

OCCUPATIONS OF WOMEN.

BASKET MAKING.

For basket making the woman needs slim round twigs for upright ribs, pliable material for twining around horizontally, and dyeing material to make her basket more beautiful.

For ribs she goes to a place where a fire has burned over a hazel patch. She finds there shoots all of a size. For the larger baskets she takes the shoots the second or third year after a fire. These shoots are from *Corylus rostrata* var. *Californica*, called mûkaikitLoi, "on it one makes a basket." They are gathered as soon as the sap is well started and the leaves have commenced to grow. The twigs must be peeled while still fresh. The woman takes the butt of the twig in her mouth and starts the bark with her teeth, then, keeping hold with her teeth, she pulls the twig out of its skin with her hands. The peeled twigs are piled in bundles (Pl. 20, Fig. 3), dried in the sun, and laid away for

*Hupa Texts xii.

future use. The foundation of nearly all Hupa baskets is of hazel. For small, fine baskets young shoots of a willow, *Salix fluviatilis* var. *argyrophylla*, are used. They result in more shapely but not so durable baskets.* This species of willow is not common in the valley, but grows at Willow Creek, twelve miles south. The native name of this willow was kitdilmai, "gray," but it is now usually called tōxatawe, "it grows by the water," to avoid the name of a dead person.

The pliable material used for twining is of three classes: first, strong filaments, made from the roots of deciduous trees, used where extra strength is required, especially at the origin of the basket; second, serviceable material for baskets which must hold water, obtained from the roots of coniferous trees; third, white and colored material for ornamentation. For the first class of material, called kût, the roots of alder, *Alnus Oregona*, willow, *Salix* sp., cottonwood, *Populus trichocarpa*, and wild grape, *Vitis Californica*, are used. The second class, called xai (Pl. 20, Fig. 2), is derived from the digger pine, *Pinus Sabiniana*, nadel, yellow pine, *Pinus ponderosa*, diltewag, and two varieties imported occasionally from the coast, redwood, *Sequoia sempervirens*, and lowland spruce, *Picea Sitchensis*. The roots of different individual pines of both species vary in value. Some are very hard to split. The chunks of root are buried in a hole where a fire has been built. If after one night they do not readily separate into thin flat pieces, the fire is renewed and the root is baked again. These layers are soaked in water and scraped until smooth and uniform. They are then divided into strands of the desired width.

For decorative work the leaves of bear-grass, *Xerophyllum tenax*, Lōtel (Pl. 20, Fig. 4), give a clear white, and the stems of the maidenhair fern, *Adiantum pedatum*, mûkaikinxûlnewan (Pl. 20, Fig. 5), furnish a glossy black. The leaves of the *Xerophyllum tenax* are gathered in the late summer when the tips begin to show white. They are then tough. The ground is frequently burned over and the spot visited on the second or third year after. This plant is very common on dry ridges at an elevation

* Willow shoots were not formerly used. Growing along the river as they do they were thought to belong to the under-world. The willow is attacked by insects from which the hazel is exempt.

of from two to four thousand feet. The leaves are tied in bundles and kept until needed. The stems of the maidenhair fern are gathered when full grown. They are pounded with a stone until the black outside shreds off. The stems of the giant fern, *Woodwardia radicans*, mēme, furnishes a material which takes a reddish brown color from the bark of the alder. Small strands are stripped from the inside of the stem. The woman chews the alder bark and then draws the strand through her mouth. In this way a permanent color is imparted to the material. Some Hupa women now dye the fern stems in a decoction of alder bark made by boiling it in water. The color obtained is said not to be so uniform or so permanent. The leaves of *Xerophyllum tenax* are dyed bright yellow with a lichen, *Evernia vulpina*, which grows abundantly on the trees at high elevations. The lichen is boiled for some time and the material is immersed in the liquid until the proper color results. The root of the Oregon grape, *Berberis* sp., is sometimes used to dye the *Xerophyllum tenax*, a similar shade of yellow resulting. Porcupine quills are sometimes dyed with *Evernia vulpina*, which gives them a very bright and glossy yellow.

The Hupa baskets are of twined work as distinguished from the coiled work of Mendocino county and Southern California, and from the plaited work of the East. That is, in the twined work the heavy foundation is vertical from the center to the rim of the basket, and the woof of lighter material is horizontal; while in coiled work the heavy foundation is laid in horizontal coils around the basket with the filling run spirally around the heavy twigs. As distinguished from the plaited work of the Algonkin, the twined work is done with two strands carried simultaneously, alternating above and below each other, completely hiding the foundation, while the plaited work is done with one strand and shows the foundation and woof alternately. The closely twined work of the Hupa is quite flexible, but returns to its proper shape which it maintains very well. The coiled work of the Pomo is exceedingly rigid and firm. The Hupa baskets are either close-twined so that the foundation does not appear at all, or open, the twigs of the foundation being merely held in place by chains of woof.

