thicker in diameter than that of the stem proper. Use of this object undoubtedly corresponds to other like drills of the area, of which the perforation of leather is probably the most important.

Obsidian arrowhead (pl. 1i):— Only one arrowpoint was found in the site. This point is small (weight 0.9 gr.) and is characterized by the excellence of its minute chipping. It is of black obsidian, and has a concave base and small side notches. It measures 1.3 cm. across the base; 2.1 mm. in thickness at its maximum point; and is 3.5 cm. in length. This point most closely resembles the western Shoshonean arrowpoint of the preconquest period, which is characterized by a concave base and side notches. The Granite Cave point is, however, unique in several respects, and at this writing can be accurately matched with no other. The following features, occurring in combination, make this point unique: (1) a slim, elongated forepoint whose distinct taper is made possible by the fine chipping employed throughout; (2) the size of the point itself; (3) the chipping technique involved; (4) the minute size of the side notches; (5) the extreme forward location of those notches. The point was found in the loose guano backdirt of pit 4 at a depth of 7.5 cm., indicating that its original location was at or near the surface of the cave deposits proper.

Chert scraper (pl. 1h):— This is a small, snub-nosed scraper, the upper portions of which are covered with asphaltum. The specimen measures 3.1 cm. in length and 2 cm. in width at the base. From the front working edge of the object, a gradual taper occurs up to the butt end, giving the latter a thickness of 6 mm.

These five stone tools represent relatively recent manufacture. This is determined by their general typology and their location within the site. Since no auxiliary chips for these tools were found in the site, they represent items of manufacture from outside the site proper. The predominant use of obsidian, a trade material, indicates that these people, if not nomads themselves, strongly depended on such trade items for the development of their basic manufactures. Such a situation means that the culture here represented had strongly established supply routes between it and the material source. Whether this material was obtained by the people themselves by traveling long distances, or was trade material from adjacent peoples, or represents the spoils of war, can only be conjectured.

### Miscellaneous Items

Several distinct artifacts that cannot be logically classified in other sections were found in the site. They are listed and described below. The reader is reminded that each item is an entity within itself and that adjacent listing does not necessarily indicate relationship.

#### Wooden Objects

Foreshaft (pl. 1j):— This specimen is of greasewood (Sarcobatus vermiculatus), and is 15.8 cm. long and 5.5 mm. in diameter. It is believed to be an arrow foreshaft, remarkably uniform throughout its entire length despite the presence of intermittent small knots in the wood. Both ends of the missile are pointed and show the same degree of taper. It was found at a depth of 7.5 cm. in the guano backfill pile of pit 12.

Fire hearth:— This item is badly burned, only a small fragment of the complete specimen remaining. It is a small pole or stick-like object of cottonwood (Populus fremontii). In addition to this artifact and the arrow foreshaft, five small greasewood sticks and two cottonwood sticks were recovered. Use is undetermined.

#### Bone and Shell Beads

Bone bead:— This specimen (2-26070) is a cross section of the femur of a coyote (Canis latrans lestes). Measuring 4.4 cm. in length and 1.25 cm. in diameter, the specimen is uncolored and unmarked in any way. No trace of any supporting element is present.

Dentalium bead:— One dentalium shell (2-26101) was found in the site. This bead occurred at a depth of 42 cm. in the loose guano backfill of pit 4. The shell is complete and shows no additional marking, perforation, or coloration. Through the hollow interior of the shell runs a twisted twine cordage fragment of 2-ply Apocynum. The cord itself is of slightly larger diameter than the hole in the bead through which it passes, and is therefore highly resistant to removal. This shell, being a trade item, serves as a good indication of contact, perhaps many times removed, between the population of this site and the northwestern United States and southwestern Canada.

### Animal and Bird Bones

Twenty-five miscellaneous bone fragments were recovered from Granite Point cave. Of this total, 16 are animal bones and 9 bird bones. The animal bones include: 4 coyote (Canis latrans); 2 mule deer (Odocoileus hemionus); 5 jackrabbit (Lepus californicus deserticola); 1 marmot (Marmota flaviventer avora); and 4 unidentified small rodent bones. The bird bones include 1 raven skull (Corvus corax) and 1 humerus and coracoid from a cinnamon teal (Anas cyanoptera).

The two deer fragments are sections of scapulae and show indications of possible utilization as tools. One fragment of a jackrabbit femur (2-26308) shows a deliberate split and removal of a shank section.

### Site Features

Two fireplace beds of charcoal and burned guano were discovered intact in the Granite Point cave guano deposits. Both were undisturbed and relatively horizontal; they appeared to be in situ.

Fire hearth no. 1 was discovered 30 cm. from the surface in pit 6. Its exact location was 3 feet, 6 inches east and 2 feet, 8 inches south of the northwest stake of pit 6. This is almost the exact center of the cave. The hearth was approximately 10 cm. in depth and had a diameter of about 30 cm.

