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BASKET DESIGNS OF THE INDIANS OF NORTHWESTERN CALIFORNIA

BY

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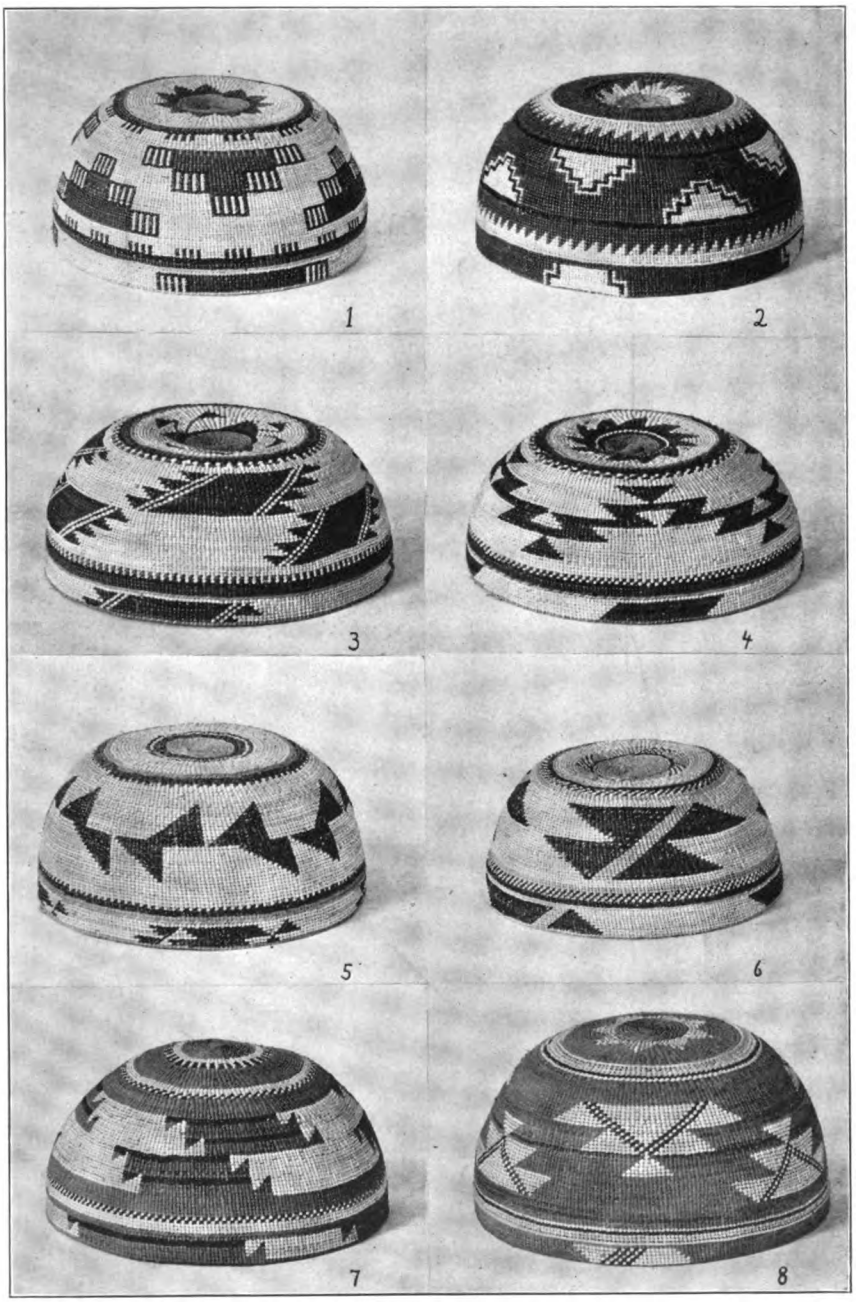

Caps. Yurok. ¼.

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BASKET DESIGNS OF THE INDIANS OF NORTHWESTERN CALIFORNIA.

BY
A. L. KROEBER.

INTRODUCTORY.

The Indians of extreme northwestern California, while showing many similarities to the other tribes of California, and some approximation to those of the north Pacific coast, are in many ways peculiar in their culture. The territory occupied by this group of tribes is very limited, comprising only Humboldt and Del Norte and small parts of Trinity and Siskiyou counties. Their specialized culture is found in its most highly developed form among the tribes of the lower Klamath and Trinity rivers: the Yurok, Karok, and Hupa. The Hupa belong to one of the California groups of the great Athabascan linguistic stock. The Yurok and Karok are small isolated linguistic stocks. The three languages are as radically different in phonetics as they are totally unrelated in vocabulary. The three tribes live in close contact, with more or less intercourse and generally friendly relations. In their culture they are remarkably alike.

The names of the basket designs described in this paper were obtained from Indians of the three tribes during 1900, 1901, and 1902. The most extensive investigations were made among the Yurok. This accounts for the larger number of designs obtained among this tribe. The Yurok designs described are taken from nearly a hundred baskets. The majority of these are now in the Museum of the Anthropological Department of the University of California. A number of baskets, and the names of their designs, were collected in 1900 for the California Academy of Sciences. Through the courtesy of the officers of the Academy this material is used in the present paper. Information was

obtained among the Yurok as to the designs of a greater number of baskets than were actually collected, the total number reaching several hundred. The more common design names are exceedingly frequent among the northwestern tribes, and, while exact duplications of designs ordinarily do not occur, yet many of the variations are so slight that it was often thought unnecessary to insure their preservation by purchase of the specimen. All baskets having characteristic designs but uncommon design-names were secured for the Museum of the Department. This selection gives the Yurok design names described an appearance of somewhat greater variety than they actually possess. Probably the fifteen most common design names constitute all but a very few per cent of the total number. Among the Karok and Hupa all baskets were secured about which information was obtained as to the design. The number of such Karok baskets is about fifty, and of Hupa twenty-five.

It was found necessary to get the names of the designs in the native language, as many of the words are not names of animals or objects, but geometrical or descriptive terms not translatable by the Indians.[1]

KINDS OF BASKETS.

The basketry of northwestern California is characterized by circular open baskets somewhat rounded at the bottom and generally of no very great depth, and by women's caps, which are shallower than the basketry caps worn in other parts of California. Large baskets serving for the storage of food are proportionally of deeper shape than the smaller baskets used for cooking and eating. Conical baskets are used for gathering seeds, and flat circular baskets for trays, plates, and meal sifters. The acorn mortar consists of a basket hopper of the type used by the Pomo. Conical carrying baskets, baby baskets, plates, and some trinket baskets are made in open work. The various kinds and

[1] The following characters have been used: c = sh, x = spirant of k = kh, q = velar k, L = palatal or lateral l, ñ = ng; a = a as in father; ä = a as in bad; å = English aw; è and ò = long open e and o; A, E, I, O, U, = obscure vowels. Yurok r has the peculiar quality of American r in an exaggerated degree. Karok r is clear and trilled. Yurok v is bilabial, having nearly the the sound of w, and its g is always a spirant = g' = gh.

shapes of baskets can be seen in the accompanying plates 15 to 21, and in plates 20 to 27 published in the first volume of the present series of University of California publications.

Yurok names for baskets are: wâxpeya, cap, if brown (Plate 15, figures 7, 8); äqa', cap, if the ground is covered with overlaying (Plate 15, figures 1 to 6); hè'kwuts, small basket for acorn mush, especially for eating (Plate 16, figure 3, and figure 6, unfinished); muri'p, large basket for acorn mush, used for cooking (Plate 16, figures 4, 5; hè'kwuts and muri'p are called by the Karok asip: Plate 20, figures 4, 5, 6, 8); perxtse'kuc, a basket higher than hè'kwuts, used for keeping small objects (Plate 17, figures 4, 5, 6; Karok cipnuk, Plate 20, figure 3); rumi'tsek, an openwork trinket basket (Plate 19, figure 5, usual form; figure 6, unusual); qèwâ'i, conical burden basket of openwork (see P. E. Goddard, Life and Culture of the Hupa, University of California Publications, American Archaeology and Ethnology, I, Plate 22, figure 1); terre'ks, conical basket for gathering seeds (Goddard, op. cit., Plate 22, figure 2, of Yurok provenience); paaxte'kwc, basket for storing food, especially acorns, much like perxtse'kuc but much larger (Goddard, Plate 23, figure 1, a Yurok specimen); meixtso', storage basket similar in shape, but made altogether of hazel, without overlaying or patterns; poixko', large flat tray for acorn meal (Goddard, Plate 24, figure 2); poixtse'kuc, small tray for seeds used as food (Plate 19, figures 1, 2), also small, flat, conical dipper for acorn mush (Plate 19, figure 3, a Karok specimen); wetsanê'p, meal sifter, flat without appreciable curvature (Plate 18, figure 2); laxp'ceu, openwork plates for eating salmon (Plate 18, figures 1, 3; Goddard, Plate 21, figure 2, a Yurok specimen); meco'liL, larger openwork plates on which salmon is laid; upè'kwanu, mortar hopper (Goddard, Plate 24, figure 1, Yurok); qème'u, also called hâxku'm uperxtse'kuc, "tobacco its storage-basket," tobacco basket, often with a lid, and similar to the perxtse'kuc, though generally smaller (Plate 17, figures 1, 3, 5, 7, Plate 19, figure 4); uqèm'-tè'm, said to have been a large form of perxtse'kuc with a small opening and a lid, used for storage of valuable property; ego'or, an approximately cylindrical basket used in the jumping dance, made of a rectangular sheet bent into shape of a cylinder slit

along the top (Plate 18, figure 4). A Hupa baby basket and seedbeater are shown in Goddard's Plate 21, figure 1, and Plate 23, figure 2. The äqa', perxtse'kuc, terre'ks, paaxte'kwc, poixko', poixtse'kuc, wetsanè'p, qème'u, uqèm'tè'm, and ego'or are generally overlaid with white; the wâxpeya, hè'kwuts, muri'p, upè'kwanu, and sometimes the poixtse'kuc, are mostly in unoverlaid brown, but usually with a pattern in overlaying; the rumi'tsek, qèwâ'i, laxp'ceu, meco'liL are in openwork.

MATERIALS.

The basket materials of this region and their employment have recently been given full treatment in Dr. P. E. Goddard's Life and Culture of the Hupa,[1] and on a less localized basis by F. V. Coville in Professor O. T. Mason's Aboriginal American Basketry.[2]

According to information obtained from the Yurok, the warp of their basketry regularly consists of hazel twigs. The woof is made of strands from roots of sugar pine and near the coast of spruce. Redwood and willow roots are inferior but used. Willow seems to be usual for the woof in beginning a basket.

While these root fibres give a colorless gray, deepening with age to a not unpleasant brown, designs and sometimes the entire ground color are produced by overlaying in other materials. The most important of these is the widely used and well known lustrous whitish grass xerophyllum tenax. In baskets for ordinary use the designs are worked in this white on the darker ground of root-fibre woof. In ornamental baskets the ground is overlaid with this material, and the patterns are black, red, and occasionally yellow. For black the outside of stems of a species of maidenhair fern, adiantum, are used; for red, alder-dyed fibres of a large woodwardia fern. The stems of this fern are bruised by beating, and two flat fibres extracted from each. These are usually dyed by being passed through the mouth after alder bark has been chewed. Yellow is produced by dyeing with

[1] Univ. Cal. Publ., Am. Arch. Ethn., I, 38 seq., 1903.

[2] Rep. U. S. Nat. Mus. 1902, 199 seq., 1904.

a lichen, the widely used evernia vulpina. Porcupine quills dyed yellow are rarely used.[1]

Besides red and yellow, black dyeing is occasionally practiced by burial of materials in mud. Part of the hazel twigs for the warp of openwork plate baskets are sometimes treated in this way; and rarely the woodwardia fibre for the woof of other baskets.

Of the three colors used on a white ground, black most frequently stands alone. Red is usually accompanied by at least a certain amount of black ornamentation, such as lines or edging. Yellow does not seem to be used without accompanying red or black, usually the latter. Occasionally the three colors are used in combination on a white ground, but although pleasing if skilfully carried out this is uncommon. Sometimes areas of unoverlaid brown are left in colored baskets and employed in design effects. The only baskets with unoverlaid ground whose patterns sometimes contain black or red in addition to white, are hats, even the plainest of which, as is only natural, show more ornamentation than is usual in baskets for household purposes.

A somewhat greater proportion of red to black designs is found among the Karok than among the Yurok or Hupa, due possibly to greater scarcity of the maidenhair fern furnishing black.

TECHNIQUE.

In regard to technique, the fundamental feature of the basketry of northwestern California is that twining is the only method followed. Coiled weaves of any kind, except as a border finish, are unknown. This statement can be made without qualification, and all coiled baskets attributed to this region are of erroneous provenience or obtained by the northwestern Indians from more southerly tribes.

To all intents these Indians practice only one weave, the simple twining with two strands. This is used for the finest hats, for the largest and coarsest storage baskets, for cooking baskets, and for openwork plates, cradles, and carrying baskets.

[1] Yurok names of basket materials and dyes: hâli'L, hazel; paxkwo', willow; waxpe'u, sugar pine; qiL, redwood; teiwolite'po, spruce; häämo', xerophyllum tenax; rego'o, maidenhair fern; paap, woodwardia fern; were'regets, alder; mece'n, evernia lichen.

Though two-strand twining is very close to wickerwork, differing from it only in that the two strands cross after each warp is passed, instead of continuing parallel, these tribes do not seem to practice wickerwork.

Three-strand twining is well known in this region and frequent in use, but apparently no baskets are made completely in this weave. Almost all baskets begin in this weave; the majority have one or more courses of it where the bottom begins to turn, and again near the top; and occasionally a basket is finished in it. The specific technique seems to be simple three-strand twining, not three-strand braiding. Each woof strand passes over two warp rods on the outer or pattern side of the basket, over one on the inside.

There is one basket in the collections of the Department of Anthropology from this region in which the two strands of the woof cover two rods of the warp at a time, while in the following course they take these rods so as to alternate with the previous one. This is the weave that has been called diagonal twining. The basket is shown in Plate 17. At its origin it shows the usual three-strand twining. While the alternate or diagonal weave has been praised by Mason and Purdy as more susceptible of developed decoration than ordinary twining, this basket is unornamented except by two plain bands. This poverty of decoration is perhaps due to the fact that the ornamentation is produced by covering of the woof instead of by the woof itself. One or two other baskets found are made in this weave for a number of courses near their origin.

In two-strand twining the woof strands are usually more or less flat, and are not twisted, the same side being turned toward the outside of the basket continuously, whether overlaid or not.

The only usual modification of two strand twined weaving is a multiple warp. This is common for the bottom of large storage baskets, and is usually accompanied by a certain degree of openness of woof. After the turn from the horizontal bottom has been made and the sides of the basket started on their upward course, the additional warp sticks taper out and are dropped and the weave is continued on the main stick of each group. Sometimes a group is so divided as to result in two single warp sticks.

Crossing of the warp sometimes occurs in openwork, most often for one course just below the border, occasionally near the origin.

Strengthening by means of a rod enclosed in the twining is common. This forms the first step toward lattice twining or the ti weave, a superimposition of coiling on twining. Mortar baskets are strengthened by several stout rods; storage baskets frequently show one or two near top or bottom; and occasionally a rod is used as a finish. The great majority of cooking baskets have two strands, apparently of root, laid around the outside near the top of the basket in the region of the typical design zone, which they serve markedly to define, limit, or divide. It is probable that their decorative effect is their chief purpose; being pliable, they do not stiffen the basket appreciably, and being held only by the twining of the overlaying material—the body of the woof being usually completely lacking in the two courses on which the strands are laid—they can scarcely be a source of strength.