The simplest example of twined work is seen in the lattice work used in the fish dams. The split, peeled poles, about an inch in diameter, are held in place by three or more rows of chain, made of two strands of withes crossed between the poles. This part of the weir may have served as the pattern for twined baskets. The nearly flat disks of open work used for serving salmon (Pl. 21, Fig. 2) are made by joining hazel twigs by their butts at the center and letting the tips radiate toward the rim. Smaller hazel twigs are twined around in a spiral about an inch apart. Additional radiating ribs are inserted in the chains, as the rim is approached, to make the meshes of even width. The end of the radiating twigs are trimmed beyond the last round, which is double. To give the basket a concavity, the outer rounds of chain are drawn tighter than the rest, the ribs being kept wet and gently bent with the hand.

Similar work of greater concavity results in the burden-basket (Pl. 22, Fig. 1). A heavy rim projecting toward the inside at right angles to the wall of the basket is made by twining several strands at the top. This adds greatly to the rigidity of the top of the basket. The baby-basket (Pl. 21, Fig. 1) is made of similar open-work, except that the ribs of the back start from a heavy horizontal twig of hazel which forms the bottom instead of all coming from a point, as in the ordinary basket. The chains occur in twos or threes, and are about four inches apart. The ribs of the sides are joined by laying the butts together at the medial line in front. They are then carried to the top in curves parallel to the bottom and the edges of the back. The chains of the back continue around the sides to the rim, which is strengthened by grouping the ribs and covering them with spirally coiled strips of flat material.

For storing fish the Hupa made baskets, called *kaitcint*, with the chains of the woof far apart as in open work but the ribs close together in groups of threes or fours.

The basket for cooking soup (Pl. 15) has ribs of hazel joined at the origin which is made by a close wrapping of strong basket-stuff, either *xai* from the root of a coniferous tree, or *kût* from the root of a deciduous tree. These pieces of root are continued to form the woof, twined as already described, except that at the

commencement the two pieces of woof do not cross after each rib but after groups of four and five. When about five rounds have been twined in this way, the regular crossing after every rib is begun. When the bottom has been completed, a raised ring is formed on the outside by carrying three strands instead of two and by including two ribs between the crossings of the woof (Pl. 20, Fig. 1). Once or twice around and the work goes on as before, crossing after each rib. This ring is introduced to hold the ribs more firmly at the turn of the basket. The ribs are kept moist by letting them slip through the wet hand. Sometimes it is necessary to put the whole piece of work in water and take up another. New ribs and new strands of woof are introduced at pleasure. The ends of the woof strands are left projecting on the inside until the weaving is done. When the place on the wall of the basket has been reached where ornamentation is to begin, figures, usually geometrical, are made by laying thin strips of *Xerophyllum tenax* leaves over the woof (Pl. 25, Fig. 2). The *Xerophyllum* placed outside gives the white; the root itself is brought into view for the brown. The *Xerophyllum* strand does not displace one of the strands of root but supplements it, covering the outside when white is wanted in the design. About three-fourths of the way to the top two raised ridges are often made by laying pieces of the pine-root around the basket on the outside and wrapping them with the white *Xerophyllum*. Between these two ridges are one or more rounds twined in the usual manner. The figures introduced above the ridges are symmetrical with those below but inverted. The rim requires no finishing other than trimming the ends of the ribs even. The ends of the material introduced during the weaving are rubbed off on the inside by means of a piece of stone. A basket made in this manner is water-tight and will last many years in common use as a cooking vessel.

For collecting seeds a basket similar in shape to the common burden basket was made in the closely woven style (Pl. 22, Fig. 2). The lower third of the basket was covered with vertical stripes. The remainder furnished a zone for designs.

Large storage baskets, called djelō, are made of close-twined work (Pl. 23, Fig. 1). The base is of greater diameter

than the top.* These baskets, on account of their unusual height and the consequent great width of the zone, usually have the designs in long vertical bands.

Saucer-shaped pans of varying size are made. A small one in the University museum is eight inches in diameter. It is provided with a loop for the finger like a tea-cup. Pans of this size called *milkitūwat*, were formerly used to serve the flour from native seeds. The larger specimens (Pl. 24, Fig. 2), one of which measures twenty-four inches, is used to catch the acorn meal when it is sifted. Baskets of this kind are decorated about the origin and in a regular zone on the convexed side. When they have been completed they are wet and turned, bringing the finished and decorated surface inside.

The common hat, *kōstan*, worn by the older women, is made of the root-material and quite plain. The younger women wear highly decorated, and often very beautiful, caps (Pl. 26). The origin is made of *kût*, the root-material from deciduous trees. After seven or eight rounds pine-root is used. This is entirely hidden by the decorative material. The body is in white, made by overlaying the root-strand with *Xerophyllum tenax*. The choicest hats have black designs made from the stem of the maidenhair fern, relieved sometimes with a bright yellow obtained by dyeing *Xerophyllum* leaves with the yellow lichen. The more common ones have the designs in red, obtained by dyeing the inner part of the stem of the giant fern with alder bark. These are relieved with black.