Fire hearth no. 2 was also located in pit 6, almost directly below the first fire bed. More specifically, it was about 7.5 cm. below the first hearth and 37.5 cm. below the surface. Its exact location was 3 feet east and 2 feet, 10 inches south of the northwest stake of pit 6. The hearth was about 7.5 cm. thick and 25 cm. in diameter. Associated with the charcoal, of which the hearth primarily consisted, were small fragments of burned animal bones, presumably jackrabbit. Charcoal samples were obtained from each hearth.

These were the only two fire hearths discovered in the cave deposits. The isolation, small size, and depth of these hearths indicate that occupation of the site in correlated times was scanty and not permanent. However, the entire roof of the cave is covered with a thick deposit of soot and smoke blackening, far in excess of any that could be produced by these two small hearths. No soot or smoke blackening appears on the present walls of the cave. Consequently, it can only be deduced

that intensive use of fire was practiced in later cave periods, in correlation with surface guano deposits. It is therefore assumed that fire hearths and other associated remains must have been present in good quantity in those surface deposits which were removed by the recent guano diggers. Scattered evidence of charcoal through loose backdirt piles further bears this out. Thus, former scanty and more recent intense occupations of the site are indicated.

#### GRANITE POINT SHELTER (SITE 26-PE-41)

Granite Point shelter is a rock crevice located in the south wall of the base of Granite Point. Fifteen feet in length and 8 feet in width, the crevice has an elevation of 3,940 feet above sea level and approximately 35 feet above the level of the Humboldt Valley floor immediately below. The site is marked by a rock overhang which forms the shelter roof and protects the deposits of bat guano covering the floor below.

Commercial excavation of these deposits in the spring of 1937 uncovered a quantity of prehistoric cultural material in a good state of preservation. This material was collected in May of that year by Dr. Robert F. Heizer, and is now included in the collections of the University of California Lowie Museum of Anthropology, Berkeley. Among the 77 artifacts thus obtained were wickerwork basketry specimens, coiled basketry specimens, matting fragments, arrow shafts, animal bones, etc., all of which are described below.

#### Basketry

Basketry constitutes the greatest part of the Granite Point shelter collection. Of a total of 77 artifacts, 54 (70 per cent) are basketry specimens. These are of varied wicker and coiled weaves, with many of the specimens large and relatively complete. The fragments, in general, are representative of characteristic Humboldt Valley types, but minor differences in technique occur. Of the 54 specimens, 27 are of wicker and 27 of coiled weave.

#### Wickerwork

Four baskets are represented by the 27 wicker fragments. These are described in turn.

Basket no. 1 (pl. 1d):— This specimen is believed to be from a conical burden basket of the characteristic Humboldt type, even though it is represented by only one small fragment. Although the specimen measures but 2.5 by 5 cm., it represents an individual basket for two reasons: (1) the close compression of adjacent weft elements; and (2) the decorative pattern therein employed.

Warps are peeled willow twigs, not over 2 mm. in diameter and averaging about 1.5 mm. These are approximately parallel and occur 2 mm. apart. Fourteen warps are present, with an estimated 28 occurring per 10 cm. The negligible taper and the small warp diameter indicate this to be an upper basket section.

The weft element consists of two thin willow splints woven as one. This is the common over-under technique, in which one splint is so completely superimposed on the other that a single weft element is formed. In this specimen, the double splints do not exceed 0.5 mm. in thickness and 2 mm. in width. The weft elements are so firmly compressed together that the 2 mm. widths are often reduced up to 0.5 mm. This technique is unusual and permits 56 weft courses per 10 cm.

Wicker weave employs stiff, passive warps and active, pliable wefts. All weaving is done by the latter and is, in most cases, woven one over and one under, although occasional elaboration of this technique for introduction of new warp elements and decoration occurs. Rims of wicker baskets are usually finished by any one of several selvage techniques, of which none is evident in this specimen.

The decorative pattern of the fragment corresponds almost exactly with the specimen shown in Plate 1c, which was found in nearby Granite Point cave; similar specimens are reported from Lovelock Cave (Loud and Harrington 1929, fig. 13c,i). The design consists of a double zigzag or "W" stripe running the same direction as the weft. In both fragments (pl. 1c and d) the pattern shows two adjacent weft courses of unpeeled willow lying next to two peeled courses, which are in turn followed by two unpeeled courses. Only the compressed nature of the weft weave makes the effective employment of this pattern physically possible. Since the pattern is, in fact, part of the material construction of the basket, it is obvious that considerable thought on its proper achievement (and the resultant effect) necessarily preceded any actual construction of the basket itself. Whether the pattern was supplemented by straight bands is impossible to determine.