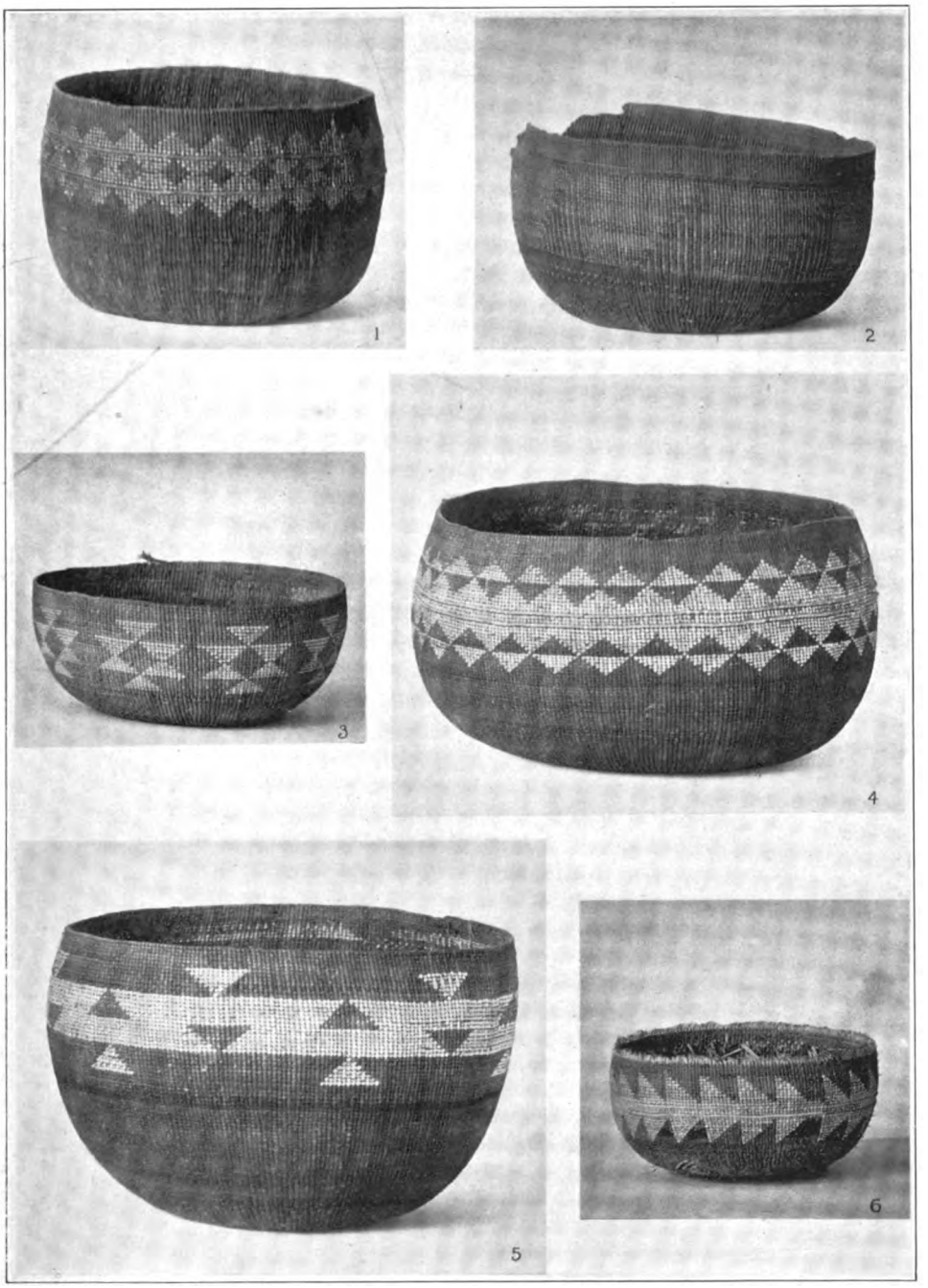
Ornamentation almost without exception is produced by overlaying or false embroidery, and not by the use of colored or dyed woof materials. The method of overlaying differs from that of the Tlinkit and Thompson Indians, two strands being employed instead of one. Among the Tlinkit "the decorative element, instead of taking its turn to pass behind the warp, remains on the outside and makes a wrap about the strand that happens to be there." The Thompson Indians follow a method of "passing a strip of . . . material entirely around the twining each time, showing the figure on the inside."[1] In northwestern California each of the two woof strands is faced as it were, in the process of weaving, with a strand of overlaying material toward the outside of the basket. This facing follows the woof-strand behind the warp, and together with it twines with the other woof-strand and its facing. As the overlaying always faces the outside of the basket, and not the outside of the twining, each strand of it is half the time between warp and woof and invisible, and the decoration does not show on the inside of the basket except casually between turns and plies especially in coarser baskets.

[1] Mason, Aborig. Amer. Basketry, Rep. U. S. Nat. Mus. 1902, 309.

Fine hats are nearly as completely free from trace of overlaying inside as is Tlinkit work. The two overlaying strands follow the woof strands to the edge of the design-figure, where they are broken off on the inside of the basket, and the woof continues on its course alone, or overlaid by strands of a different color, until the next figure is reached. Occasionally, where this intervening space between designs is not great, especially where there is a small recurrent design, the overlaying is not broken off, but brought to the rear of the woof, so as to be invisible from the front, and carried along to the next figure, when it reappears. Of course it then shows inside the basket while it is invisible on the outside, but this occasional result seems to be produced among the northwestern tribes not for its effect but because in such cases it is preferable to carry on the overlaying material rather than cut the strands to reinsert them a few turns, sometimes only two or three, farther on.

It will be seen that this method of overlaying cannot be "classed technically with three strand twined weaving," as Professor Mason says of the Tlinkit process, not only because there is a total of four strands in the woof, but because the operation is essentially one of two-strand twining with double strands.

In northeastern California, among the northeasternmost Wintun tribes, on the McCloud river, still another process of overlaying is practiced. Like the northwestern overlaying, this is done with two strands, but the overlays form a separate twining around both warp and woof, which latter they entirely enclose, never being within its plies as in the northwestern process. The design thus shows inside the basket as well as outside. That the difference in this respect from the northwestern basket is fundamental, is evidenced by the fact that in the cases when the design appears on the inside of a northwestern basket it does so in the intervals of its disappearance from the outside, the inside and outside figures being the reverse of each other; whereas in these North Wintun baskets the regular overlaying appears inside in the same places as outside and forms identical figures. In the northeastern weaving each strand of overlay is evidently carried and treated as part of one of the woof strands, as in the northwestern process, but in passing around each warp



Figs. 1, 2, 3, 5, 6. Cooking baskets. Yurok. $\frac{1}{5}$.
Fig. 4. Cooking basket. Karok. $\frac{1}{5}$.

rod it is either given a half-twist to the other side of the strand that it accompanies, or much more probably the combined woof and overlay strand is thus half twisted.

This northern Wintun method of overlaying is used also by the Lutuami or Klamath Lake and Modoc Indians, and perhaps by the Achomawi, the Pit River Indians.

The overlaying materials in northwestern basketry are never used without an underlying woof to serve them as body; but sometimes this woof is itself of the overlaying material, either with or without another overlay of the same or another material. Where a pattern is worked consisting of alternate stitches of overlaid and of undecorated woof, the whole design being merely one of regularly disposed dots, the woof strand on which the white overlay is carried is usually if not always itself of this material, and sometimes of double thickness, in this case making a woof of three flat white strands twining alternately with one of a single strand of brown root fibre. The same process is followed to produce a design of vertical bars only one stitch wide and one stitch apart. It is easy to see why the single overlay in these cases is carried on continuously with its supporting woof; but the only explanation that seems to account for the underlying woof itself being of overlay material is a desire to preserve the two woof strands of the same total thickness, which, as only one of them is overlaid, would be very difficult if the same body material were used for both of them. The white xerophyllum is flat and thin, so that two or three strands of it about equal in thickness one of the more rounded root fibres usually forming the woof.

In some baskets almost completly covered with overlay, portions are sometimes entirely without woof except of overlaying materials. The motive is apparently the desire to avoid additional strands in the twining, which would detract from fineness of stitch; but as different parts of a basket are sometimes inconsistently treated, it is difficult in all cases to follow the weaver's purpose. A Karok basket covered with a solid pattern of contiguous red and white isosceles triangles alternately pointing up and down, lacks for the major part the usual root woof. Where the pattern in this basket is white, the red material serves as under-

lay, and consequently appears on the inside of the basket in an identical red figure; and vice versa. The purpose of this device is explicable; owing to a desire to continue the strands of overlay unbroken, the usual colorless woof was sacrificed to avoid carrying a total of six threads, and its place taken by the overlay temporarily not appearing in the design. The triangles in this basket are however separated into several bands by horizontal lines consisting of a single course of black overlaying. In two of these courses the woof under the black material consists of red overlay; but in several other courses the woof is the usual colorless root fibre; and this material is used also for the woof of one of the adjacent courses forming part of the triangle design.

An unfinished Karok hat, the outside only of which is shown in Plate 20, figure 7, has a red ground-surface. On this are horizontal black courses and a certain zone, not reaching the top or bottom of the basket, in which there is a recurrent white design. Through the greater part of this zone the usual woof material does not occur, its place being taken by the white of the exterior design, and, in the design, by the red of the ground. Two horizontal courses of black run around this zone; for the upper one, the red overlaying serves as underlay; for the lower there is the usual root fibre woof; and this is also the woof, with some irregularities, for one or two of the adjacent courses forming part of the red ground.

The only production of ornamentation other than by overlaying in this region is in openwork plates. Hazel twigs are dyed black by being buried in mud. They are then grouped so as to form four or five narrow black sectors or rays in the circular basket, the majority of the warp rods in the tray being the undyed white hazel shoots (Plate 18, figures 1 and 3). This process is stamped as exceptional by the fact that the coloring is in the warp instead of the woof. For this reason scarcely any other pattern could be produced in it, and it is obviously applicable only to openwork. This method of ornamentation has been found among the Yurok, though black dyed plates are much less common than unornamented ones. The Karok say that they do not employ it. The Athabascans of Eel River use it fre-

quently for openwork conical carrying baskets as well as for plates.

The ends of the woof, and occasionally the beginnings of introduced warp rods, are left projecting on the inside of the basket until it is finished. They are then broken off, after the basket has been dried by being set before a fire, by scraping; at the present time, with the edge of a tin spoon. To even the shape of a new basket it is sometimes set filled with damp sand.

There is usually no distinct finish for the edge, the ordinary two-ply twining merely coming to an end. The warp ends are cut off flush with the top of the last course of the woof. Usually there is no projection of the warp above this. In this respect the northwestern baskets differ from the twined Pomo baskets, which are, in process, finished similarly, but usually have the warp ends projecting regularly a short distance. The northern Wintun baskets also usually do not show quite so close a cutting off of the warp, though there is scarcely a well calculated intentional effect as among the Pomo. Plate 16, figure 6, shows a basket before the superfluous warp and woof ends have been respectively cut and rubbed off.

A minority of baskets are finished in one or more courses of three strand twining.

Large conical openwork carrying baskets and mortar baskets usually have the edge braided or interlaced. Openwork plates usually show only simple twining at the finish. A few baskets, especially small openwork household and trinket baskets, have a coiled edge, the warp sticks being bent at right angles and then carried horizontally around the top of the basket and wrapped.[1] Cradles are similarly finished along the oval edge in front, but more by means of rods specially employed for the multiple foundation than by a continuation of warp sticks from the twined body of the basket.

Professor Mason's statement[2] that "the McCloud Indians in Shasta county, California, cut off the warp flush and finish the border with what looks like plain twined weaving on the

[1] Professor Mason has illustrated this border on page 265 of his Aboriginal American Basketry, op. cit.

[2] Aborig. Amer. Basketry, op. cit., 266.

edge, but a regular half knot is tied between each pair of warp stems,'' is inapplicable to the McCloud Wintun baskets in the Department's Museum, none of which appear to show anything that could be interpreted as a half knot. The only departure from the simple twining of the northwestern region is that those of the baskets that are overlaid to the edge show a half-twisting on itself of each warp strand, independently of the other, at each stitch, due to the northeastern method of causing the overlaying to come to the surface both inside and out; but the unoverlaid baskets go right on to the end in undisturbed and untwisted two-ply twining.

ORNAMENTAL DESIGNS.

The general character of the ornamental designs on the baskets of this region can be seen in the accompanying plates, and their typical arrangement has been admirably described by Dr. Goddard in the paper referred to.[1] It will be noted that the majority of baskets have the decorative pattern confined to a comparatively narrow region extending around the basket not far below its rim. Caps are more fully covered by ornamentation, but even in these the characteristic arrangement is to some extent observed. An arrangement of the design in several distinct parallel bands, such as is common on Pomo and Yokuts baskets, is not found among the northwestern tribes.

Property marks are occasionally introduced in the weaving, certain small areas being covered with overlaying. The irregular designs on the basket shown in Plate 16, figure 6, were said to be property marks.

There is apparently no habit among the northwestern tribes of leaving a break in the design encircling a basket, the opening or interruption being conceived as a passage. Occasional irregularities producing this effect in continuous designs seem to be due to technical inability.

TRIBAL DIFFERENCES.

The basketry of the Yurok, Karok, and Hupa is virtually identical. No given basket could be identified with certainty as from a particular one of the three tribes. When a large

[1] Life and Culture of the Hupa, op. cit., 44.

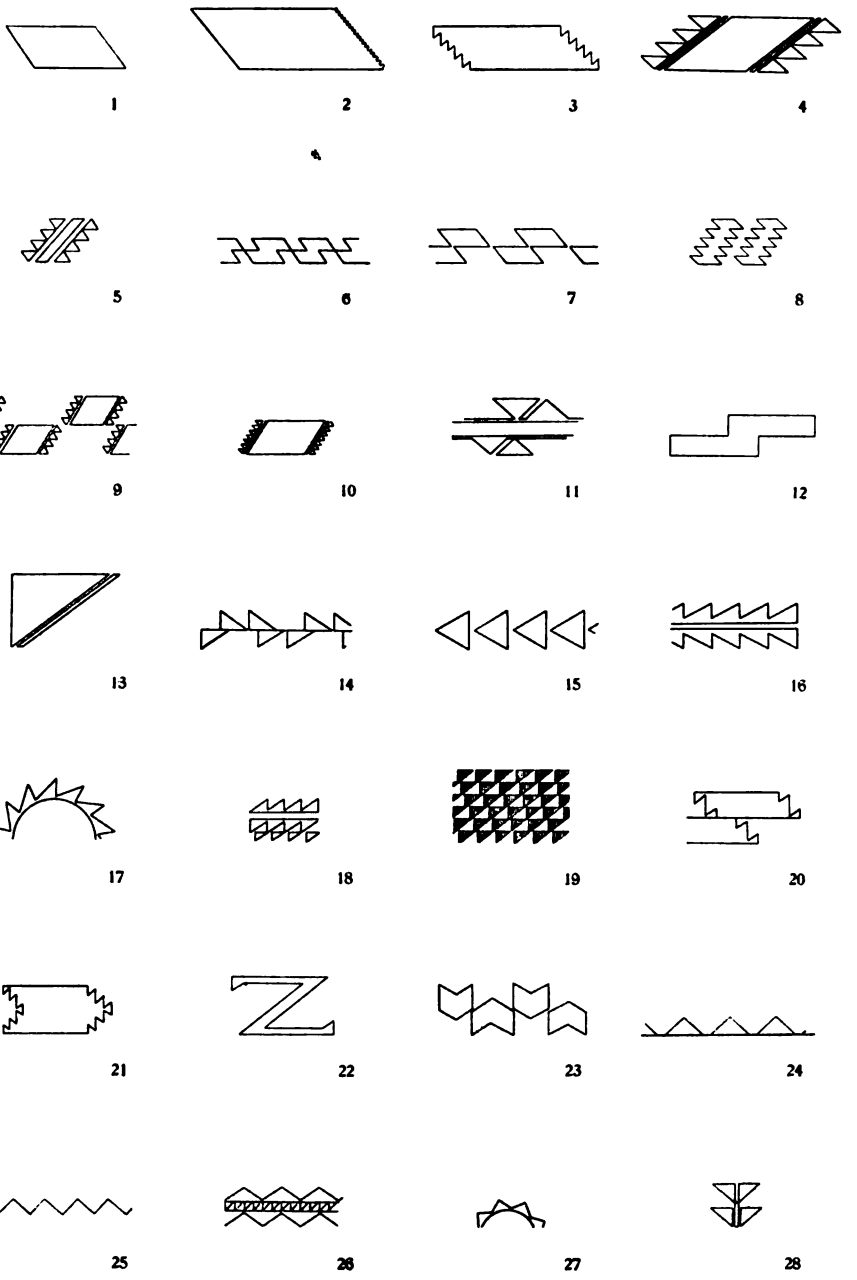
number of baskets from one tribe are brought together, slight differentiating tendencies are discernible. Thus the Karok are more inclined than the other tribes to use red. They seem also more inclined to use patterns containing vertical outlines instead of the more usual oblique. On the whole the finest work is done by the Yurok, the Karok and Hupa baskets being generally less smooth and even. But these differences hold only as averages. Some of the Hupa baskets are far above the ordinary Yurok in quality.