The under strand of root is kept damp while the work is going on. Great care is required to maintain the correct amount of moisture or the basket will have humps from the uneven contraction of the drying material. Fine work can not be done on a windy day as the material dries too rapidly. A raised ring, made with a single round of three strands of strong root material like that used at the origin, is introduced at the beginning of the wall and another about three-quarters of an inch from the rim. This is done to hold the ribs in place and to prevent the spreading of the basket. For extra fine work grapevine roots are used for the under strand throughout the basket. These furnish a more pliable filament than do pine roots.

* *Supra* p. 27.

The raised rings divide the surface of the hat into three areas for decoration, that from the origin to the first ring, that from the first ring to the second, and that from the second ring to the rim. The origin is usually surrounded by a few rounds in unbroken color, after which the designs are introduced on a ground of white. From ring to ring on the side is the principal zone of decoration, not only on the hats but on all decorated work. Usually colored bands border the zone at top and bottom next to the rings. These bands may be straight and plain, straight with colors alternating vertically, straight with colors alternating horizontally, or zig-zag. Care is sometimes taken to make the bands wider or narrower, according as the basket diminishes or increases in diameter. One example has bands of three rounds at the bottom and four at the top. This zone on the side is divided horizontally into halves. The dividing line is usually imaginary, but occasionally expressed. The design is repeated three or four times in the circuit of the basket and occurs inverted, whenever it is invertible, in the upper half of the zone. The figures either rest upon each other at the middle of the zone, or, when their bases are broad and tops narrow, pass each other and the median line (Pl. 25, Fig. 4). The space between the last ring and the rim contains a fraction, usually a half, of the design used in the principal zone.

With a few exceptions all the known designs upon Hupa baskets are geometrical figures or combinations of geometrical figures. These figures and the combinations of them have names. Perhaps the most frequent figure seen, not only on their baskets but on other decorated objects, is the isocetes triangle (Fig. 4).

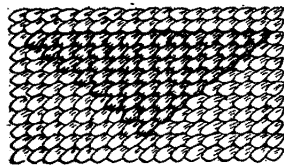


FIG. 4.

The Hupa calls this *lūwintcwūw*, "rattlesnake's nose." When questioned they invariably answer that it is so called because it looks like a snake's nose, and that it does not represent that animal. This figure

results, in weaving a basket, from a single stitch of color followed in each succeeding round by an additional stitch on each side until the required size is obtained. The same figure inverted is constructed by taking a base line of

the desired length consisting of an odd number of stitches.

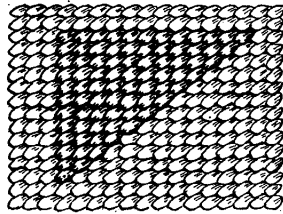


FIG. 5.

In each succeeding round one stitch is omitted on each side until only one is left to form the apex. The equal sides of this figure must be neither horizontal nor vertical. Right-angled triangles made with a horizontal line meeting a vertical line are called *teesLiñalwiltewel* (Fig. 5), said to mean "sharp and slanting." This

figure results by receding from a given point or base line one stitch at a time on one side only.

If the first figure, the *Lūwmintewūw*, is truncated we have a quadrilateral. This figure (Fig. 6) results by starting with a

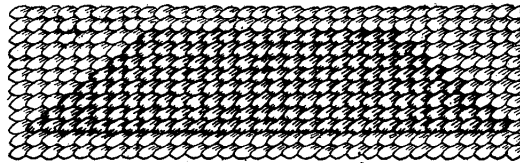


FIG. 6.

line of some length and adding one stitch to each side each succeeding round, or by starting with a base line and discontinuing the narrowing before a point is reached. This figure is often, perhaps always, found associated with the isosceles triangle called *Lūwmintewūw*.

Rectangles are sometimes seen. They are hard to construct

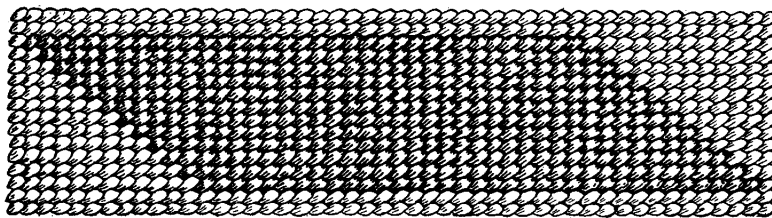


FIG. 7.

on the curved surface of a basket which is increasing or diminishing in diameter, and the result is not pleasing. Oblique-angled parallelograms are very frequently used (Fig. 7). The

name given to them is *niLkûtdasaan*, "set on top of one another." This doubtless is the name when they are superimposed and not the name of the figure itself. They seldom occur under other circumstances and perhaps the element has no name. They

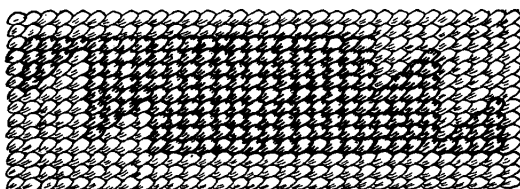


FIG. 8.

result in weaving from a base line from which the weaver recedes on the right and advances on the left one stitch at a time. This figure seems usually to have the upper angle toward the left.