Basket no. 2:— This is a conical burden basket approximately 65 cm. in height and 55 cm. in width at the mouth. It is represented by

the bulk of the wicker specimens, all of which are small and fragmentary save one (1-46157) which is a relatively large specimen measuring 57.5 cm. in height and 80 cm. in width. Small circular holes with scorched edges and measuring about 1.5 cm. in diameter are scattered irregularly throughout many of the specimens.

Warps are peeled willow twigs. In the lower basket sections they average 3 mm. in diameter with 20 occurring per 10 cm. In the upper basket sections they average 1.5 mm. with 25 occurring per 10 cm.

Wefts are peeled willow splints averaging 2 mm. in width. These are of the over-under technique with one superimposed on the other. This is so poorly accomplished, however, that traces of both splints are evident to the eye. The specimen, consequently, presents a somewhat rough appearance and allows only 41 weft courses per 10 cm., despite the narrow weft and the closeness of weave.

Several repairs are evident. These are minor in nature and employ only a large clinch stitch which binds over the fracture or hole. The stitching element is a peeled willow splint 3 to 7 mm. in width. It is sewn back and forth over the tear with no apparent effort to conform to the original weave.

The only attempt at decoration consists of a single course of half-turned weft which occurs at irregular intervals. The course is constructed by merely turning the weft over every time it passes a warp. Thus, when pulled tight, each such twist lies on a warp and protrudes over the surrounding weave. The design is continuous and zigzag in form, forming pyramids 4 weft courses high and 7 warps wide at the base. Despite this design, however, the general effect is undistinguished, for the roughness and crude weave of the basket tends to disguise and even obliterate the decorative strand.

Basket no. 3:— This specimen (1-46156) is a fragment of a conical burden basket. The piece, which measures 60 cm. in height and 50 cm. in width, is in a relatively good state of preservation and can best be described by stating that its weave is a combination of straight wicker and straight wicker with half-turned weft. The latter, like that of the previous basket, is obviously intended for decorative effect.

Warps occurring near the base of the piece measure 4 mm. in diameter with 21 occurring per 10 cm. Warps at the upper end of the fragment measure 3 mm. in diameter, also with 21 per 10 cm. This situation is the result of a deliberate attempt to compress the larger base warps tightly together. The purpose of this operation is undoubtedly the strengthening of the

basket apex. The rigid construction is further supported by the employment of a clinch stitch which is superimposed over the wefts and which surrounds the cone of the basket. This stitching element is a single willow splint 2 mm. in width. It serves to bind the bunched warp ends into groups of twos, threes, and fours.

Wefts are peeled willow splints 2 mm. in width and of the over-under variety. Some overlapping of the two strands is evident, but the weave is, in general, of better quality than that of the previous basket. Thirty-one weft courses occur per 10 cm. Every fourteenth weft is a course constructed by the half-turned technique already described.

Decorative emphasis is unique. In addition to the zigzag of the half-turned weft courses already described, there are straight courses of unpeeled willow weft. These occur at haphazard intervals without regard to the other decorative pattern. These dark brown courses run over, under, or through the waves of the half-turned wefts. That both decorative patterns were constructed at the same time is evident. Why they were so constructed can be but a matter of conjecture.

Basket no. 4:— A conical burden basket represented by two large segments (1-46155, 1-46158) which measure 47.5 by 48 cm., and 65 by 70 cm. respectively. The fragments are in a good state of preservation and, except for small, missing sections, represent the entire basket. Employing good technique, the basket is an excellent example of the best in Humboldt wickerwork.

Warps at the base of the basket measure 3.5 mm. in diameter, with 24 occurring per 10 cm. In the upper sections, warps measure 2 mm. in diameter, with 25 occurring per 10 cm. Straight, peeled willow twigs are employed, many of which are of basket length.

Wefts are remarkably thin willow splints superimposed on each other in the over-under technique. Variation in weft occurs, however, with the employment of sporadic twined courses and half-turned wefts.

Three twined weft courses are evident. Starting at the basket base, these occur in the 15th, 61st, and the top or 216th course. As in the straight weft courses, the sewing element is a double willow splint 2 mm. in width. The twining employed is of the 2-ply, up-to-right technique. Its purpose is believed to be twofold: to strengthen the basket and to add beauty.

Half-turned weft elements occur in support of the basic decorative pattern. These courses occur every 19th weft row, with a total of 10 such courses present in the specimens.

Specimen 1-46158 presents nine distinct repairs within the left half of the specimen. These are of varied weaves and techniques, but all are alike in their excellence. Five of these employ interweaving techniques, and four use the clinch stitch as the basic element. The techniques involving utilization of the clinch stitch in the repair of basket fracture has been previously described in the report on Granite Point cave, and need not be discussed here.