YUROK DESIGNS.

One of the commonest of Yurok designs is the flint or vEniigemaa[1] design. Its fundamental shape is that of a parallelogram, generally with sides slanting downward to the right. Sometimes, however, the slant of the sides of the parallelogram is toward the left. In all the typical forms the base is considerably greater than the altitude. This figure occurs singly, but more frequently in diagonal rows. Sometimes the bases of successive parallelograms are partially superimposed; sometimes the parallelograms merely touch at their corners. The direction of the slant of the row of figures is always opposite to the direction of the slant of the sides of each individual figure. Not infrequently subsidiary designs, especially rows of triangles, are combined with the flint design. Figure 11 shows a design the elements of which consist of two triangles close together. They are so placed that they may be interpreted as a parallelogram that has been bisected. It was for this reason no doubt that the name flint was given to the design. Sometimes rectangles take the place of the oblique-angled parallelograms, though this is uncommon (figure 12). Various forms of the flint design are shown in figures 1 to 12 and in figures 118 to 120, where they occur in combination with other designs.

[1] Yurok design names are mostly formed by the addition of the prefix vE-, (which, as the vowel is obscure, sometimes becomes vA-, vU-, U-, O-), and of the suffix -aa. Thus niigem, flint, vE-niigem-aa, flint design; tsèpkw, mesh-stick, vE-tsèpkw-aa, mesh-stick design.

Niigem in Yurok means flint or obsidian. It does not mean arrowpoint, which is one of the commonest basket design names elsewhere in California. Flint knives, and especially the long knife or spearpoint-shaped objects of obsidian used in the deer skin dance, and regarded as extremely valuable, are called niigem.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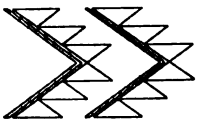

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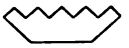

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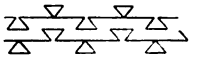

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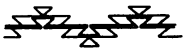

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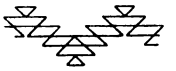

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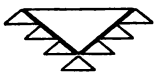

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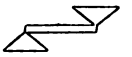

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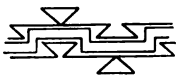

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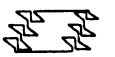

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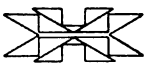

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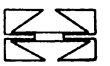

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The sharp-tooth design or vEniirpeLaa[1] consists of right angled triangles, either singly or in combination, more usually the latter. The essential feature of this design is however not the right angle but the acute angle of the triangle. Figures 13 to 23 show the different forms. In figure 22 it is the two small triangles at the ends of the Z-shaped figure which give the name to the design. In the design shown in figure 23 the name could have been applied only on account of the acute angles. Figure 115 shows a similarly shaped design-element used as a pattern within larger obtuse triangles.

The vErèq !en or sitting design is another of the very common Yurok designs. Its various forms are shown in figures 24 to 34 and in figure 115. It will be seen that all these designs contain as element an oblique isosceles triangle. The reason of the application of the name "sitting" to these designs is not clear. It seems however that we have to deal with a spatial or verbal conception, not with the representation of any object.

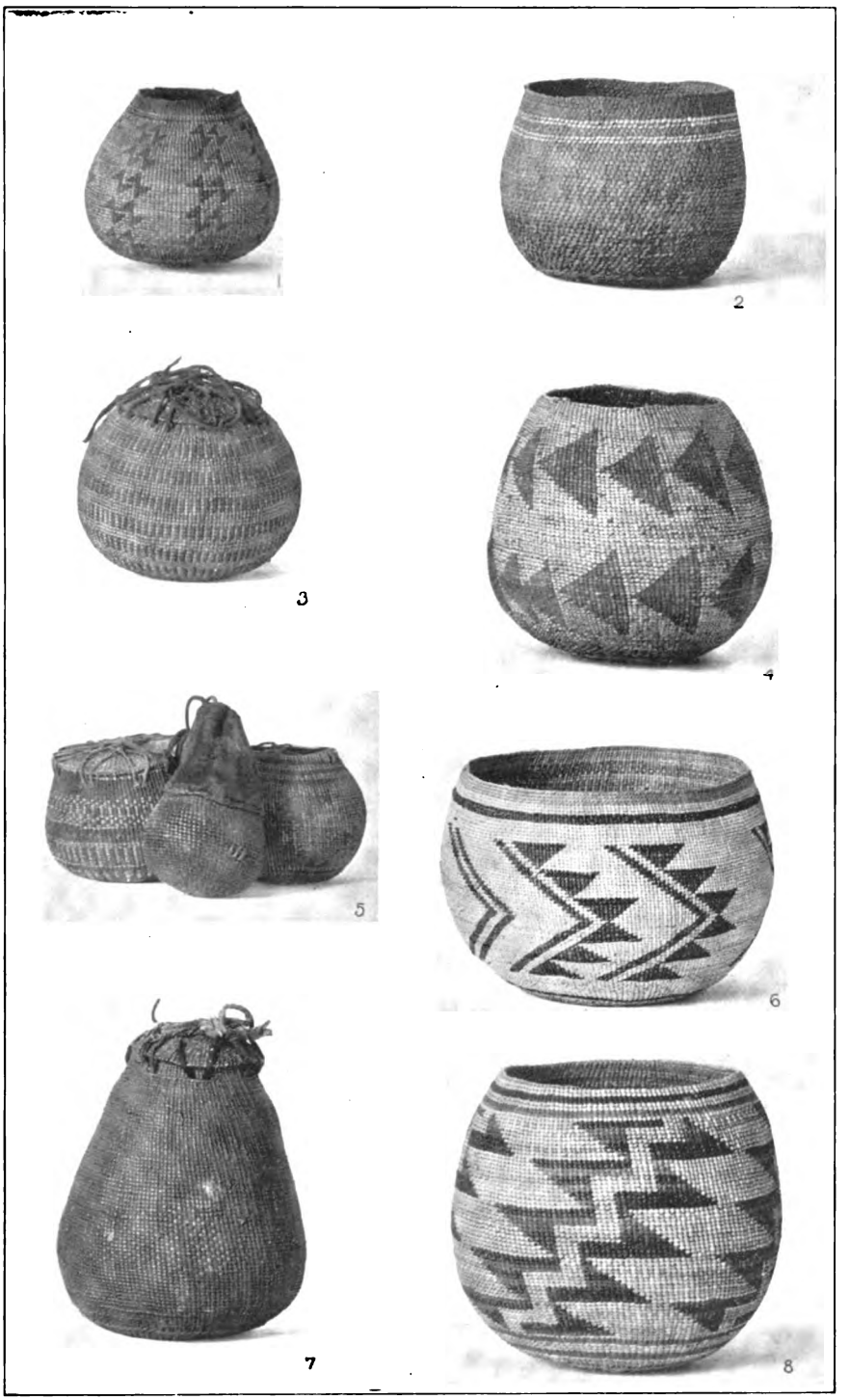
Figures 33 and 34 show two designs which are probably modern but to which the name sitting was given.

The snake-nose design (vEleiâlèkcoopern) is identical with the last. It is mentioned very much less frequently. Inasmuch as the ordinary name for the obtuse isosceles triangle among the Karok is snake-nose and among the Hupa rattlesnake-nose, it seems that the occasional occurrence of this design name among the Yurok must be attributed to the influence of these tribes. A case of this design is shown in figure 35.

The waxpoo[2] design is shown in figures 36 to 44. The typical element of this design may be described as a trapezoid the longer upper base of which is bisected by the apex of an inverted isosceles triangle. This design element, however, does not appear to be used in its isolated form, but always occurs either in combinations as in figures 36 to 39, or in distortions as in figures 40 to 44. The meaning of the name has not been ascertained; it seems however to have some reference to "the middle," presumably the bisection of the base of the trapezoid by the

[1] Occasionally called veniir.

[2] Also called haxpoo.



Tobacco and other baskets. Yurok. ¼.

apex of the triangle. This is also a very frequent characteristic design. Figures 40 to 44 would seem to show that the trapezoid is not an essential element of the design and that any obtuse isosceles triangle whose apex is in contact with a horizontal line may be given this name. The design shown in figure 44 was called sitting as well as waxpoo. The waxpoo design is also shown in figures 116 and 117 in combination with other designs.

The snake design (vELeiâlèkcaa) consists of a progressive zigzag of alternately horizontal and vertical stripes. In accordance with the general trend of Yurok patterns, the horizontally extending portions of this zigzag are usually considerably longer than the vertical ones. In most cases the snake design is combined with the flint design in the manner shown in figure 119. Figure 45 shows it occurring independently. The design in figure 46 was also given the name snake. It might equally well have received one or two other names. In figure 47 the right angled zigzag stripe does not ascend but is alternately directed upward and downward, thus forming a band through the zone of ornamentation on the basket instead of rising diagonally from the base to the rim of the basket. The triangles adjacent to this design do not form part of it. They were given the name sitting.

The spread-hand or spread-finger design (okwEgètsip) is shown in figures 48 to 50. Its most usual form is the one it has in figure 48. It will be noted that all the figures contain a common element: the paired acute angles with vertical sides parallel.

The foot design (umètsqaa), figures 51 to 57, has for its element a right angled triangle at the end of a bar or stem. Being a small design, it is rarely found singly, but its application in patterns varies considerably. Figure 52 is not uncommon. The form shown in 53 is also not rare. The form shown in figure 57 is fairly common and suggests a design found among the Maidu, Achomawi, and other tribes. Figure 116 shows the foot design in combination with waxpoo and ladder.

The ladder design (viLqèmviLqèmaa, also viLqèma) is shown in figures 58 to 63. In figure 58 the small squares were called ladder. This occurrence and that shown in figure 63 demonstrate that

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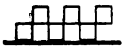

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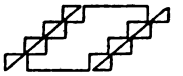

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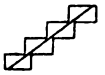

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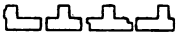

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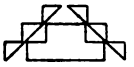

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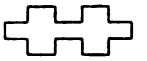

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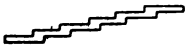

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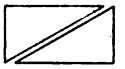

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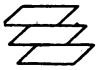

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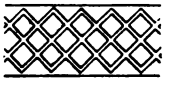

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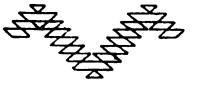

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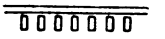

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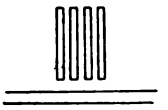

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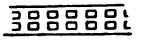

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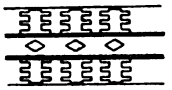

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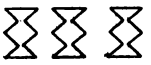

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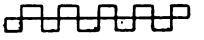

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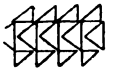

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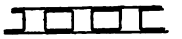

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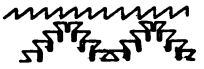

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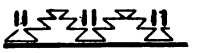

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the elemental idea of this design name is the square or rectangle. In by far the greater number of cases, however, this element occurs only in combination. In these cases the characteristic feature is the step-like effect which gives the design its name. The Yurok ladder which leads into the pit of the house consists of a large slab or a log into which several steps have been cut. It is interesting to note that while this design obviously takes its name from a combination of elements in a pattern, the same name is also used for the elements occurring singly, when realistically the name is inappropriate.

Not uncommon is the elk design (UMEVILKAA), cases of which are shown in figures 64 to 70. These designs may in general be described as consisting of a rectangle placed on the middle of another about twice its length. Essentially therefore this design is very like the preceding ladder design, and to many designs either name might properly be applied. It may be noted that among the Karok and Hupa there is only one name corresponding to these two Yurok designs. It has not been possible to obtain an explanation of the reason for the use of this name. In figure 64 the rows of vertical bars are strictly only an adjunct to the design. The same may be said of the triangles in figures 65. Figure 68 might quite correctly have been named either sitting or waxpoo by other individuals. For figure 69 the name elk would hardly have been expected. This design would usually receive the name flint, snake, or possibly ladder. There is also no apparent reason why the design shown in figure 70 should have been called elk, as it bears no relation to any of the other forms of the design.

The sturgeon-back design (qâxkwilee), representing the plates of the sturgeon, is shown in figures 71 to 75. Figure 71 shows what may be regarded as the most typical form. Whether the parallelograms in figure 75, which would ordinarily be called flint, are correctly named sturgeon-back, seems doubtful. Parallelograms painted on the back of a bow, though arranged somewhat differently, have however also been called sturgeon-back.

The okrekruyaa design, which may be translated crooked or zigzag, is rather common. A variety of its forms are shown in

figures 76 to 83. It will be seen that its essential constituent is an angle. As in the case of most other Yurok designs this usually occurs in repetition or combination, though not necessarily so. Figure 83 shows a pattern to which in most cases the name flint or waxpoo would be given. The name crooked was here no doubt applied to it on account of its zigzag outline. Figure 80 was called both crooked and sturgeon-back.

A very common design is called by the Yurok vEtsèq !sèq !oaa. The translation of this word is uncertain. It seems to be about equivalent to striped. The design consists of vertical bars or stripes. These may be attenuated to mere lines or shortened until they become small rectangles. Figures 84 to 90 show the different forms of this design. The grate-like lines of figure 64 were also given this name. Figure 90 is virtually the same design as figure 57, but occurs on another basket and was interpreted by another woman. Figures 117 and 118 also show this design. In both these cases there is only a single stripe and it is not vertical.

Somewhat less common is the design called vAnaanak. This also consists of parallel stripes or bars but their direction is diagonal instead of vertical. The meaning of this name is also not clear. This design sometimes constitutes a small patch at the bottom of a basket. Some of these occurrences may be property marks, irregularities in design being occasionally explained in this way. The vAnaanak design is shown in figures 91 to 94.

The meaning of the design called by the Yurok vUtsierau can also not be given. It consists simply of a narrow line. Sometimes the name is given to the ridge, one or two courses wide, of a strand laid on horizontally outside and encircling the basket. Such a case is shown in figure 95. While this pattern is very common, it is hardly a true design, and it is not impossible that the name may refer only to the technique of its production.

A design called by the Indians vEtergerpuraa is shown in figures 96 and 97. The meaning of this name has not been ascertained. It is however evidently of spatial or geometrical significance, perhaps having reference to the joined apices of

triangles or angles.[1] Another instance in which this design was found was on a basket showing a pattern identical with the abnormal snake design of figure 46.

A design that is not uncommon, but is very limited in the scope of its employment, is the tattoo (opegoixket) design. This represents the tattooing on the chin of the women. It is found only on openwork basketry trays used as plates for dried salmon and similar food. Many of these trays are plain, but some contain four or five figures like that shown in figure 98, radiating from the center to the edge of the plate and produced by the use of black-dyed warp stems.

All the remaining Yurok designs have been found only once and must therefore be regarded as much less typical than those that have been described.

A band consisting of a double row of rectangles (figure 99) was given the name flying geese (q!eilekvelèt) by an old woman.

Figure 100 shows a design called owatsela, the small skunk or polecat. It probably represents the markings of the animal.

A crab or crayfish design (qerLqer) is shown in figure 101.