A figure closely resembling the last, since it has the general outline of the rhomboid, differs from it in that it has angles

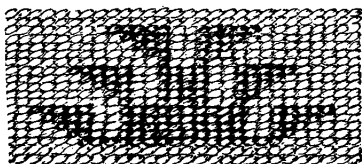


FIG. 9.

projecting from the oblique sides with the outer line vertical and the line next the figure sloping. This design, which lacks beauty on account of its jagged appearance, is called *mikyōwe mila*, "grizzly bear his hand" (Fig. 8 and Pl. 26, Fig. 2). Another figure, that seen in Fig. 9 and Pl. 25, Fig. 2, is called *tewal mila*, "frog his hand." These

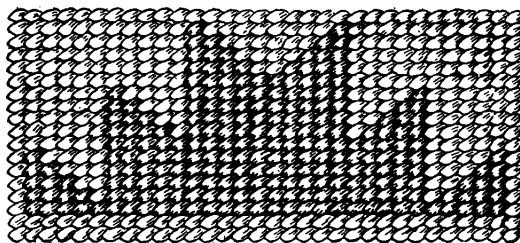


FIG. 10.

designs are fairly frequent on the oldest baskets. I know of no significance other than that implied in the name. A third design (Fig. 10 and Pl. 25 Fig. 6) has angles projecting upward,

with the vertical lines on the outside of the figure and the oblique lines sloping inward and downward. This pattern is called *testcetcmikye*, "swallow's tail," or *tcaxtceûñeL*, "points sticking up," a name which is applied indiscriminately to series of projecting angles.*

When the isosceles triangles called *Lūwmintewūw* are grouped one above another they are called *Lūwmintewūw nilkûtdasaan*, "snake's nose piled up." When these figures come back to back so as to form diamonds alternating with the background, they are called *Lōkyōmenkōnte*, "sturgeon's back." When the figure apex down is superimposed on a trapezoid the name *tea* is given to the design (Pl. 27, Fig. 1). These figures are nearly always so connected as to encircle the basket, when the name *Lenaldauw* is given to it, signifying "it encircles." A design which seems to be the trapezoids superimposed is called *LekyūwiñeL*, "they come together." The conception of the design seems to be that of the second variety of triangles back to back. A series of rectangular parallelograms superimposed so that each higher one projects to the right of the one below it, the whole being bordered by a double line conforming to the outline, is called *qōwitselminat*, "worm goes round," or "worm's stairway." The oblique-angled parallelograms in pairs with the upper one projecting to the right is the design most frequently found on the hats (Pl. 25, Fig. 5). They are found in series on the storage baskets, *djelō*. Usually even numbers are employed, preserving the symmetry of the zone. This figure appears the same either side up.

This design and others presenting a mass of color usually have that mass broken in some way. Designs in red often have horizontal lines in black. Oblique lines in white often run across the design. When such lines run through the oblique-angled parallelograms (Pl. 25, Fig. 5) they are called *nilkûtdasaan mikitewesō*, "one-on-the-other its scratches." Instead of straight lines, broken lines and series of geometrical figures are often employed. The lines are often run in such a manner as to divide

*The baskets designs here given are not all of those used by the Hupa. Dr. A. L. Kroeber has in preparation a paper on the basket patterns of the Indians of this region.

the large figure into smaller ones of the same or of different kind (Pl. 25, Fig. 4). The large figures are frequently bordered with rows of smaller figures or with continuous or intermittent lines.

MEASURES.