The elaborate decorative pattern employed in the basket consists of a series of connecting truncated pyramids, formed by unpeeled willow weft courses. These figures are 4 weft courses in height and 14 warp courses in width at their base. The truncate width itself is 4 warp courses, or about 1.6 cm. The sides of each pyramid are bordered by a single course of half-turned peeled willow weft. Since the point of the base of each pyramid is connected to the corresponding base point of the adjacent pyramid, the intermediate twisted wefts form a series of V's. Beginning with the 68th row from the basket base, new rows of pyramids occur every 19th weft. Ten rows, or a total of 133 pyramids, are evident in the two fragments, with an estimated 170 occurring in the original basket. These pyramids, occurring as they do in combination with the three twined weft courses and the supporting half-turned weft courses, form a highly distinctive and effective decorative pattern. Truncated pyramids, twined courses, and half-turned wefts often occur in other Humboldt wicker—but rare, indeed, is the effective combination of all three.

The rim of the basket is finished by a selvage technique utilizing only the warps of the basket itself. At the top wicker row, the narrow warps are bound into pairs by the double twined course already mentioned. These paired warps are then utilized as one element 3 mm. in width. Allowed to project 7 cm. above the wicker weave, they are here twisted three times and bent diagonally down to the left. Now employed as weft, they are interwoven with the preceding projecting warps into a wicker-type weave (cf. Loud and Harrington 1929, pl. 27c). The twisting of each warp gives a smooth and rounded appearance to the basket edge. The diagonal down-to-the-left slant of the selvage pattern is in pleasing contrast to the straight wicker weave of the basket proper, and serves to sharply emphasize the rim. By employing some of the best techniques known for this type of wicker, it may be said that this basket is of a highly superior type.

### Coiled Basketry

Four coiled baskets are represented by twenty-seven fragments.

Three of the baskets are circular roasting trays and one is a small, bowl-shaped basket of relatively fine weave. They are discussed below.

Tray no. 1:— This is a large, circular roasting tray, complete within one specimen (1-46161). It is 75 cm. in diameter and about 1 cm. thick, and comprises 89 coils in all. Near the center of the tray these coils are of small diameter, gradually increasing in size towards the outer edge. With the exception of a few scorched holes, the tray is in a good state of preservation.

This tray has a three-rod triangular foundation of peeled willow twigs. The technique involves a splitting of the top rod by the stitch of the succeeding coil. (See p. 10 for a detailed description of this technique.) In this specimen, variation in foundation pattern is noted, however, namely the occasional employment of a horizontal three-rod and slat technique. Individual rod diameters of 2.5 mm. occur near the tray edge, and gradually diminish in size to the tray center. Correspondingly, coil courses measure 6 mm. at the outer edge and less than 3 mm. in the center.

Stitches are split on both sides of the tray. Originally peeled willow splints 2.5 mm. in width, the stitches are enlarged to 6 mm. by the splitting process. Stitches pass completely around the new coil and are held on to the old or preceding coil by the splitting and passing through of the top rod and its accompanying stitches. Coiling of the basket is counterclockwise from the center.

Several small repairs are evident. These are of the clinch type, utilizing a single willow splint as the sewing element.

Tray no. 2:— This was a circular roasting tray of an estimated 75 cm. in diameter. It is represented by several fragments, of which 1-46159 is the largest and most complete. This specimen is a circular ring of coiled weave, 55 cm. in diameter, of which the center, to a 28 cm. diameter, is missing. The ring is thin and weak, and shows a considerable amount of wear.

Foundation rods are peeled willow splints not over 3 mm. in diameter, combined into a three-rod triangular grouping like that described for the previous tray. Diameters of these coils average 4 mm., with 23 occurring per 10 cm.

Stitches are split on both sides of the tray. In technique they correspond to those described for the previous tray. Stitches are peeled willow splints, 2.5 mm. in width and enlarged to 7 mm. by the splitting process. Thirty stitches occur per 10 cm.

Tray no. 3:— This was a circular roasting tray of an estimated 65 cm. in diameter. Although several fragments are present, the bulk of the tray is represented by one specimen (1-46160). This fragment measures 60 cm. in diameter and is in a good state of preservation. Construction is firm but flexible, and coarse in nature. Nineteen coils, averaging 5.5 mm. in diameter, occur per 10 cm.

Foundation rods are peeled willow twigs occurring up to 3.5 mm. in diameter. These are combined together into a three-rod triangular grouping.

Stitches are peeled willow splints split on both sides of the tray. Originally about 3 mm. in width, they are enlarged to 7 mm. by the splitting technique. Unlike the previously described trays, however, these stitches secure the new coil by passing completely around the top rod of the underlying foundation course rather than through it.