Figure 102 is a design called maggots (viekwELkwaa). Probably the small white rectangles are to be interpreted as the maggots.

Boxes of an approximately cylindrical shape are made by the Yurok from elk antlers for holding dentalium money, and of wood for larger objects. Such boxes are represented in a design called vEtekwanekwcaa. It is shown in figure 103; the rectangles represent the boxes.

Figure 104 shows the elbow design, uperxkricenaa.

Figure 105 shows another geometrical non-realistic design. It was called tsèxtselaa, spreading apart. This design was also given the name foot.

A design known as vEtsèpkwaa or mesh-stick, being a representation of the approximately rectangular flat pieces of elk antler used for measuring net meshes, was found only once as a basket design. It is shown in figure 106. The same name was however found applied once or twice to carved rectangular figures on the wooden paddles used for stirring acorn soup.

[1] The design shown in figure 97 was called vEtiigerpEkwaa, "small in the middle."

A series of rhombi, which would ordinarily be called sturgeon-back, was once given the name kwerermetsaa, a chiton mollusk. This design is shown in figure 107.

What was called a star design, hââgetsaa, is represented in figure 108.

A design called swallow is shown in figure 109. It is supposed to represent the tail. This name has been also found applied to a decorative figure carved as part of an acorn-soup paddle.

A design representing the markings of a small red snake is shown in number 110. In this case part of the design was executed in red.

The design shown in figure 111 was called orawoi, dove. Ordinarily such a design would be named waxpoo and vɛtsèq!-tsèq!oaa. It is possible that the information supplied in regard to this design and the two preceding may not be correct.

The following names that were each found once, seem either to denote geometrical ideas or to be modifications of common designs. They are:

A design called verèt!, shown in figure 112.

A design called verèt!korem, consisting of the horizontal bar in the middle of figure 54.

A design called veniirpeLaa upâpelek, large (?) sharp-teeth, shown in figure 113.

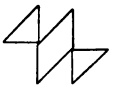
The same design executed in smaller size on the same basket was called okegotir, crossed.

A design, shown in figure 120, consisting of two right triangles in contact at their acutest angles, was called kiwâgik vɛlerèq!en, sitting in the middle.

The term veniir okegaama, "sharp different" or "sharp varying," was applied to the sharp-tooth design shown in figure 18, and the term vɛnègètsiq!, interpreted as sleeping together, to the ladder design of figure 63.

A modern design, to which no name was given because it was of recent invention, is shown in figure 114, in order to illustrate its difference in character from the older designs.

Figures 115 to 120 show patterns consisting in each case of two or more design elements. These are:



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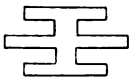

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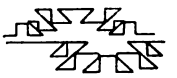

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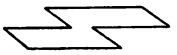

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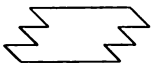

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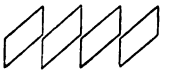

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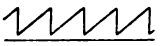

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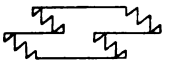

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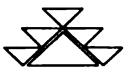

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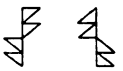

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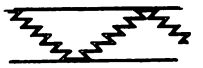

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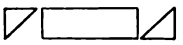

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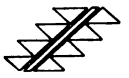

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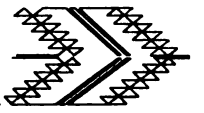

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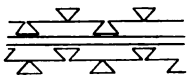

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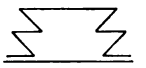

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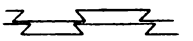

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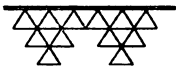

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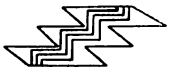

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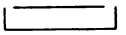

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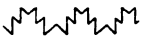

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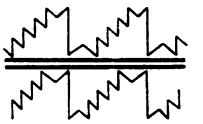

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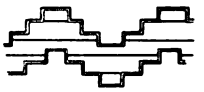

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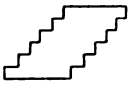

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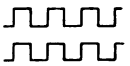

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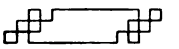

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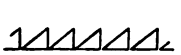

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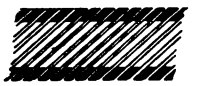

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Figure 115, sharp-tooth and sitting.

Figure 116, waxpoo and foot and ladder.

Figure 117, waxpoo and vEtsèp !tsèq !oaa.

Figure 118, flint and vEtsèq !tsèq !oaa.

Figure 119, flint and snake.

Figure 120, flint and kiwâgik vElerèq !en.

Basket design names are the only names applied by the Yurok to the carved, engraved, or painted figures, predominatingly of triangles, on wooden acorn-soup paddles, elkhorn spoons and purses, and network and skins. This decoration, which is never realistic, is not made with any purpose of signification and usually is nameless; but when a name is applied to it, it is either descriptive, such as "scratched," or a name familiar from baskets, such as sitting, sharp-teeth, sturgeon-back, crooked, or mesh-stick.

KAROK DESIGNS.

The Karok designs are very similar to those of the Yurok, although their names sometimes do not correspond equally. They will be taken up in the order of the Yurok designs.[1]

The Karok oteha'hits or flint-like design has for its element the parallelogram. It is identical with the Yurok flint design. Figures 121 to 124 show different forms. The design shown in figure 124 was called oteha'hits tunueits, small flint. The oblique parallelogram is replaced by a rectangle more often among the Karok than among the Yurok.

The tata'ktak design among the Karok corresponds to the Yurok sharp-tooth. The etymology of this word is not known; it seems to be derived from an adjectival or verbal root. Objects with a row of notches are so called. A variety of the forms assumed by the tata'ktak design may be seen in figures 125 to 133, as well as in figures 185 to 187 where this design occurs in combination with others. A design like that shown in figure 151, which is ordinarily called spread-finger, was once named tata'ktak. This interpretation is very natural, as the elements of the spread-finger design always constitute the tata'ktak figure.

[1] Karok names of baskets: cooking or eating basket, large or small, asip; higher basket for trinkets, cipnuk; hat, apxan. Karok names of basket materials; hazel, asis; pine roots, carum; xerophyllum, panyura; adiantum, yumarekiritap; woodwardia, tiptip.

The apcuniu'fi or snake-nose design corresponds to the Yurok sitting design. A number of forms are shown in figures 134 to 141, and in figure 184. The species of snake denoted by apcun is not known.

The apxanko'ikoi design corresponds to the Yurok waxpoo. The typical form is seen in figure 142. Figures 143 to 145 show forms that are unusual among the Yurok. It will be seen that figures 143 and 144 lack the isosceles triangle, the bisection by whose apex of the longer base of the trapezoid appears to give the Yurok design its name. The Karok name for the design contains the word for basketry cap, apxan. Koikoi, the second part of the word, is said to mean up and down, or progressively back and forth, or the successive placing of one thing against another. Figures 146 and 147 show forms of this design to which the Yurok would in most cases apply the name of the elements constituting them, sitting. The relation of these patterns to the typical forms of the design is however obvious. Figure 185 shows the apxanko'ikoi design in combination with the tata'ktak.

These four designs—flint, tata'ktak, snake-nose, and apxanko'ikoi—are among the commonest of Karok designs, as their equivalents are among the Yurok.

The design called vakaixara, long worm, shown in figures 148 and 149, corresponds exactly to the Yurok snake, even to its usual association with the flint design. An entirely different form is shown in figure 150. This appears to be equivalent to the rare Yurok maggot design.

The kixtakpis or kixtapis design of the Karok corresponds in shape to the Yurok spread-finger or hand design. A similar significance has been obtained for the Karok word, but others say that the fingers are used only in illustration, the meaning being long and pointed, though not necessarily sharp. It is possible that the Yurok word okwEgètsip also refers to the fingers only by implication. This design is shown in figures 151 and 152.

The crow-foot design, anatcfis, corresponds to the Yurok foot design, especially to that variety of it shown in figure 53.

A common Karok design is the cut-wood, èn i'kiviti. This is the equivalent of the Yurok elk and ladder designs and there-

fore needs no further characterization. It is shown in figures 153 to 160, and again in figure 184.

The ikurukur design is the equivalent of the Yurok okre-kruyaa; apparently the name is to be translated stirred, which may be a way of expressing the spatial idea zigzag. It is shown in figures 161 to 163. Another form is like the Yurok variety in figure 79.

The Karok xurip or striped design is the equivalent of the Yurok vETsèq !sèq !oaa. It is shown in figures 164 to 166 and 186 to 187.

The design corresponding to the Yurok vAnaanak seems to be called among the Karok kutsisiva'c, spotted.[1] An instance of this design is shown in figure 167. Another form is identical with the Yurok form shown in figure 93.

A single line or ridge encircling a basket, called among the Yurok vUtsierau, is called by the Karok uc-acip-ròvahit. This is said to mean to put something long around, and in basketry may refer to the technique rather than to the design. A portion of a design given this name is shown in figure 168.

A design similar to the ikurukur design was a number of times given the name xasi'ree. The meaning of this term could not be obtained, which is evidence that the word is descriptive and not the metaphorical application of the name of an object. This design seems to differ from the ordinary zigzag or crooked design in that when it constitutes a separate zigzag band it appears to be composed of broken lines, and that when it follows an outline of triangles, it is detached from them a little distance. In all the cases obtained there is thus a broken or openwork effect.[2] (Figures 169 to 172.) There seems to be nothing among the Yurok corresponding to this design name.

The èsivaci or snail-back design, said also to mean to carry, is another that is not found among the Yurok. Its element seems to be an acute or right angled triangle. It is shown in figures 173 and 174. The two designs in figure 174 were found on the same basket and were called by the owner of the basket both tata'ktak and snail-back.

[1] The last part of this word has a resemblance to the name of the snail-back design, èsivaci.

[2] That this is the essential feature of the design is made almost certain by the fact that xas has recently been found to mean separated.

The deer-excrement design, ip'af, is also not found among the Yurok, but occurs among the Achomawi and Wintun. Its element is a small rectangle used in combination. It is shown in figures 175-177. The design in figure 177 was also called rabbit-excrement, niv'af.

A design found only once is shown in figure 178. It was called iyu'uphit, eyes, strictly, like eyes.

A modification of the snake-nose design consists of two horizontal rows of the isosceles triangular elements. The design is then called apcuniu'fi upcantu'nvahit, snake-noses on top of each other, or snake-noses together. Once the form apcuniu'fi upsantunvaramu was given. Figures 179 to 181 show the modified snake-nose design. It will be seen that the isosceles triangles may be put simply above one another or joined at their apices or along their bases. In the latter case a diamond or rhombus results. It is in this way that the diamonds in figure 184 are to be interpreted as snake-noses.

Figure 182, which is the same design as 181, was called by an old woman tata'ktak tcivi'tahits. Tcivi'tahits is said to be used of small objects in a row.

A pattern like the eye pattern of figure 178, ascending diagonally through two flint-parallelograms, was once called snake-nose ikurukur. This name shows that each of the rectangles in the design was in this case considered as consisting of two triangles joined at the bases.

Figure 183 shows a design called tata'ktak èviyi'hura, tataktak ascending, or thrown or moved up.

Figures 184 to 187 show combinations of designs. These are:

Figure 184, èn i'kiviti and apcuniu'fi.

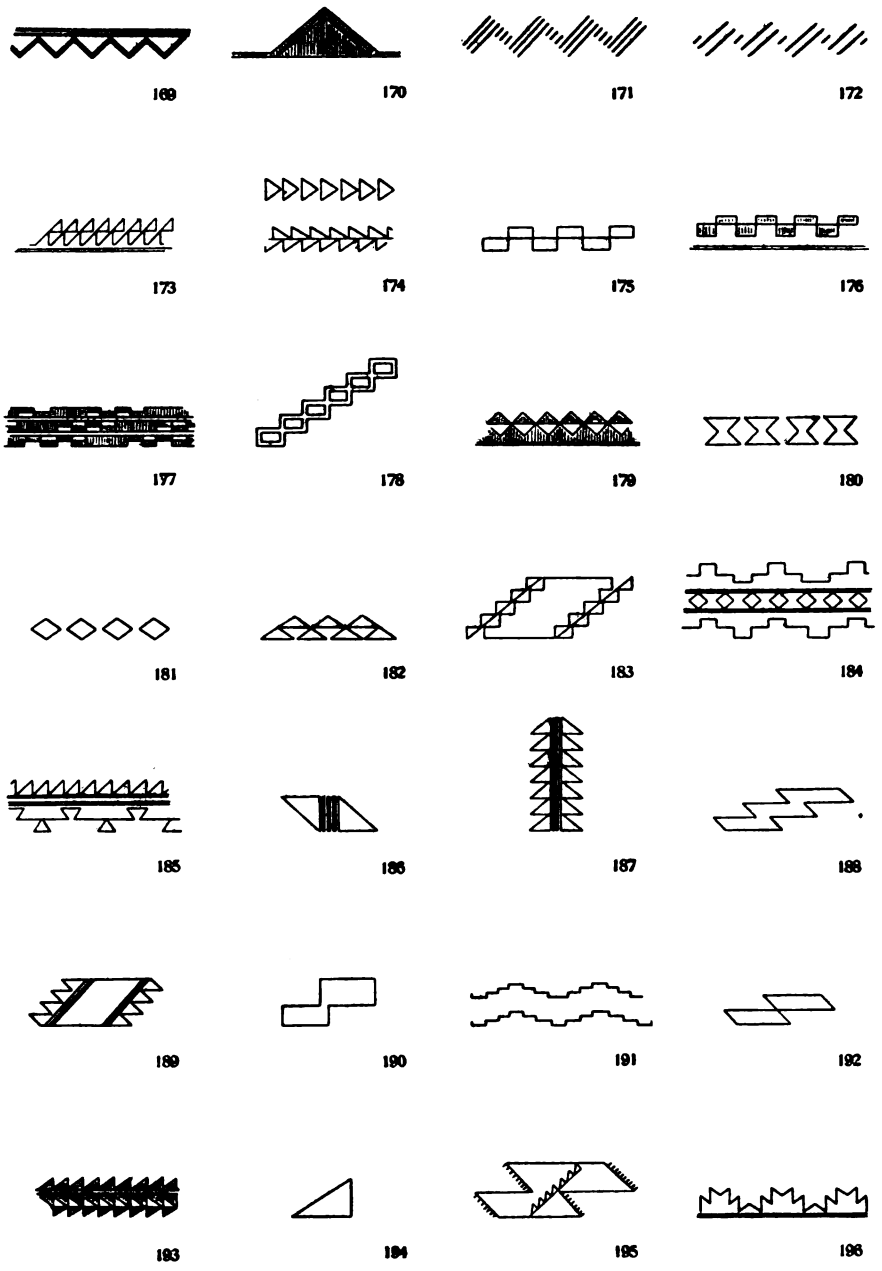
Figure 185, apxanko'ikoi and tata'ktak.

Figure 186, xu'rip and tata'ktak.

Figure 187, xurip and tata'ktak.

HUPA DESIGNS.