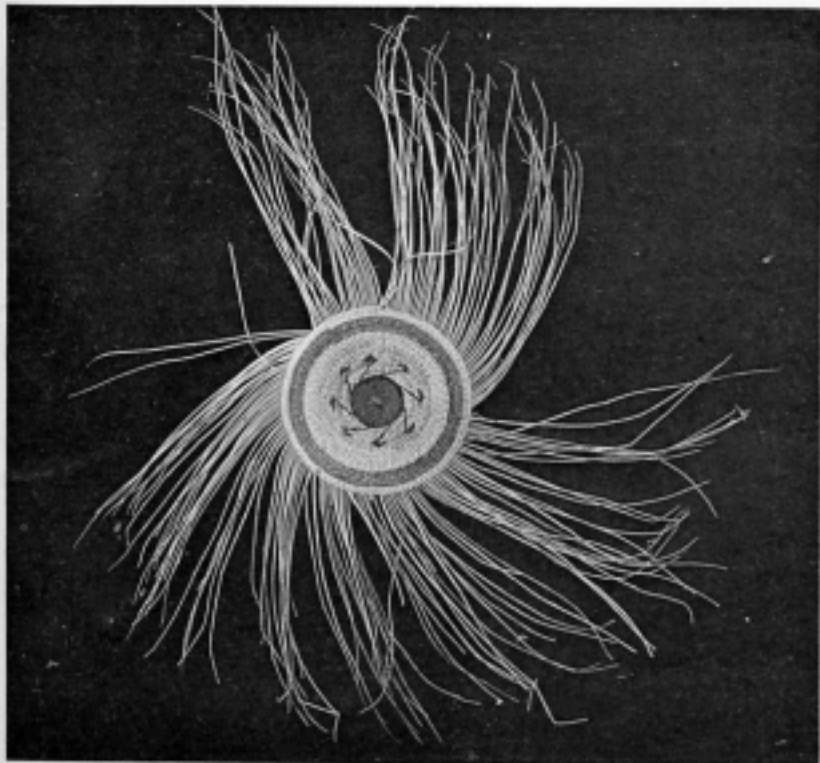
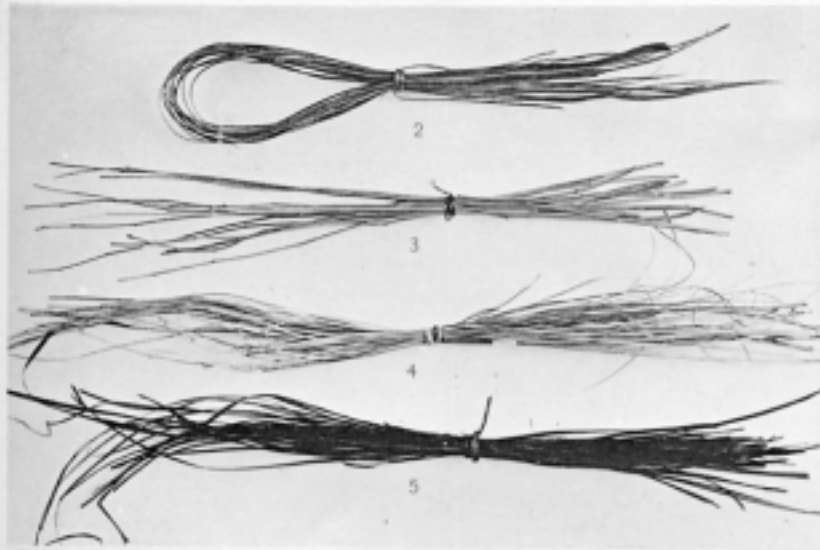
The common measure of value among the Hupa was the decorated dentalium shell (Pl. 18, Fig. 2). This money is known in the region as *allikochik*, a word said to be of Yurok origin. The Hupa name was *nadiyau*, but it is now often called *milkyō-xait*, "what one buys with," to avoid speaking the name of a once prominent man now dead who was named *Nadiyau*. The shells are wrapped spirally with fish-skin or snake-skin and usually have a tuft of red feathers, probably from the woodpecker's crest.

The individual shells are measured and their value determined by the creases on the left hand. The longest known shells were about two and a half inches long. One of them would reach from the crease of the last joint of the little finger to the crease on the palm opposite the knuckle joint of the same finger. The value of such a piece in early days was about \$5.00. Shells of this length were called *dīnket*. The next smaller shells were called *kiketūkūtsoi*, and measured about two and three-eighths inches. They were worth about \$1.50 each. A shell which was one and one-eighth inches long was called *tcwōlahit* and was valued at \$1.00. The smallest shells were about one and seven-eighths inches long and were called *xōstanhit*. Their value was from twenty-five cents to fifty cents. Shells smaller than these were not rated as money and had no decoration. The length of the shells smaller than the first mentioned was determined by applying them to the creases of the middle and other fingers of the left hand.

This money was strung on strings which reached from the thumb nail to the point of the shoulder. Eleven of the largest size filled such a string and was therefore called *mōanaLa*. Twelve shells of the next smaller size composed a string and were called *mōananax*. Thirteen shells are called *mōanatak*, and fourteen of