Coiled bowl (pl. 2):— This specimen is a coiled bowl-basket, 9 cm. in height and 19.2 cm. in diameter at the mouth. The basket is in a good state of preservation, and is complete except for a missing section of about 94 sq. cm. in area and roughly triangular in shape. The missing fragment was apparently burned out of the basket. Forty-seven distinct coils occur in the basket, with an average of 30 per 10 cm. Coils are flattened, and are about 6 mm. in width and 3 mm. in thickness. Weave is stiff and nonflexible.

Foundation rods are peeled willow twigs of about 1.5 mm. in diameter. The basic technique is horizontal three-rod and slat, giving the coils their flattened appearance.

Stitches are split on both basket surfaces. Originally 2 mm. in width, their average after splitting is 5 mm., with 36 occurring per 10 cm. Stitches pass completely around the new coil and under the slat of the preceding coil. Splitting of the supporting stitches occurs in the same operation. The coiling is in a clockwise direction.

There is one decorative element in the basket. This is the inclusion of pairs of small feathers into a number of the exterior surface stitches. Although the bulk of this decorative attempt has been destroyed, probably by rodents, sufficient remains so that a definite pattern can be determined. Starting from the basket base, the feathered elements occur in coils 25 and 26, 31 and 32, and 37 and 38. In the 25th and 26th rows paired feathers occur every 9 stitches. In the 31st and 32d rows paired feathers occur at 12 stitch intervals. In the 37th and 38th rows the feathers occur at intervals of about 14 stitches. Fourteen pairs of

feathers thus occur in each of the three courses; an estimated total of 42 pairs (84 individual feathers) would have occurred in the basket.

Coiled feather baskets occur elsewhere in the Humboldt Valley. Comparison was made of this basket with Lovelock Cave specimens 1-20007, 1-20009, 1-20027, and 1-21650. These four specimens are all coiled bowl-shaped baskets, each representing an individual technique. None of the four, however, is similar to the Granite Point specimen. Further comparison with Humboldt Cave specimens (1-42211, 1-42283, 1-42474, 1-42284, 1-43464, 1-43586, and 1-44017) shows no correspondence other than the fact that they are all coiled bowl-shaped baskets with feather decor. This diversity and the general excellence of manufacture is in opposition to the relative similarity and simplicity characteristic of other basketry forms in the Humboldt Valley. It is thus highly probable that such coiled feather baskets did not develop in this area, or were developed only under the stimulus of neighboring peoples. Baskets of this type are common to such Californian groups as the Yokuts, the Pomo, and the Maidu, but are highly uncommon in other areas adjoining the Great Basin. The influence of the California Indian in the technique of manufacture, or in the direct trade of these feathered items, is therefore strongly indicated (see Baumhoff and Heizer 1958:49-59).

#### Matting

Two small matting specimens were found at the site. One of these (1-46147) is of tule (Scirpus lacustris) and measures 1.5 cm. in width and 12.5 cm. in length. The other fragment (1-46138) is of sagebrush bark (Artemisia tridentata) and measures 8.5 cm. in width and 17.5 cm. in length. Both employ similar techniques. Warps of each specimen average 1 cm. in width, and are stiff and passive. They are held tightly in place by single courses of 2-strand, twisted weft approximately 7 mm. in diameter. These weft strands occur at 5 cm. intervals, and have an up-to-right slant.

#### Other woven fabric

No twined basketry, cordage, netting, nor other fabric occurred in the Granite Point shelter collection, with the exception of a small piece of 2-ply Apocynum cordage 1.5 mm. in diameter and 1.4 cm. in length, and two small, twisted elements, one of rush (Juncus) and the other of cattail (Typhus latifolia).

## Wooden Artifacts

Five wooden specimens are present in the Granite Point shelter collection. They are described below.

Worked twig:— This specimen (1-46137) is of cottonwood (Populus), and measures 1.7 cm. in diameter and 17.5 cm. in length. The base end of the twig has been smoothed round. Use is unknown.

Arrow shaft:— This artifact (1-46136) is of cottonwood (Populus), and is believed to be a section of an arrow shaft. It is 4 mm. in diameter and 13 cm. in length.

Arrow shaft (pl. lk):— This specimen is of greasewood (Sarcobatus vermiculatus), and is smooth and uniform in appearance despite the fact that the wood is filled with small knots. Both ends are pointed and evidence the same degree of taper. The foreshaft measures 21 cm. in length and 5 mm. in diameter.

Spatulate object:— A small, well-worked section of an unidentified hard wood, this specimen (1-46134) measures 5 cm. in length and 1.7 cm. in width. It is a mottled gray in color, and is smooth and flat in form with a thickness of only 4 mm. The fragment is broken at both ends.