Since the drawings for this paper were made, Dr. P. E. Goddard has published a description of Hupa basket making, including an account of the designs and their names, in his general paper on the Life and Culture of the Hupa referred to. His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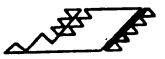

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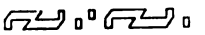

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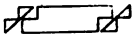

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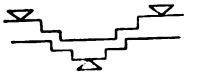

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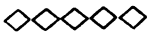

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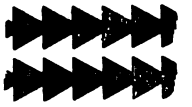

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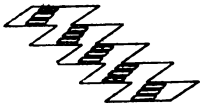

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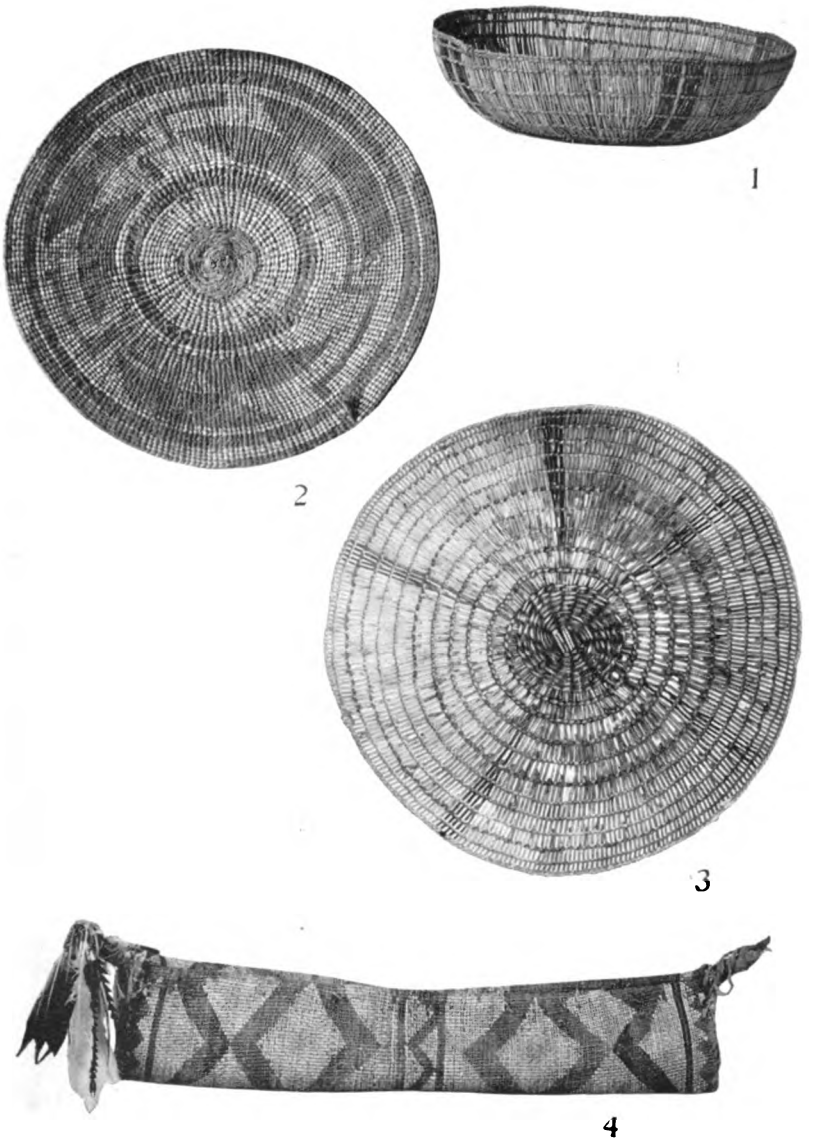
illustrated description of the various classes of baskets and of the arrangement of their decoration shows the practical identity of Hupa and Yurok basketry, several of the pieces he figures being in fact of Yurok origin, and has rendered any lengthy treatment of the same subject unnecessary in the present paper. His account of the use and treatment of materials is particularly full, and the material previously presented in this connection must be regarded as merely supplementary of his more exact observations. Dr. Goddard names and figures a number of Hupa designs, some of which were not obtained by the author. In the cases where the same names were secured, Dr. Goddard's orthographical rendering has been adopted, except that his close o and u are represented without diacritical marks. Where he does not give a design name, it has been rendered according to the phonetic system employed for native names in this paper.

So far as the Hupa designs can be paralleled with Yurok designs they will be taken up in the same order.

The common design whose elements are parallelograms is called by the Hupa niLkûtdasaan, on top of each other. While this design itself is generally identical in shape with the corresponding Yurok and Karok flint designs, its name is altogether different. Several forms are shown in figures 188 to 191. Inasmuch as the name has reference only to the relative position of the component elements, and not to their shape, it is perfectly applicable to the pattern shown in figure 191, though this design corresponds much rather to the Yurok elk or ladder than to the flint design.

In one case a design consisting of two oblique parallelograms was called by a Hupa woman nesetaxkyuuLon, long mark. According to Dr. Goddard the second part of this word means weave or woven. This design is shown in figure 192.

The Yurok sharp-tooth and Karok tata'ktak designs are called by the Hupa tcaxtceûñeL. Occurrences are shown in figures 193 to 196. According to Dr. Goddard this word means points sticking up and is applicable to a series of projecting angles. The name was obtained, however, for the design reproduced in figure 194, which consists of an isolated triangle. Dr. Goddard gives as the name of the single right triangle tcesLiñalwiltcwel,



Figs. 1, 2, 3. Openwork and sifting trays. Yurok. $\frac{1}{4}$.

Fig. 4. Dance basket. Yurok. $\frac{1}{10}$.

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said to mean sharp and slanting. The design shown in figure 195 was called miskaxe tcaxtceûñeL with niLkûtdasaan.

A design identical with that of figure 196 is shown in figures 200 and 202, which were called swallow-tail. While this is perhaps the more characteristic name, the acute angles in the figure make tcaxtceûñeL also applicable to it. Dr. Goddard notes the use of both names for this design.

The obtuse isosceles triangle is called by the Hupa nearly as by the Karok, rattlesnake-nose, Luwmintcwuw. Two patterns are shown in figures 197, 198. Dr. Goddard mentions also Luwmintcwuw niLkûtdasaan, rattlesnake noses on top of each other, as the name of a pattern of isosceles triangles, which corresponds with the Karok name apcuniu'fi upcantu'nvahit, snake noses on top of each other.

The Yurok waxpoo, the Karok apxanko'ikoi design is called by the Hupa tca, or tcax-hultcwe (= tca-wiltcwel?). An instance is shown in figure 199. The meaning is unknown. Tca and the first part of tcax-hultcwe appear to occur also in tcaxtceûñeL; hultcwe in mi-kinily-ultcwe and perhaps in tcesLiñalwiltcwel.

According to Dr. Goddard the tca design is usually so arranged that a series of figures encircles the basket, when the name LenaLdauw is given it, signifying "it encircles."

The swallow-tail design, testcetcmikye in Hupa, has not been found among the Karok and only once or twice among the Yurok. It appears to be not uncommon among the Hupa. A typical form is shown in figure 200. The pattern shown in figure 201 is from the same basket and was given the same name, but is so unrelated in form that a mistake seems likely. Figure 202 shows the elements found in figure 200 arranged in a continuous zigzag pattern.

The design shown in figure 53 as a Yurok foot design is usually called by the Hupa frog hand, tcwal mila. This name was also found applied to the design shown in figure 204, but the connection between this form and the usual one is not clear. The typical form of the frog hand design is again shown in figure 203, though in this case it was given the name spread-hand, mila analeLi. It thus appears that the Yurok foot design

corresponds to both the Hupa frog hand and spread-hand designs, while the Yurok spread-hand design is the equivalent of the Hupa swallow-tail.

The Yurok elk and ladder, and the Karok cut-wood designs, are found among the Hupa in the forms shown in figures 205 to 208. To the first two of these, which were obtained from one individual, the name LenouLon was given. To the two others, which were obtained from two different individuals, the name LenoikyuuLon was applied. According to Dr. Goddard Le-, the first element of these names, means joined or tied together, and is no doubt used because the design extends in a continuous pattern around the basket; while -kyuuLon means, as stated before, weave or woven.

The sturgeon-back design, Lokyomenkontc, was found once among the Hupa and shows in this case the same shape as the typical form of the Yurok design of the same name. It is reproduced in figure 209.

The equivalent of the Yurok crooked or zigzag design is called by the Hupa naikyexoloxats. A form is given in figure 210. The design shown in figure 81 was also called by this name.

The Yurok vEtsèq !sèq !oaa, the design of vertical bars, is called by the Hupa kinesni. It is shown in figures 211 and 212. Presumably the meaning of this design name is, as among the Yurok and Karok, striped.

The design of slanting stripes called by the Yurok vAnaanak is called by the Hupa kinilyu. This was translated spotted, but this rendering may be inexact. An instance is shown in figure 213. In figure 189 the diagonal stripes were called mikinilyultcwe.

In addition to the designs here figured, Dr. Goddard gives the following.

Mikyowe mila, grizzly bear hand, a parallelogram with projecting acute angles along the oblique sides.

"They come together," LekyuwiñeL, seems to be trapezoids superimposed.

Qowitselminat, worm goes round or worm's stairway, is 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.

Oblique lines running through oblique angled parallelograms are called niLkûtdasaan, one on the other its scratches.

COMPARISON OF YUROK, KAROK, AND HUPA DESIGNS.

On the whole the designs of the Yurok, Karok, and Hupa correspond rather closely. Still there are a number of discrepancies in design names. The Yurok and Karok flint design, which takes its name from the individual parallelogram, is called in Hupa on top of each other, the name being given not on account of the shape of the elements but on account of their combination into a pattern. The difference between Yurok snake and Karok long worm is of course slight. The same may be said of Yurok ladder and Karok cut-wood, since the ladder consists of a log or slab into which steps are cut. It should be noted however that the Karok cut-wood and the corresponding Hupa design have two equivalents in Yurok: ladder and elk.

The design consisting of four or more triangles at the end of vertical stalks, those in the middle being higher than those at the two sides, is called among the Yurok foot, after the individual elements composing the design; among the Karok and Wishosk crow-foot, after the design as a whole; and among the Hupa frog-foot. The Hupa however, apply to the design a second name, namely spread-hand. This name is found also among both Yurok and Karok, but applied to a design consisting of four or six vertically projecting acute angles. This design in turn is found also among the Hupa, who have given it the name swallow-tail. This name, finally, has not been found among the other tribes, except for a few cases among the Yurok. This is a characteristic instance of the degree of variability of design names among the northwestern tribes.

All the designs so far found among the Yurok, Karok, and Hupa are given in Table I, which is arranged so as to show the design names that correspond among the three tribes. It will be seen that the greater number of names found in one tribe but missing in another, are names that are rare even where they do occur. Some discrepancies, however, will be noted also among the more common names, although, as previously stated, all the designs themselves are common to the three tribes. Of

the Yurok designs found more than once, Karok lacks five: sturgeon-back, tattoo, vEtergerpuraa, elk, and sitting; but of these the first three are not very common even among the Yurok, while the elk and sitting are both second names for designs whose other names, snake-nose and ladder, have Karok equivalents. Of Karok designs found more than once, the Yurok lacks only deer-excrement, snail-back and xasiree. Hupa, so far as now known, lacks nearly the same Yurok design names as Karok: snake, sturgeon-back, vEtergerpuraa, elk, and sitting.

The difference in the number of design names among the three tribes is probably only apparent and owing to the fact that inquiry has been fuller among the Yurok than among the other tribes. Omitting the names found only once, and the variations of the common names, there were found among the Yurok sixteen, among the Karok fourteen, and among the Hupa, including the designs given by Dr. Goddard, about an equal number of characteristic common tribal design names.

TABLE I.—EQUIVALENT DESIGN NAMES.

The corresponding Yurok, Karok, and Hupa names of the same figure are on the same line.

YUROK	KAROK	HUPA.
flint	flint-like	on top of each other; long woven[1]
sharp-tooth	tataktak	points sticking up
sitting; snake-nose	snake-nose	rattlesnake-nose
waxpoo	apxankoikoi	tcaxhultcwe, tca[1]
snake	long worm	
spread-hand	spread-hand (?)	swallow-tail
foot	crow-foot	frog hand; spread-hand[1]
ladder; elk	cut-wood	LENOULON, LENOIKYUULON
sturgeon-back		sturgeon-back[1]
okrekruyaa	ikurukur	naikyexoloxats
vETtsèq!tsèq!oaa	xurip	kinesni[1]
vANaanak	kutsisivac	kinilyu[2]
vUTsierau	ucaciprò̀vahit[1]	
vETergerpuraa		
tattoo		
	xasiree	
	snail-back	
	deer-excrement	
	rabbit-excrement[1]	
	eye-like[1 2]	
flying geese[1]		
dove[1]		
crab[1]		
maggots[1]		
box[1]		
elbow[1]		
spreading[1]		
mesh measure[1]		
chiton mollusc[1]		
star[1]		
swallow		
red snake[1]		
skunk[1 2]		

WISHOSK DESIGNS.

The names of the designs on a few Wishosk baskets seen were obtained, as well as the Wishosk names of a few sketches of Yurok designs. Most of the names are untranslatable. Some may be descriptive terms instead of standard design names. They are given for what they are worth. They are:

[1] Found once.

[2] A few variations of standard designs, such as ascending tataktak and snake-noses on top of each other, are not included.

Yurok foot, as in figure 53, but larger, with six to eight stalks on each side: Wishosk gatsirewelile or sisgoptele welilel, crow foot.

Yurok sharp-tooth: Wishosk laget.

Yurok sitting, as in figures 27, 135: Wishosk dutematho.

Yurok vetsèq !tsèq !oaa: Wishosk tciruratcgat.

Yurok sturgeon-back or Karok flint, as in figures 72, 123: Wishosk gavoyahati.

Yurok flint, as in figure 6: Wishosk wa'sat, put on top, or ritve wa'sat, two put on top.

Yurok elk, as in figure 66: Wishosk ritvelet, two ——?

Yurok waxpoo, like the elements in figures 36, 142, but in three tiers like figure 146 except that the trapezoids are solid: Wishosk rikweritcag'atgat, three ——?

Yurok waxpoo, like figure 37: Wishosk gidacedariL or gidacedariL dudematho, said to mean grown up or full blown.

Long horizontal trapezoids on top of each other: Wishosk datherowalet, said to mean straight across horizontally.

Short vertical bars at the ends of these trapezoids: Wishosk rakdathaligwalat, said to mean beginning to grow.

NORTHEASTERN WINTUN DESIGNS.

The following information as to the baskets and design names of the Wintun of the McCloud river at the extreme northeastern end of the territory of the stock and in contact with the Achomawi or Pit River Indians, was obtained, together with the specimens to which it relates, by Professor John C. Merriam and is presented through his courtesy.

Typical baskets of this branch of the Wintun are shown in Plate 21. In general they are of the northwestern type. The weaves are the same except for the different method of overlaying described, the shapes and patterns not very different, and the materials are largely identical. The warp is of willow in place of the northwestern hazel.[1] For conical carrying baskets poison oak, rhus diversiloba, is also used. The woof is of roots of yellow pine, pinus ponderosa. The overlaying materials

[1] McCloud river Wintun names of baskets: puluk, large cooking basket; dausep, small shallow cooking and drinking basket; kolom, small deeper basket; kawi, mortar basket; an'kapis, conical openwork carrying basket; an, seed-beater; tekes, flat tray-shaped basket.

are the same as in the northwest, xerophyllum, adiantum, and alder-dyed woodwardia. It is possible that additional materials may be used to produce patterns. The hat shown in Plate 21, figure 3, resembles a Modoc more than a Yurok hat in shape, pattern, and softness. The warp appears to be of roots instead of twigs; it is said to be grass, admitted to be an unusual material. The woof at the center or origin of this hat is of twine, as in Modoc hats.

In part the design names collected by Professor Merriam corroborate those given by Dr. R. B. Dixon from the upper Sacramento river Wintun;[1] others are new.

The water-snake design, shown in figure 214, agrees with the form given by Dr. Dixon. The diamond-shaped rattlesnake-head design shown in figure 215 in continuous pattern is also given by Dr. Dixon. Figure 216, a row of triangles, middle of base on apex, called sucker-tail, is also practically identical with the Dixon sucker-tail design. The flying geese, figures 217 and 224, are somewhat different from the Dixon design, but there is an underlying similarity in pattern effect. Figure 218 shows leaves. A more typical form is said to consist of obtuse isosceles triangles with their bases in a row. Dr. Dixon shows rows of triangles on each side of a diagonal, which he calls "leaves strung along."

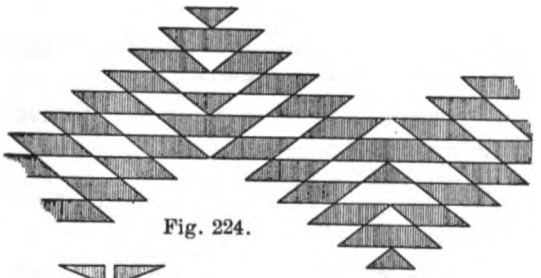


Fig. 224.