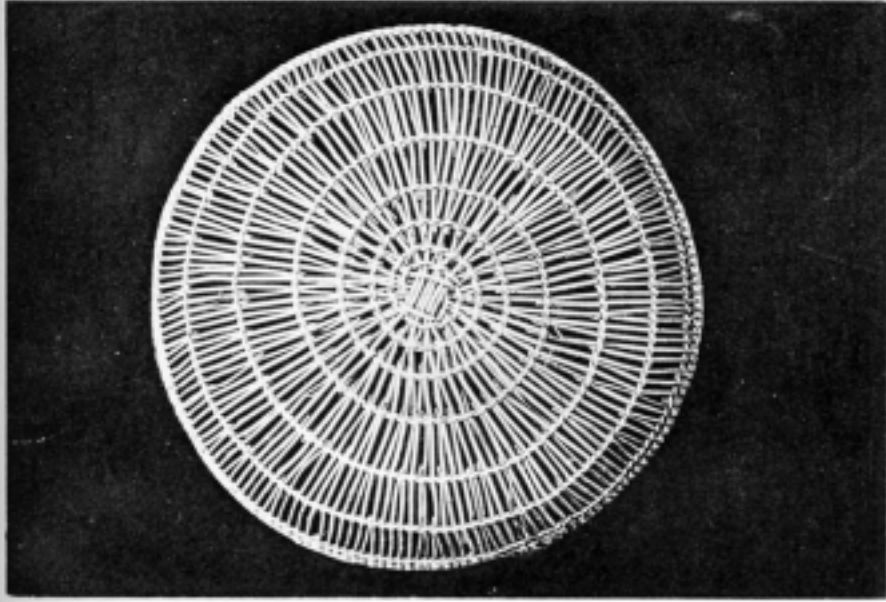
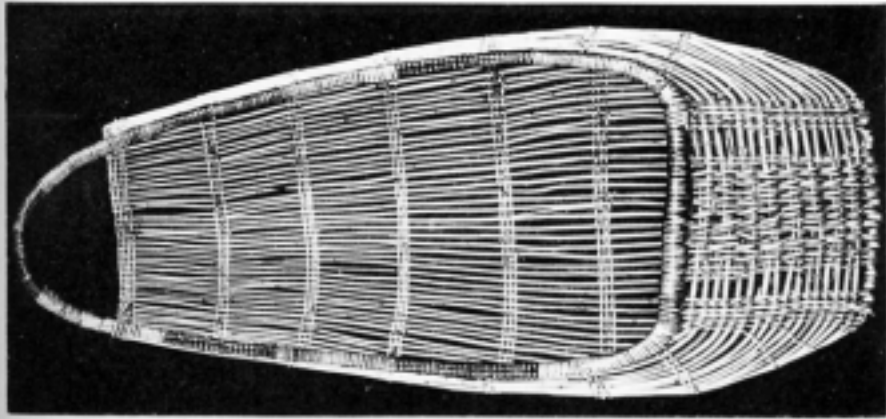
EXPLANATION OF PLATE 20.

- Fig. 1.—Uncompleted basket.
Fig. 2.—Filaments split from the root of a conifer.
Fig. 3.—Hazel twigs prepared for use as ribs in basket making.
Fig. 4.—Filaments from the leaves of *Xerophyllum tenax*.
Fig. 5.—Filaments from the stem of the maiden-hair fern, *Adiantum pedatum*.



EXPLANATION OF PLATE 21.

- Fig. 1.—Basket-cradle in which infants are kept.
Fig. 2.—Basket-plate on which salmon are served.



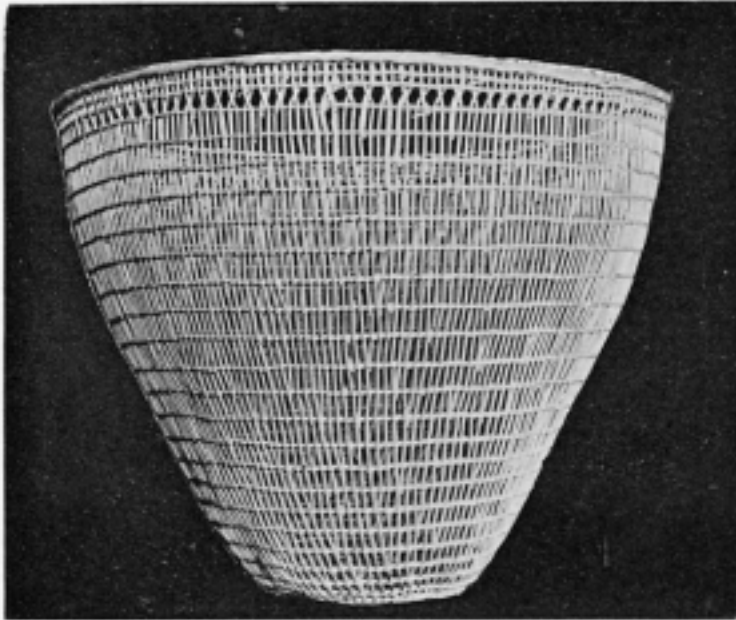
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RELATIVE CO., BOSTON.

EXPLANATION OF PLATE 22.

Fig. 1.—Burden basket of open-work.

Fig. 2.—Burden basket closely twined for gathering small seeds.



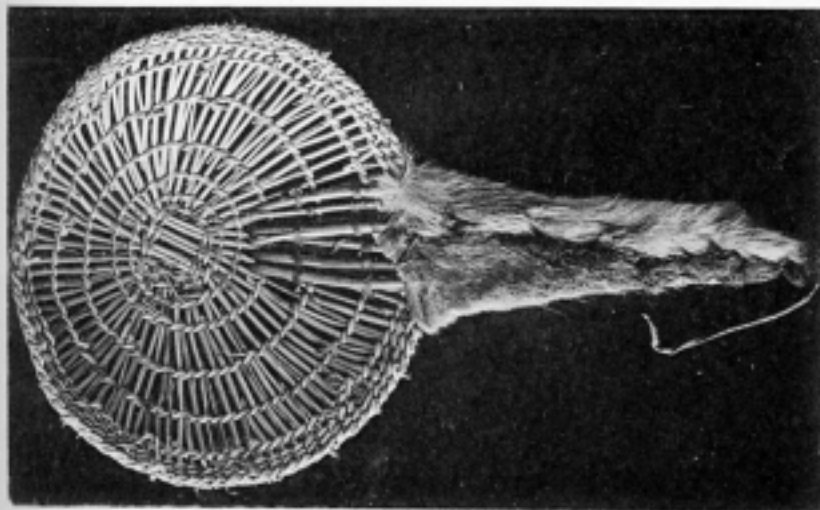
EXPLANATION OF PLATE 23.