Worked object:— This specimen (1-46142) is a heavy, planklike section of a cottonwood (Populus) branch. It has a weight of 251 gm., measures 8 cm. in width, 1.7 cm. in thickness, and 32 cm. in length. Edges of this object are well worn and rounded. Covering the flat sides of the tool is a coating of a dark, paint-like substance which is probably pitch. Use of the piece is unknown, but it may represent a common work base for varied drilling operations. It is not believed to be a fire hearth. One drill impression, measuring 8 mm. in diameter and 4 mm. in depth, occurs in the specimen.

## Bird and Animal Bones

Nineteen separate bones are present. They are identified as follows:

- 1 raven skull (Corvus corax)
- 1 prairie falcon skull (Falco mexicanus)
- 2 bones representing one cinnamon teal (Anas cyanoptera)

- 1 cervical vertebra from a buffalo calf or the calf of a modern domestic breed of cattle
- 2 marmot bones (Marmota flaviventer avora)
- 4 coyote bones (Canis latrans)
- 8 bones representing the California black-tailed jack rabbit (Lepus californicus deserticola)

#### Miscellaneous Item

One well-worked bone bead (1-46144), measuring 1 cm. in diameter and 4.2 cm. in length, is present in the collection. This bead was made from a section of the shank of a coyote humerus (Canis latrans) and is one of the bones enumerated above.

## Plate 1

(Accession numbers are those of the University of California  
Lowie Museum of Anthropology, Berkeley)

Specimens d and k are from Granite Point shelter; all other  
specimens are from Granite Point cave.

- a. Fragment of Lovelock wicker basketry (2-26386) showing repair  
technique on tear across left center of specimen
- b. Fragment of multiple rod coiled basket (2-26394) showing repair  
technique
- c. Fragment of Lovelock wicker basketry (2-26133) showing the  
degree of tightness attainable in this technique
- d. Fragment of Lovelock wicker basketry (1-46151) showing decorative  
technique. The piece is decorated with a double "W" design. A  
part of it may be seen immediately beneath the point where the  
numbering tag is fastened.
- e. Red and black obsidian scraper (2-26073)
- f. Black obsidian drill (2-26208a)
- g. Obsidian core tool (2-26209)
- h. Chert scraper (2-26208b)
- i. Obsidian arrow point (2-26100)
- j. Hardwood foreshaft (2-26012)
- k. Arrow or foreshaft fragment (1-46135)