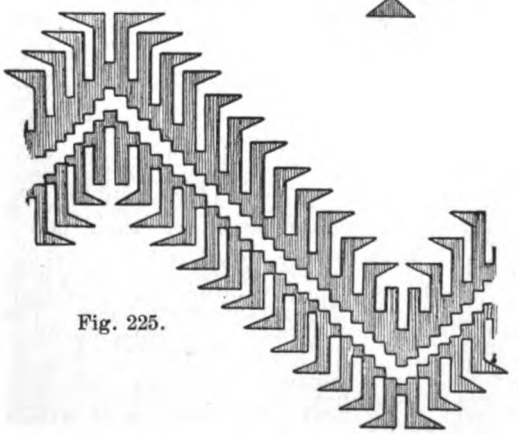


Fig. 225.

[1] Basketry Designs of the Indians of Northern California, Bull. Am. Mus. Nat. Hist., XVII, I, 17, 1902.

A bird's breast design is shown in figure 219. It consists of a band of diagonal stripes. Both in form and name this suggests the Pit River meadowlark neck design.[1]

Figure 225 shows a design that is called lizard foot or track. A different combination of the elements constituting this design was found by Dr. Dixon called bear-foot.[2]

Figure 220 shows what was called a tribal design, taken from the woman's cap mentioned.

Figure 221 shows the arrow point design.

Figure 222 is the quail-crest design.

Figure 223 represents a form of what is called the zigzag design.

A raft design, not figured, is square or oblong, containing about two horizontal dividing lines.

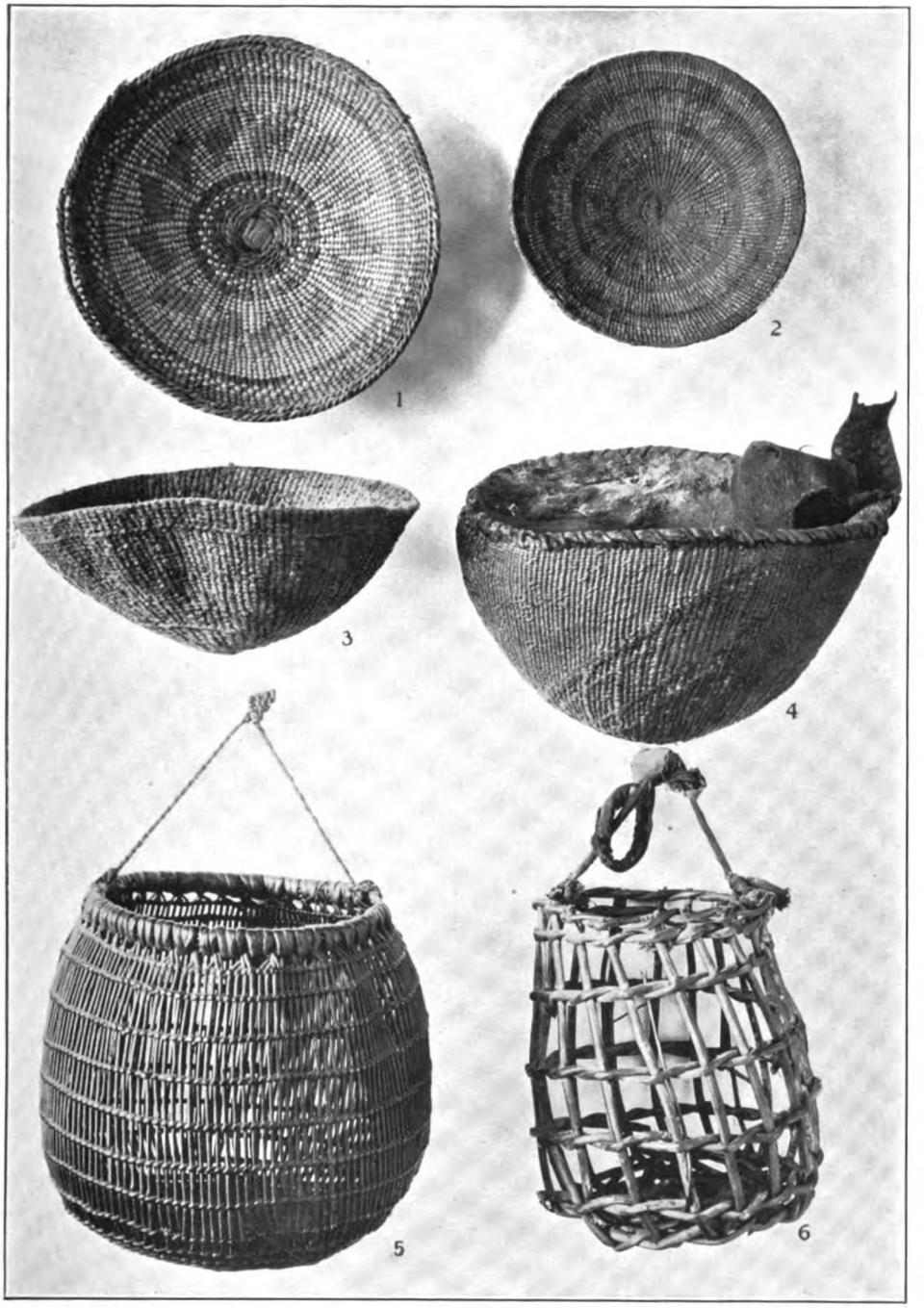
A navel-string design on a basket for preserving a child's navel-string, also not figured, consists of vertical parallel bars or stripes.

SINKINE DESIGNS.

The Athabascans of lower South fork of Eel river and of the neighboring coast region seem to call themselves Sinkine. In the totality of their culture they are as near the Yuki and northern Pomo as they are to the Hupa and Yurok. Their basketry, however, is distinctively of the northwestern type, though very poorly made. The materials include hazel, redwood roots, maidenhair fern, woodwardia fibres dyed with alder, and xerophyllum; and coiled baskets are not made. These Indians are fond of introducing black radiating stripes in all their openwork by coloring the warp, a method only occasionally practiced by the Yurok. Much like the northern Wintun and probably Shasta, the Sinkine tend to certain minor differences in form of their baskets and pattern arrangements from the Yurok, Karok, and Hupa. Large baskets have somewhat more continuous curve and flare in profile than among the tribes of the north, and the edge is more often strengthened by a thick rod. The acorn meal sifter is shallowly concave in place of flat as with the Yurok and Karok or somewhat conical as with the

[1] Dixon, op. cit., p. 15.

[2] Ibid., p. 18.



Various baskets. Figs. 1, 2, 4, 5, 6, Yurok. Fig. 3, Karok. $\frac{2}{100}$.

Hupa. Openwork trays are slightly deeper than among these tribes. The patterns are inclined to run in a large horizontal zigzag.

A design of a continuous series of angles, either acute or oblique, is called naLgös.

A pattern of alternately black and white small rectangles is called tces'an or tes'an, which is translated patch.

Vertical stripes or bars have the name tcinisnoi, which is dialectically equivalent to the Hupa name of this design, kinesni.

COMPARISON OF BASKET DESIGNS IN NORTHERN CALIFORNIA.

Before proceeding to a comparison of the basket design names of California, so far as they are known, it is desirable to discuss briefly the geographical relations of techniques and of pattern arrangements.

As between the two chief modes of weaving that are customarily distinguished in western North America, the twined and the coiled, twined weaving has perhaps a wider distribution in California, but coiled weaving is the principal and more characteristic technique of the greater number of groups.

The tribes of northernmost California, both east and west, practice only twined weaving. South of the Yurok, Karok, and Hupa the Wailaki are the first group that make coiled baskets. The Indians who adjoin them on the north class them as coiled basketry makers, while at Round Valley, where they now live in contact with Yuki, Pomo, Maidu, and other stocks that chiefly make coiled baskets, they are looked upon as workers in twined weaving. The Wailaki baskets in the Museum of the Department of Anthropology are divided between the two techniques; and of two in the American Museum of Natural History one is coiled and one twined. The baskets of the Shasta and Chimariko were undoubtedly twined. The northern Wintun of the upper Sacramento and McCloud rivers make twined baskets exclusively, as those of Trinity river almost certainly did. This however must not be supposed to apply to the entire Wintun stock. The southern Wintun east of the Pomo make coiled baskets. How far north in the territory of this family the practice of making coiled baskets extends is not certain. Coiled baskets were made on Stony creek. The Achomawi, the Pit river basin

Indians, according to Dixon made only twined baskets. The Yana work is twined. The Klamath Lake and Modoc Indians of the head waters of the Klamath river also use the twined technique exclusively.

South of these tribes coiled work was found and everywhere predominated except for larger and more specialized baskets. Among the Pomo twined weaving was relatively more important than among other tribes that employed the coiled style; but even here the smaller and more characteristic baskets are coiled.

In regard to the grouping of designs in patterns on California baskets the following arrangements must be distinguished:

First, horizontal, either in continuous bands or in rows of figures.

Second, vertical or radiating.

Third, diagonal or spiral, according as the basket is deep or flat.

Fourth, zigzag, or diagonal alternately to the right and left.

Fifth, in blocks, where a compact cluster of designs or a single figure occupies the greater part of the basket visible in one view.

These terms have reference to the appearance of the ordinary basket seen from the side. In the case of a flat, tray-like basket, a horizontal arrangement would consist of circular bands, a vertical pattern would be radiating, a diagonal one spiral, and a zigzag one star or net-shaped.

In the baskets from the northwestern region the preponderating tendency is a horizontal one. The ordinary baskets for purposes of cooking or eating, and the hats, show in most cases a single decorated strip extending around the basket a short distance below its rim. In the case of caps there is generally an additional simple subsidiary design at the center. This horizontal decorative area may consist of the same figure or group of figures three or four times repeated in the circuit of the basket, or of a more simple and more continuous pattern. The figures may be repeated in part above or below the main design zone. Ordinarily the zone does not take the form of a distinct band of the sort that is so common on the Yokuts and larger

Pomo baskets. Within this horizontal zone of decoration the lines of the pattern sometimes run vertically, but more usually, in connection with the common parallelograms and triangles, diagonally.

A secondary tendency in the general pattern disposition of northwestern baskets is a diagonal arrangement. This is found chiefly in trinket and storage baskets. These are about equal in height and diameter, so that in their case the style of decoration which is confined to a zone near the rim would leave the greater portion of the surface of the basket unornamented. The diagonal arrangement allows the design to be carried without difficulty from the bottom to the top of the basket. The cooking baskets and hats are considerably lower than they are wide, so that a single horizontal zone of decoration sufficiently occupies the visible surface.

Other methods of distributing the pattern are rare in baskets of northwestern California. A vertical ornamentation is occasionally found in small baskets and a zigzag arrangement on large ones.

The Achomawi baskets are made in the same general style as those of the Yurok and Hupa. The unadorned brown, the natural color of the roots employed for the woof in most northwestern baskets not intended for purposes of display, is however apparently not used among the Achomawi. The characteristic Achomawi basket, even when intended for carrying or cooking, has its entire surface overlaid with xerophyllum grass, which by the northwestern tribes is used to such an extent only for caps, trinket baskets, and others in which the ornamental purpose is at least equal to the useful one. The alder-dyed red of the northwestern region is also absent from baskets of the Pit river region. A black, apparently the same as the maidenhair fern fibre of northwestern California, is used by the Achomawi for making their designs on the white ground color. Sometimes a dyed black is used. The bottom of some Achomawi baskets is left in a natural brown without xerophyllum overlaying, but this is not always done.

The baskets from this region are generally somewhat higher in proportion to the diameter than the comparatively shallow

baskets characteristic of the northwestern region. The bottom of the baskets is also squarer, the sides meeting the flat bottom more nearly at an angle with a very short curvature, while in the northwestern baskets the curving bottom runs very gradually into the sides. Nevertheless on the whole Pit river baskets and those from the lower Klamath region belong to the same type.

In the arrangement of designs, however, the Pit river and northwestern baskets differ fundamentally. The most common arrangement in the Pit river region is the spiral one. Zigzag patterns are also common. Block patterns, or single figures, which are nearly wanting in the northwest, also occur. On the other hand the horizontally arranged patterns of northwestern California occur rarely.

The basketry of the Yana, who are almost extinct, is very little known. Dr. Dixon has however described two pieces. They seem not very different from Achomawi baskets, being twined and overlaid with xerophyllum. Their designs also suggest the Pit river designs.[1]

The baskets of the Modoc, and of the Indians often loosely called Klamath Indians, the two tribes who constitute the Lutuami stock, resemble in many ways the northwestern and Achomawi baskets, belonging to the same twined overlaid type.

Both warp and woof of the Lutuami baskets are however of tule in place of tree twigs and roots, resulting in a more flexible basket. The basketry hats are also higher and flatter than those of the northwestern Indians besides being begun with woof of string.

The pattern arrangement on the Modoc-Klamath baskets is different from the characteristic northwestern arrangement. While frequently horizontal, there is a distinct tendency to defined bands. The pattern arrangement of hats resembles that of Achomawi baskets, being usually zigzag or diagonal.

The northern Wintun baskets described by Dr. Dixon and in this paper stand nearly as close to the Achomawi and Lutuami baskets as to the Yurok-Karok-Hupa. They resemble the Achomawi baskets in being less flat than the northwestern bas-

[1] R. B. Dixon, op. cit., p. 19.

kets and in that their ground color is more often in overlaid white than in the natural color of the root fibres of the woof. They also lack the characteristic horizontal design-zone of the northwestern baskets, but agree with them in showing in the great majority of cases either a diagonal or a horizontal arrangement, although the vertical, the zigzag, and the block arrangements are also found. The elements of the designs are for the most part equivalent to northwestern design elements.

The Shasta seem to have made comparatively few baskets and these resembled the Yurok and Karok baskets of poorer finish. Most of the few baskets that can be regarded as typically Shastan show a simple pattern of a band of vertical bars.

Among the few surviving Sinkine, the Athabascans of South fork of Eel river, north and west of the Wailaki, baskets are altogether northwestern in type, though crudely made. It is noteworthy, however, that in the patterns there is a distinct tendency toward a zigzag arrangement.

In the region where coiled basketry predominates, comprising the remainder and by far the greater part of the state, three main types of pattern arrangement may be distinguished, which may be called the Maidu, the Southern, and the Pomo. It is hardly necessary to say once more that this classification has nothing to do with materials, technique, or texture.

The Maidu baskets illustrated and described by Dr. Dixon show most commonly a zigzag arrangement. Second in importance is a diagonal arrangement. Horizontal distribution of designs is very rare and the vertical or block arrangement still more so.

The northern Moquelumnan or Miwok baskets in the American Museum illustrated by Dr. Dixon, show a preponderating horizontal arrangement, and secondary to this is a vertical arrangement of designs. The characteristic Maidu diagonal and zigzag arrangements seem to be rare. This fact is noteworthy because the Moquelumnan arrangement is that of the southern basketry, so that the Maidu type of pattern arrangement would seem not to extend southward beyond the limits of the stock, and altogether to be limited to the Maidu themselves and perhaps some of the adjacent Wintun.

The Yokuts makers of the Tulare baskets prevailingly use horizontal and secondarily vertical patterns, thus agreeing with their northern neighbors the Moquelumnan Indians. Especially among the southern Yokuts the continuous horizontal band is however more in use than in Moquelumnan territory. A diagonal arrangement is not rare in these regions, but usually has the form of a series of rectangular steps, so that the horizontal-vertical tendency still finds expression. The Shoshonean tribes adjacent to the Yokuts follow the same pattern arrangements.

Baskets from the coast region west and southwest of the San Joaquin valley are very scarce. The few that are undoubtedly from this region, almost all from Chumash territory, show a combination of horizontal and vertical designs.