Fig. 1.—Storage basket of the largest size.

Fig. 2.—Instrument used in beating off the seeds of plants.



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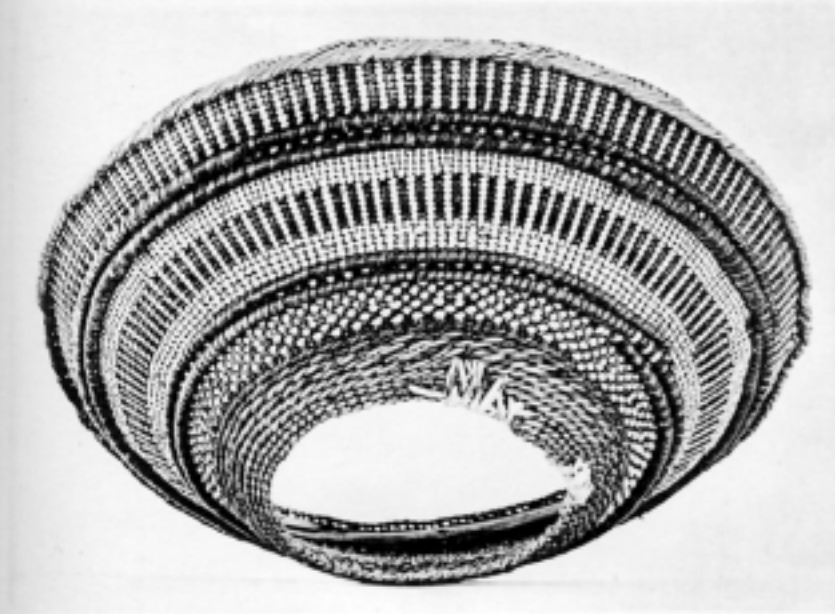


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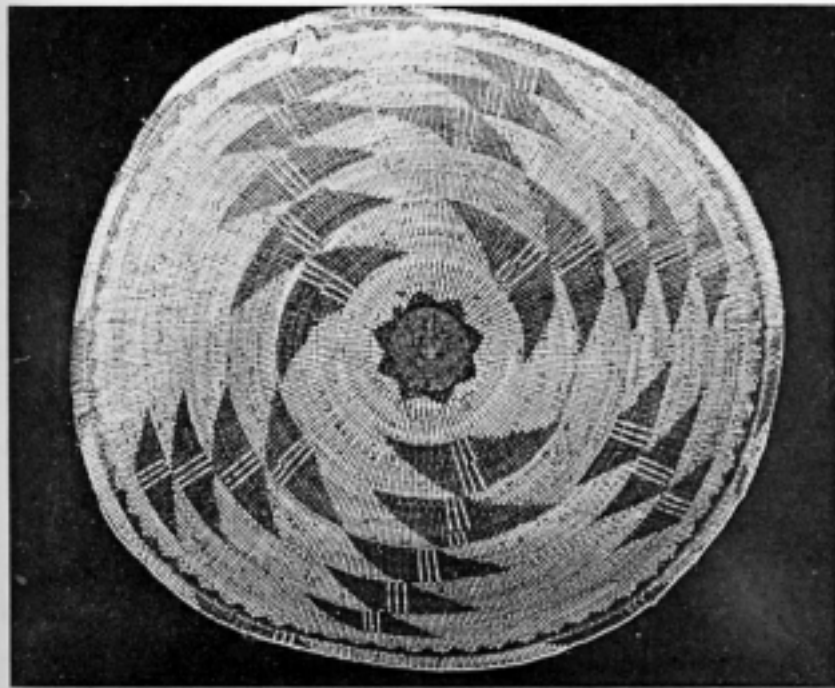
EXPLANATION OF PLATE 24.

Fig. 1.—Basket-mill used in grinding acorns.

Fig. 2.—Basket-pan used to receive the acorn meal as it is sifted.



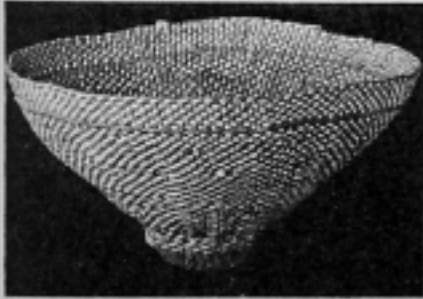
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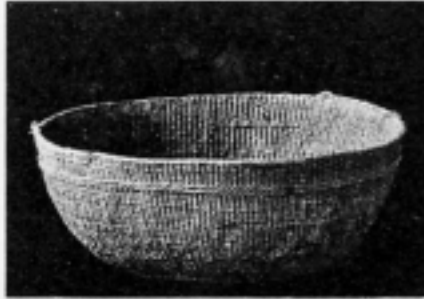
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EXPLANATION OF PLATE 25.