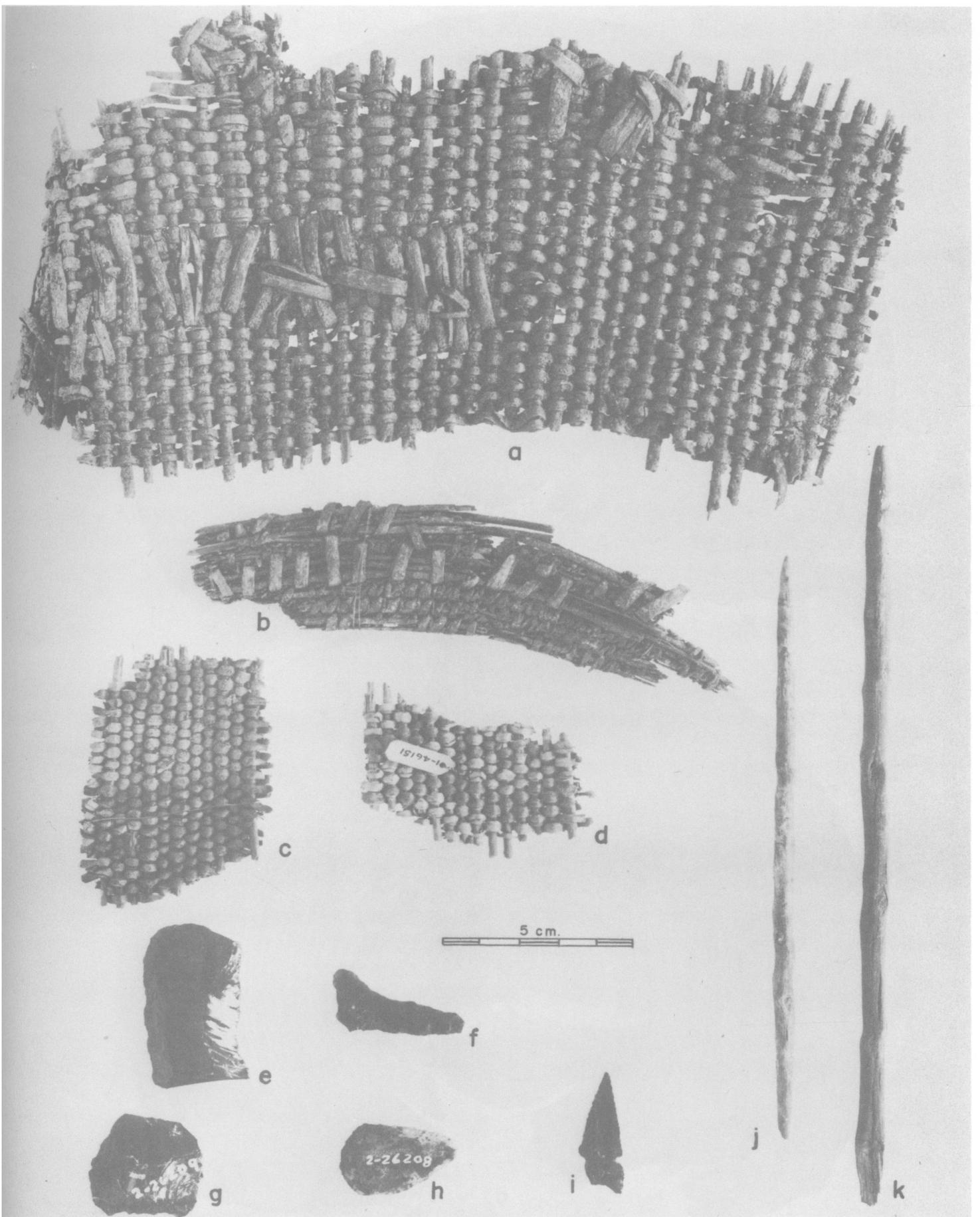


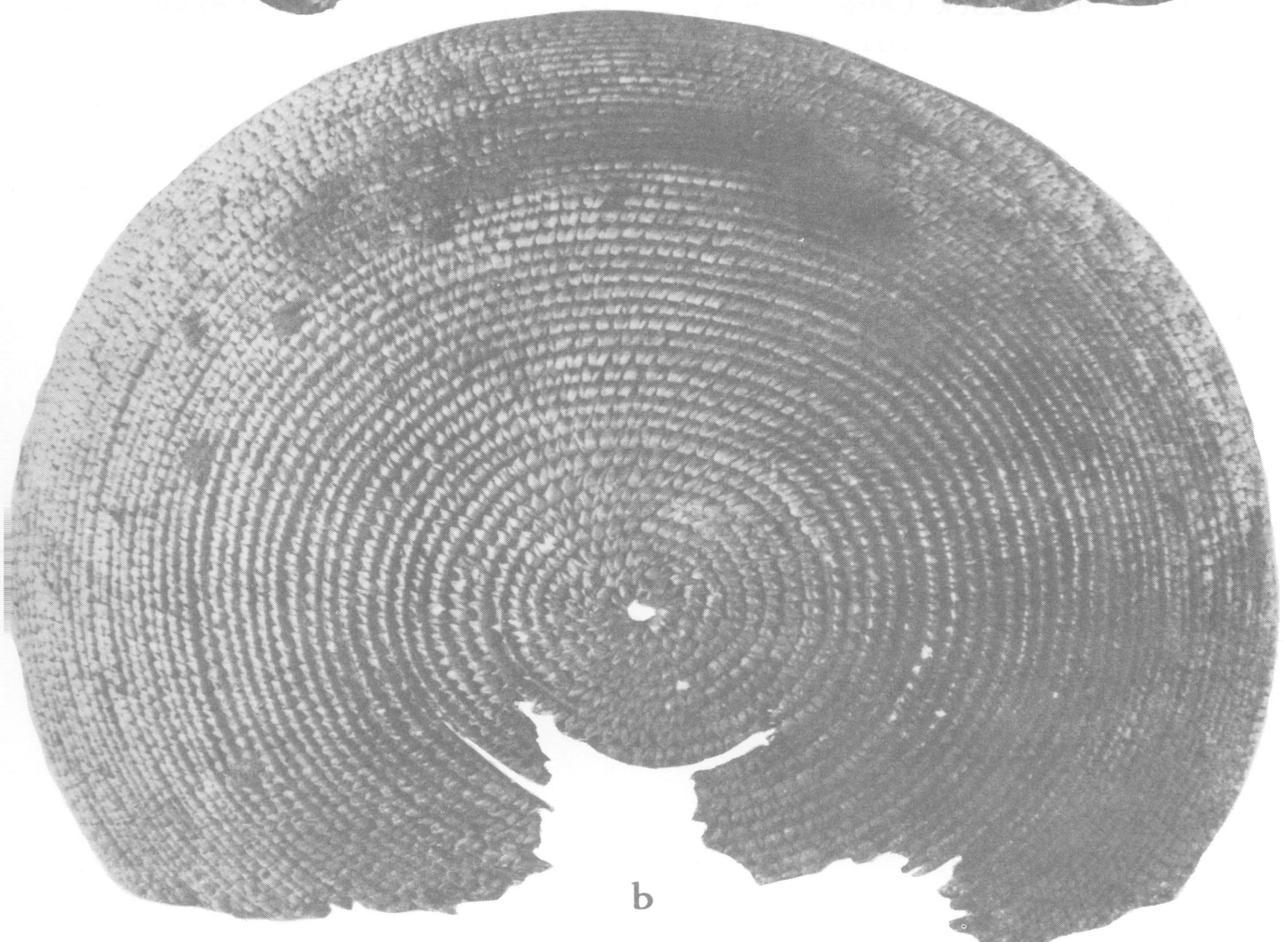
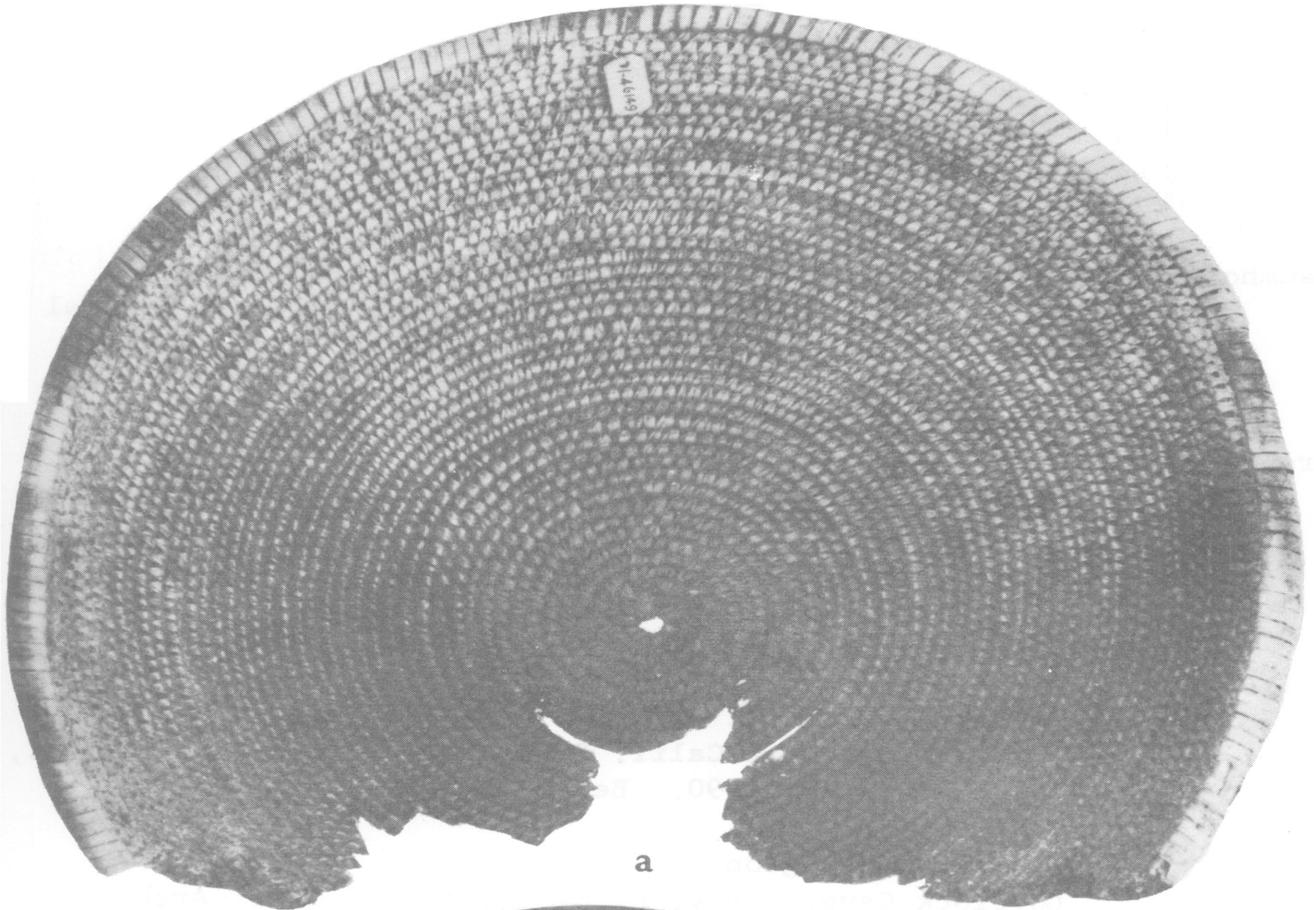
PLATE I

## Plate 2

Coiled bowl-basket (Lowie Museum No. 1-46149) from Granite Point shelter, two-thirds actual size.

a. Obverse

b. Reverse



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