The baskets of the Shoshonean and Yuman Mission Indians of Southern California, while different from the Yokuts types of baskets in many ways, like them generally show horizontal and vertical arrangements. Tray-shaped baskets frequently show a star-shaped pattern, which should be classed as a form of zigzag ararngement. The tribes of the desert farther east, such as the Chemehuevi, seem to use the same types of design arrangement.

The entire part of California south of the latitude of San Francisco, the larger half of the state, must accordingly be considered a unit in the matter of basket-design arrangement, the patterns being prevailingly horizontal or vertical instead of diagonal or zigzag.

The third region in which coiled basketry predominates is that of the coast region immediately north of San Francisco, extending along the coast to the northwestern region. The Pomo are the largest group in this area.

Twined weaving is of relatively greater importance among the Pomo than among either the Maidu or the Indians south of the latitude of San Francisco. Besides having twined and coiled basketry, the Pomo possess the ti weave, a superimposition of coiling on twining. Including the minor variations, the total number of weaves practiced by the Pomo may not be as large as can be found among some other California groups; but whereas other groups limit the use of their less characteristic

weaves to parts of baskets or to certain classes or shapes of baskets having special purposes, among the Pomo the employment of the several techniques is not confined nearly as rigorously to narrow types of ware. Besides the variety of techniques there exists much latitude of shapes, there being flat bowl-shaped baskets, others whose opening is about equal in diameter to their bases, and still others which curve inward to the top considerably; besides of course conical carrying baskets and the flat tray baskets found all over California. The Pomo have also developed the canoe shaped or oval basket which is scarcely aboriginal in any other region in California or at least is not usual anywhere else. They also use the greatest variety of external ornament. Beads, shell ornaments, quail plumes, and feathering are employed to a far greater extent than elsewhere. Among the northern tribes using only the twined technique such external decoration is altogether wanting. The total covering of baskets with feathers is also not found outside of the Pomo region, though this area must probably be made to include some of the southern Wintun, southern Yuki, and perhaps northwestern Moquelumnan, as well as the Pomo. Complete feathering is said not to have been practiced formerly even by the Yuki proper, who in their general culture and their basket technique belong to the Pomo type.

As in shape and technique, Pomo baskets show the greatest variety of design arrangements in California. The horizontal and diagonal arrangements apparently predominate. Single figures of such size that one fills the entire visible surface of a basket, or of such size that several are visible at one time, are also considerably used, especially on the smaller coiled baskets. Very often these figures are fairly elaborate, consisting of a group of figures rather than of a design or pattern. Zigzag and vertical patterns are also both found on Pomo baskets, and a net-like arrangement which might be described as a combination of two diagonal patterns slanting in opposite directions is not uncommon.

In regard to decorative scheme and pattern arrangements California baskets may therefore be classified as follows:

A. Northwestern type, twined. Designs arranged horizontally in a single pattern-zone or diagonally.

B. Northeastern or Achomawi type, twined. Arrangement of patterns diagonal or zigzag, not horizontal.

C. Maidu type, chiefly coiled. Pattern arrangement zigzag or diagonal.

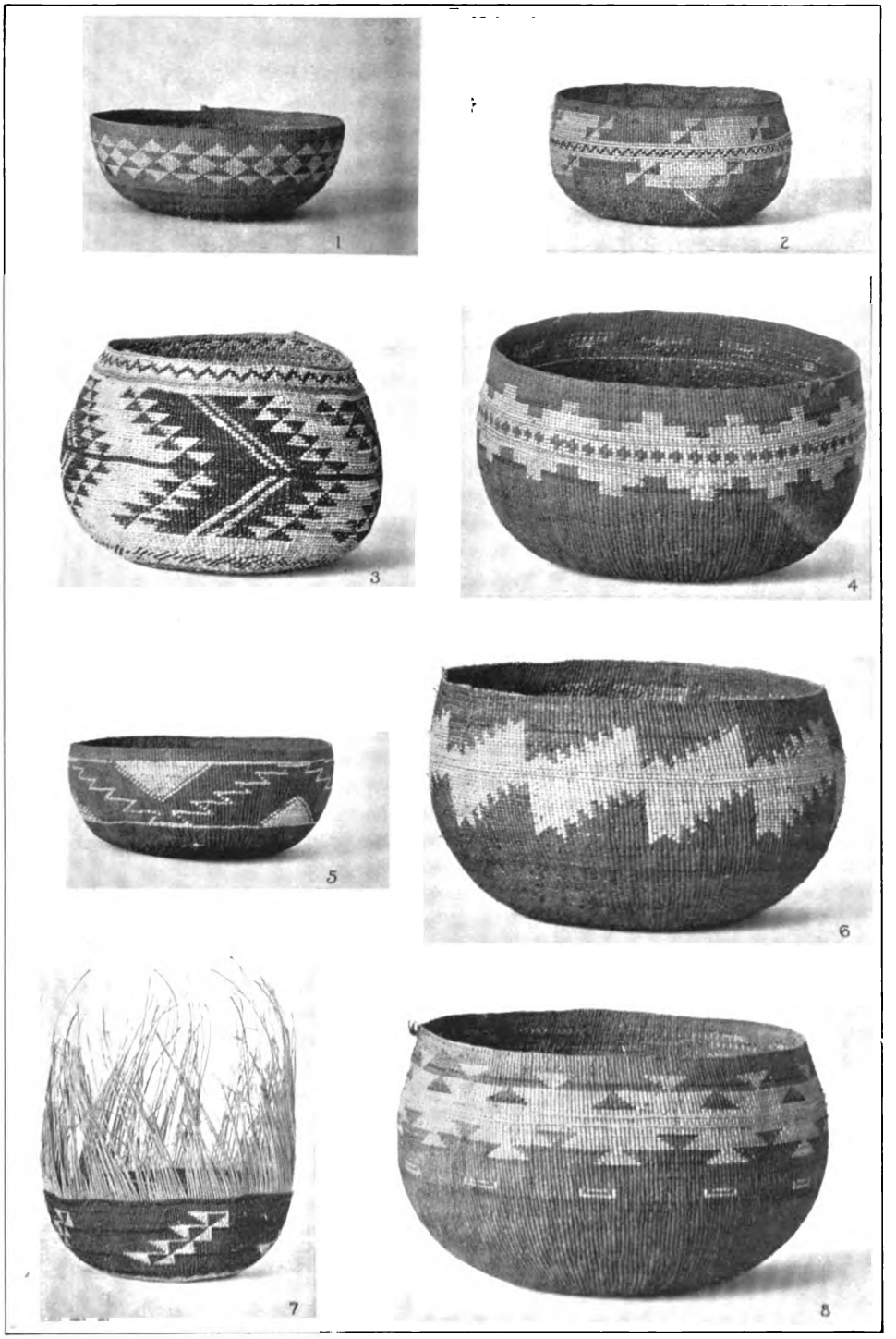
D. Southern type, chiefly coiled. Pattern arrangement horizontal (often in continuous bands) or vertical.

E. Pomo type, coiled and twined. Variety of design arrangements, horizontal bands and diagonal patterns being most frequent.

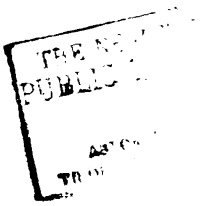
In this classification the Yana belong to the Northeastern type, the Lutuami and northern Wintun are intermediate between the Northeastern and the Northwestern types, the affinities of the southern Wintun are either with the Pomo or Maidu, the Yuki probably belong to the Pomo class, and the Southern type covers the larger half of the state.

It will be seen that while the Northwestern and Northeastern types resemble each other in technique, materials, and general effect. the Northwestern and Pomo types are most similar in pattern arrangement, whereas the Northeastern is similar in pattern arrangement to the Maidu. The Maidu and the Northwestern types differ most in pattern arrangement.

The considerable similarity in materials, methods of manufacture, and general appearance between the basketry of the Indians of northwestern and of northeastern California must not be interpreted as evidence of general cultural similarity. The culture of the two groups of tribes is quite distinct. The Lutuami and Achomawi in general resemble the tribes of the Sacramento valley or of the great interior basin much more than they do the Karok, Yurok, and Hupa. It is in northernmost California that the deep and sharp difference between the culture of the immediate Pacific coast and that of the interior, which is so marked everywhere farther north, finds its most southerly occurrence. South of Mount Shasta the line of ethnographical division is transferred from the Coast Range eastward to the Sierra Nevada; and the differences across this line become of a different nature.



Figs. 1–2. Small cooking baskets. Hupa. $\frac{1}{4}$.
Figs. 3–8. Cooking and other baskets. Karok. $\frac{1}{4}$.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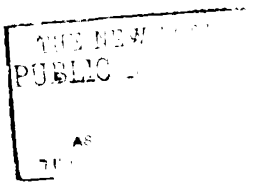
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The artistic poverty said by Dr. Dixon to characterize Pomo basketry work must from what has been said be understood to be only paucity of design names. That it does not extend further even to the designs themselves, much less to the general decorative and technical style, is sufficiently evident from the series of Pomo baskets illustrated by Dr. Dixon himself. Of patterns the Pomo have as great wealth and variety as any other Californian group. Apart from all question of whether their work shows a more refined taste and artistic feeling and execution than that of other Indians, it can scarcely be disputed that they evince freer imagination and wider range of treatment in the decoration of their basketry than other tribes.

A classification according to meaning of Californian basket design names among the tribes from which adequate material is at present available is shown in Table II. It will be seen that names of animals, of parts of animals, and of parts of the body are very frequent, constituting everywhere a majority of the total number of design names. The only exception is among the Maidu, where the proportion of animal designs sinks to about one-half. Instead, there is an unusually large proportion of names of plants and parts of plants among the Maidu, these constituting nearly a third of the designs. Elsewhere plant designs are few, and among the Yurok and Karok are altogether lacking. Names of natural or artificial objects are found in about the same proportion among all the tribes. A fourth class of design names are spatial or dynamic; these might also be called geometrical or abstractly descriptive. Names of this sort are lacking among the Maidu and are few among the Achomawi. Among the Yurok and Karok they are important, constituting more than a fourth of all the design names; and the same is true of the northern Wintun. Among the Hupa names of this class are more numerous than all others.

In regard to range of representation of design names, accordingly, the northwestern tribes and the Maidu stand farthest apart in that the northwestern tribes have numerous geometrical designs and none representing plants, the reverse being the case with the Maidu; while the northwestern group is intermediate.

TABLE II.

	Animals and parts of the body.	Plants.	Objects.	Spatial and dynamical ideas.
Yurok	17	..	5	9
Karok	8	..	2	4
Hupa	7	..	..	12
Wintun	12	1	1	4
Achomawi	13	2	2	1
Maidu	18	11	7	..

In the descriptions of Yurok designs previously given it will have been noted that almost all the names applied rather to the simple element of design than to the pattern as a whole. The figure which receives the Yurok name flint is the parallelogram. This name is applied to the design whether it consists of the simple parallelogram standing alone or of a pattern of such parallelograms, although the latter is more frequently the case Among the Hupa the same design is named on top of each other. This name is obviously applicable only to a pattern consisting of two or more such parallelograms. We have here a difference between a design-element name and a pattern name. Again, there is a widespread design which may be described as consisting of four or more triangles, or horizontal bars, at the ends of vertical stalks arising from a horizontal base, the stalks in the middle being longer than those at the two ends. This design has various names, such as crow-foot among the Karok and Wishosk, frog-foot among the Hupa, lizard-foot among the Achomawi, and pine-cone among the Maidu. All of these names are applicable only to the design as a whole. Among the Yurok the design is called simply foot, and the application of this term to certain other patterns shows that the name refers not to the pattern as a whole but to the single elements constituting the pattern, the small triangles at the ends of stalks.

The relative frequency of design names applying to design-elements, and of those applying to composite patterns, is shown in Table III.[1]

It will be seen that among the Yurok and Karok designs named for constituent elements are in the majority. Among the

[1] The numbers given in Table III are fewer than the total number of designs, owing to the difficulty of classifying certain designs.

Maidu the opposite is the case. The northern Wintun agree with the Yurok and Karok, but the Hupa form an exception among the northwestern tribes. The Achomawi show an approximate balance, but the difference is slightly in the direction of the Maidu tendency.

TABLE III.

	Designs named after their elements.	Designs named after the whole pattern.
Yurok	13	8
Karok	9	4
Hupa	5	12
Wintun	10	6
Achomawi	8	9
Maidu	8	19

A summary of the Yurok, Karok, Hupa, and northern Wintun design names presented in this paper, and those of the Maidu, Achomawi, and Wintun described by Dr. Dixon, together with a few other names obtained by the author, is given in Table IV. Only translatable design names have been included. The Wishosk are from Humboldt Bay, the Sinkine are Athabascans from southernmost Humboldt county, the Yuki are from Round Valley, the northern Yokuts are the Chuckchansi of Madera county, the southern Yokuts the Tule river Indians of Tulare county.

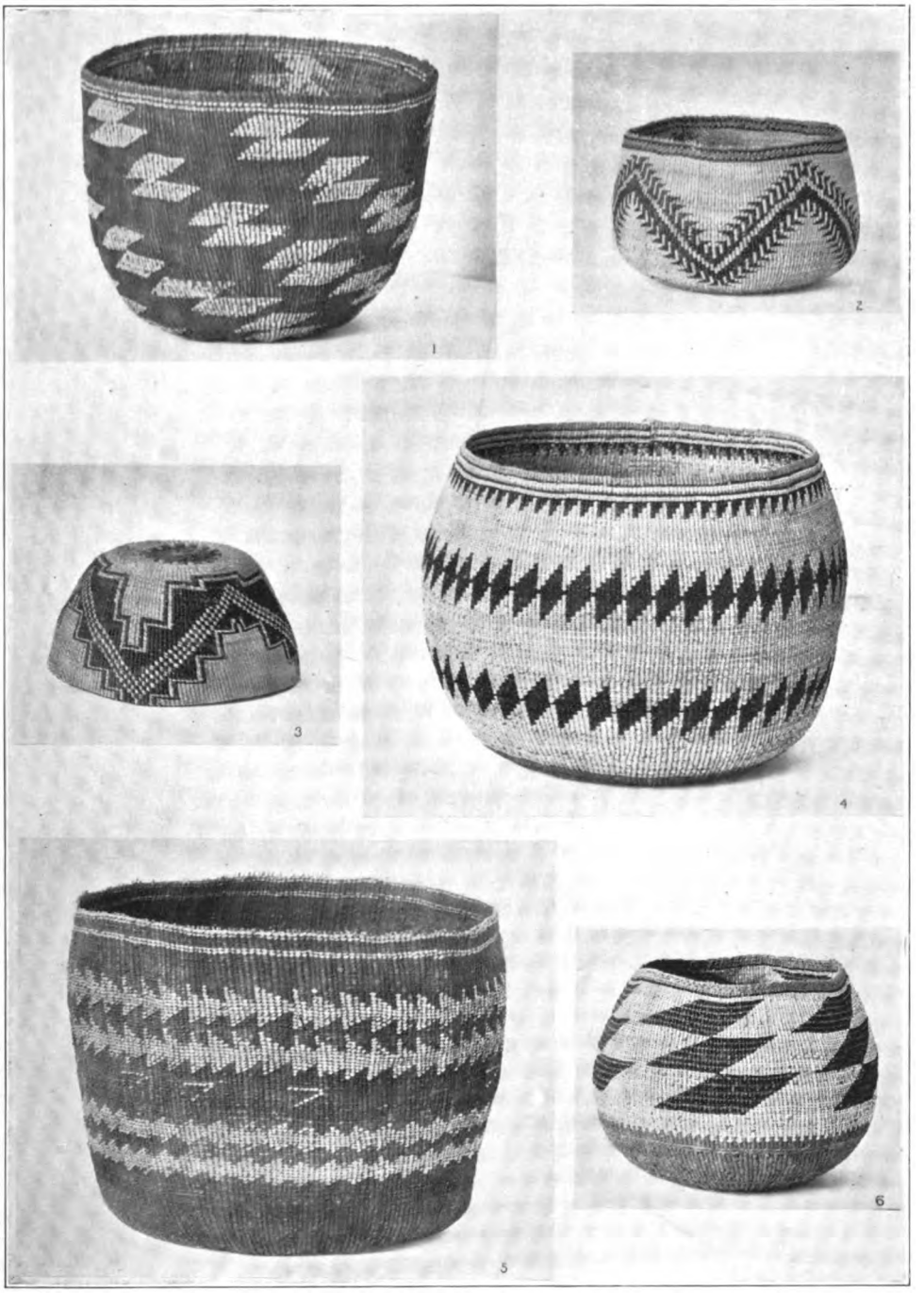
TABLE IV.