- Fig. 1.—Basket used in separating the fine from the coarse acorn meal.
- Fig. 2.—Basket-cup used to dip up water.
- Fig. 3.—Basket-bowl in which acorn mush is served. Design, *tewal mila*,
"frog's hand."
- Fig. 4.—Basket-cap, worn by the women. Design, *testeetemikye*, "swallow's
tail."
- Fig. 5.—Basket-cap. Design, *niikütasaan*, "one rest on the other."
- Fig. 6.—Basket-cap. Design, *testeetemikye*, "swallow's tail."



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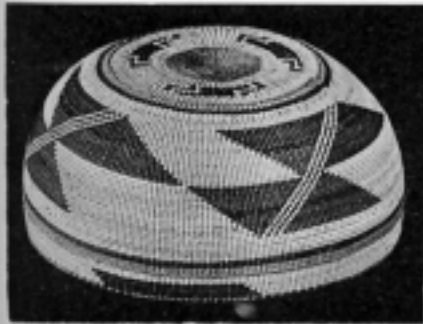
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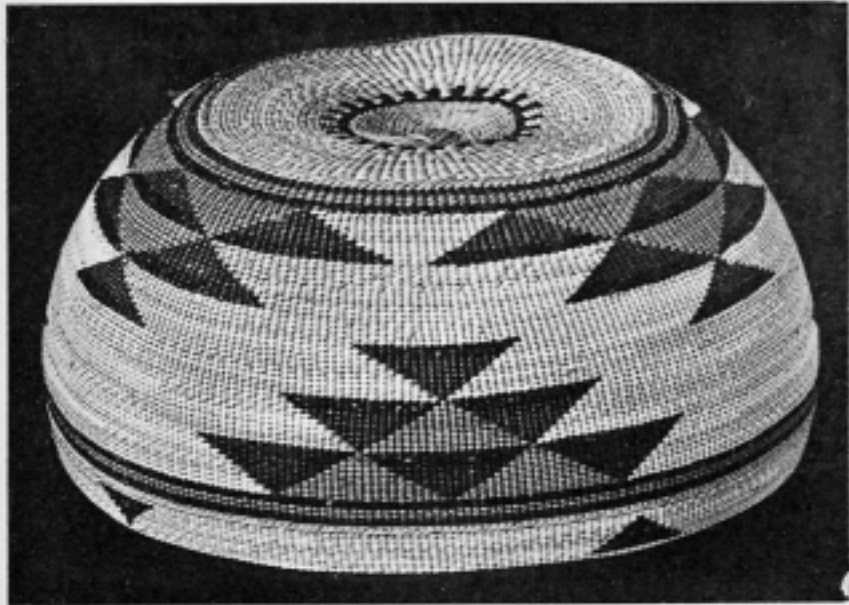


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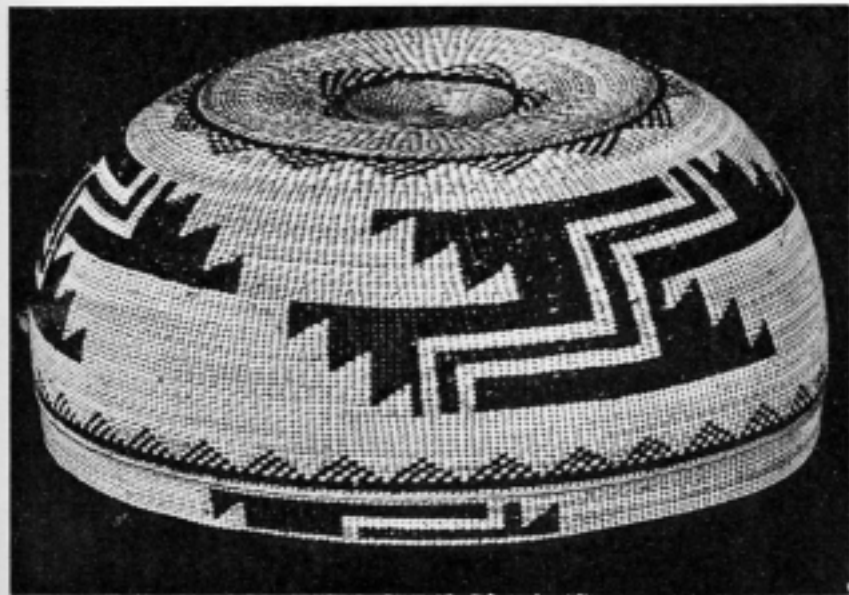
EXPLANATION OF PLATE 26.

Fig. 1.—Basket-cap. Design, *Lūmintōw nilkōtdasaan,* "rattlesnake's noses one on the other."

Fig. 2.—Basket-cap. Design, *mikyōwe mila,* "grizzly's hand."



1



2

EXPLANATION OF PLATE 27.

- Fig. 1.**—Small storage basket, with cover and handle of modern conception. Design, tea, or Lenaldaw, "it encircles."
- Fig. 2.**—Small storage basket. Design, the element Lūmintēw, "rattle-snake's nose" arranged so as to encircle the basket.