YUROK	KAROK	HUPA	WINTUN	ACHOMAWI	MAIDU	MISCELLANEOUS
	eye			eye	eye	
				bent-knee		
elbow			bent-elbow			
sharp-teeth						
spread-hand	(spread-hand?)	spread-hand				
foot						
			navel-string			
tattoo						
					tracks	
elk						
skunk				skunk		
					raccoon	
			wolf's-eye			Yana, wolf's-eye
		grizzly-bear hand	bear-foot	bear-foot		
					gray-squirrel foot	
				skunk-nose		
	rabbit-excrement					
	deer-excrement		deer-excrement	deer-excrement		
				deer-gut		
				deer-rib		
						S. Yokuts, deer foot
			quail-crest	"quail"	quail-crest	Yuki, quail-crest
					duck-wing	
				meadow-lark-neck		
			birds-breast			
dove						
"swallow"		swallow-tail				
				owl-claw		
	crow-foot					Wishosk, crow-foot
flying-geese			flying-geese	flying-geese		
					rattle-snake (marking)	N. and S. Yokuts, rattlesnake-markings
			rattle-snake-head			
		rattlesnake-nose				
snake-nose	snake-nose					

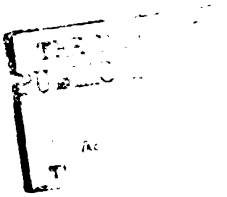
			water-snake		water-snake	N. Yokuts, water-snake
"snake"						S. Yokuts, "snake"
red-snake						S. Yokuts, red-snake-markings
						N. Yokuts, snake, a banded species
			lizard-foot	lizard-foot		
		frog-hand				
					fish-teeth	
				fish-tail		
			sucker-tail			
sturgeon-back		sturgeon-back				
					butterfly	S. Yokuts, butterfly?
					moth	
					fly	S. Yokuts, fly
					millipede	N. Yokuts, millipede
					grasshopper leg	
					hornet?	
crab						
	snail-back					
chiton						
				mussel-tongue	"big tongue"	
					earth worm	
	long-worm					
maggot						
		worm goes round				
					plant	
					vine	
					fern	
					flower	
				bushes	bushes	
					tree?	
			leaves			
					sugar-pine	
					yellow-pine	
				pine-cone	pine-cone	
					black-oak	
					white-oak	

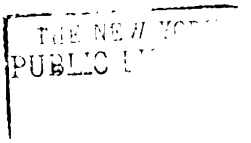
TABLE IV.—*Continued.*

YUROK	KAROK	HUPA	WINTUN	ACHOMAWI	MAIDU	MISCELLANEOUS
						Yuki, fir-branch
				mountain	mountain	
					mountains and clouds	
star						
						S. Yokuts, rainbow
flint	flint-like					
			arrowpoint	arrow point	arrowpoint	N. and S. Yokuts, arrowpoint
					notched-feather	
	cut-wood				wood-billets	
ladder						
boxes						
mesh-stick						Yana, house
			raft			
						S. Yokuts, crook-stick
					tongs	
					beads	
						Yuki, hide-wrench-out
	spotted	spotted?				
crooked				crooked, rough		S. Yokuts, crooked
	zigzag, stirred		zigzag			N. Yokuts, zigzag
crossed			"crossways"			
	encircles	encircles				
			"pulled around"		turning-around	
		come together				
		tied, joined				
striped	striped	striped	striped			Wishosk, grown-up?
						Sinkine, striped
						Sinkine, "patch"
spreading						
sitting						
in middle?						
	on top of each other	on top of each other				Wishosk, on top of
		long				
		sharp slanting				
		points sticking up				
		scratches				



Figs. 1, 2, 4, 5, 6. Baskets. Northern Wintun. $\frac{16}{100}$.
Fig. 3. Cap, Modoc type. Northern Wintun. $\frac{1}{3}$.





It will be seen that although this summary covers only half a dozen tribes or groups, occupying much the smaller part of the state, there yet is no design name which is found in all of them. Patterns having some reference to snakes or parts of snakes are found among all the tribes included except the Achomawi. The rattlesnake is of course especially prominent. Among the Yokuts and Maidu its marking is represented; among the Wintun its head; among the Hupa its nose. It is evident that there is a tendency to use the rattlesnake for design names but that the parts of the snake selected are as diverse as the figures to which they are applied. There is a similar tendency in regard to the deer. The Achomawi have the deer rib, deer gut, and deer excrement designs. The Wintun have the deer excrement. The Maidu lack deer designs. The northwestern tribes also have no deer design names excepting that among the Karok the deer excrement design is found and among the Yurok an elk design. The arrow-point and flint designs, assuming that they may be taken as equivalents, are of the commonest the state over. So far however neither has yet been found among the Hupa. The quail-plume design, which among some tribes is very common, seems to occur chiefly on coiled basketry, to which the use of the feather itself as an ornament is also confined. The Achomawi have the design name but the northern Wintun and all the northwestern tribes lack it.

Little of a general nature as to the relative amount of similarity of design names among different tribes can be deduced from the table. On count, the greater part of the total number of design names of any group appears not to be found in any other group. As far as the material goes, the northern Wintun and Achomawi, who are territorially in contact, show the greatest number of design names held in common.

If the designs themselves to which the names that are given in this table are attached are compared, it will be seen that the designs corresponding to identical names among several tribes are in many cases very different. In the northwestern region for instance the flint design is always a slanting parallelogram. Among all the other tribes from which material is available the equally common arrow-point design is always a triangle. Con-

versely, the same pattern or design-element has among different tribes often radically different names. To take again the parallelogram, its name among the Yurok and Karok, whether used singly or in combination, is flint; the Hupa call it long mark, or more frequently on top of each other; the Wintun, rattlesnake head. The Achomawi and Maidu do not seem to use it as an isolated figure but always in pairs or diagonal rows. Among the Achomawi these rows are frequently divided by a transverse diagonal stripe or other pattern, the parallelograms thus being cut into triangles. The pattern running through the rows of parallelograms is the deer rib or deer gut design and the triangles resulting from the divided parallelograms are called arrow-points. The undivided rows of parallelograms are called by the Achomawi flying geese. The Maidu call such rows vines, or, if triangles are combined with the parallelograms, flying geese. When the rows of parallelograms are divided by a line or pattern the design is called fern or notched feather.

Another instance of diversity of names for an identical pattern is the design in which the point of a triangle rests on the middle of the longer base of a trapezoid. In the northwestern region the meaning of the names for this design are not altogether certain, but among the Yurok the name appears to have reference to the middle, among the Karok to basketry-hat, and among the Hupa to sharp or point. Dr. Dixon gives the same figure from the Achomawi, but the name attributed to it by these Indians is bushes.

Again the obtuse isosceles or equilateral triangle has, in different arrangements, the meaning among the Maidu of moth, quail-tip, flower, and notched feather, among the Achomawi of arrow-point, among the Wintun of fish-tail, flying geese, and leaves, among the Yurok of sitting.

It is not necessary to give further illustrations. The cases cited show that there is no deep or inherent relationship between the designs of California basketry and their names. Of course some names are from their nature applicable only to certain designs and must be applied either to these or drop out of use. Most names, however, owing to the simplicity of technical representation, are applicable to several designs and are often found

attached to different designs among different groups or even in the same tribe, just as the same designs very frequently have different names among different groups. It must be concluded that the basket-design names of at least the greater part of California are little more than conventional names of conventional designs.

Symbolism, in the usual and historic sense of the word, does not therefore exist in California basketry. The designs and design names given by Dixon from the northeastern tribes and those from the northwestern part of the state here presented, make this fact very clear. Recent investigations on behalf of the University by Mr. S. A. Barrett among the Pomo have brought out the same result. The various information thus obtained covers northern California fairly completely. As to the rest of the state less is known at present, but there are no indications that conditions are different. The design names of the Yokuts at the southern end of the San Joaquin basin are certainly of the same general character as those found in the north of the state. The names of the designs painted by the Mohave, still farther south, on pottery and sometimes on wood, refer in large part to objects that do not occur among the design names of the basket making tribes, but are as free as these of religious or any but a conventional significance. Lack of connection between basket design names and religious thought can therefore be absolutely asserted for the greater part of California and can safely be accepted as extremely probable for all the remainder of the state. Certainly there is as yet no trustworthy evidence of anything to the contrary. This condition is in entire accordance with the almost utter lack of pictographic or realistic representation in the art of these Indians. Symbolic expression in actions or ritual is almost equally absent. When the general fundamental difference in character of the California Indians from those of the southwest and of the Mississippi valley, and in a measure from those of the north Pacific coast, is once clearly realized, the conventionality of their basket design names seems entirely natural. Of course it is needless to say that no California basket designs express modern poetical sentiments. The California Indian calls a triangular ornament in basketry

an arrow-point, not because this figure expresses a wish or prayer for success in the hunt, but because it is a simple and fitting name for a simple design. The significance of the decoration of California basketry is therefore of an entirely different nature from the symbolism of a Navahò sand-painting, a Pueblo altar, a Plains shield, or a Haida totem pole. The designs are primarily decorative, no doubt conditioned in part, but only in part, by technique; and they have convenient names. These names of course are as appropriate as possible. This simple naming of decorative figures appears to be the analogue or representative in California of a more prevalent tendency in mankind to embody a deeper significance in ornaments. But in the form in which these design names exist among the California Indians they are free from attempts at picture writing or the expression of religious ideas.

KEY TO FIGURES OF DESIGNS SHOWN ALSO IN THE PHOTOGRAPHICALLY REPRODUCED PLATES.

Figure.	Plate.	Figure.	Figure.	Plate.	Figure.
4	15	3	140	20	3
5	18	1	142	20	8
9	15	3	150	20	8
14	15	5	152	20	6
15	17	4	172	20	3
17	15	4	179	16	4
20	15	7	184	20	4
29	17	6	192	18	2
38	15	4	197	20	1
64	15	1	199	15	8
71	16	1	206	20	2
74	16	6	209	20	1
81	18	4	215	21	5
84	15	7	216	21	5
90	16	2	217	21	6
93	15	4	218	21	4
96	16	3	219	21	2
98	18	1	220	21	3
104	17	1	221	21	4
118	15	6	222	21	5
132	20	7	225	21	2

MUSEUM CATALOGUE NUMBERS OF BASKETS ILLUSTRATED IN THE PLATES.

Numbers with numerator 1 refer to specimens in the Museum of the Anthropological Department of the University of California.

Numbers with numerator 40 refer to specimens in the California Academy of Sciences.

Plate 15, figure	1	40-1675		2	1-2234
	2	1-1591		3	1-2016
	3	40-1663		4	1-1461
	4	40-1661	Plate 19, figure	1	1-1588
	5	40-1653		2	1-1877
	6	1-1609		3	1-1798
	7	40-1708		4	1-1594
	8	1-1496		5	1-1847
Plate 16, figure	1	1-1579		6	1-1608
	2	1-1870	Plate 20, figure	1	1-1493
	3	1-1472		2	1-1517
	4	1-1761		3	1-1807
	5	40-1683		4	1-1763
	6	1-1481		5	1-1772
Plate 17, figure	1	1-1661		6	1-1762
	2	1-1507		7	1-1778
	3	1-1888		8	1-1764
	4	1-1571	Plate 21, figure	1	1-2307
	5	1-1599-1601		2	1-2300
	6	40-1655		3	1-2305
	7	1-1817		4	1-2310
	8	40-1659		5	1-2308
Plate 18, figure	1	40-1711		6	1-2303

MUSEUM CATALOGUE NUMBERS OF BASKETS FROM WHICH DESIGNS ARE FIGURED.

Fig.	Cat. No.	Fig.	Cat. No.	Fig.	Cat. No.	Fig.	Cat. No.	Fig.	Cat. No.
1	40-1652	46	40-1724, 1720	135	1-1586	136	1-1794	181	
2	40-1720	47	1-1473	91	40-1658	137	1-1587	182	
3	40-1654	48	40-1664	92	40-1709	138	1-1782	183	1-1783
4	40-1663	49	40-1694	93	40-1661	139	1-1806	184	1-1763
5	40-1711	50	1-1831	94		140	1-1807	185	1-1787
6	40-1720	51		95		141	1-1801	186	1-1774
7	40-1721	52	40-1727	96	1-1472	142	1-1764	187	1-1781
8	40-1659	53	40-1607	97	1-1829	143	1-1598	188	1-1463
9	40-1663	54	1-1698	98	40-1711	144	1-1585	189	1-1502
10		55	1-1577	99	1-1857	145	1-1583	190	1-1494
11	1-1434	56	1-1672	100	1-1474	146	1-1788	191	1-2235
12	1-1438	57	1-1880	101		147	1-1790	192	1-2234
13	40-1721	58	1-1478	102	1-1577	148	1-1803	193	1-1508
14	40-1653	59	1-1482	103	1-1830	149	1-1805	194	1-1500
15	1-1571	60	40-1695	104	1-1661	150	1-1764	195	1-1501
16	40-1707	61	1-1672	105	1-1590	151	1-1767	196	1-1518
17	40-1661	62	1-1483	106	1-1476	152	1-1762	197	1-1493
18	40-1697	63	40-1725	107	40-1665	153	1-1789	198	1-1509
19	1-1636	64	40-1675	108		154	1-1584	199	1-1496
20	40-1708	65	40-1662	109		155	1-1800	200	1-1497
21	40-1699	66	40-1657	110		156	1-1585	201	1-1497
22	1-1610	67	1-1441	111	1-1475	157	1-1797	202	1-2233
23	1-1442	68	1-1692	112	40-1700	158	1-1805	203	1-2236
24	40-1709	69	1-1606	113	1-1435	159	1-1586	204	1-1495
25	40-1727	70	40-1706	114	1-1439	160	1-1766	205	1-1516
26	40-1658	71	1-1579	115	1-1437	161	1-1596	206	1-1517
27	40-1660	72	1-1844	116	1-1578	162	1-1776	207	1-1863
28	40-1662	73	1-1828	117		163	1-1598	208	1-2232
29	40-1655	74	1-1481	118	1-1609	164	1-1769	209	1-1493
30	40-1682	75		119	1-1480	165		210	1-1864
31		76	1-1456	120	1-1426	166	1-1773	211	1-1463
32	1-1610	77	40-1699, 1687	121	1-1784	167	1-1597	212	1-1503
33	1-1593	78	40-1684	122	1-1804	168	1-1773	213	1-1492
34	1-1592	79	1-1606	123	1-1514	169	1-1770	214	1-2302
35	40-1656	80	1-1589	124	1-1806	170	1-1772	215	1-2308
36	40-1682	81	1-1461	125	1-1596	171	1-1771	216	1-2308
37	40-1660	82	1-1440	126	1-1769	172	1-1807	217	1-2303
38	40-1661	83	1-1479	127	1-1595	173	1-1793	218	1-2310
39	1-1424	84	40-1651, 1662,	128	1-1587	174	1-1773	219	1-2300
40	1-1425		1708, 1728	129	1-1799	175	1-1791	221	1-2310
41	40-1725	85	40-1685	130	1-1802	176	1-1768	222	1-2308
42	1-1417	86	40-1712	131	1-1772	177	1-1792	220	1-2305
43	1-1692	87	40-1673	132	1-1778	178	1-1804	223	1-2309
44	1-1444	88	40-1724	133	1-1765	179	1-1761	224	1-2306
45	40-1656, 1659, 1676	89		134	1-1499	180	1-1777	225	1-2300
		90	1-1870						

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