

THE CARVER'S ART OF THE INDIANS OF NORTHWESTERN CALIFORNIA

BY

ISABEL T. KELLY

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ABBREVIATIONS USED

A	Anthropos.
l'A	L'Anthropologie.
AA	American Anthropologist.
AAA-M	American Anthropological Association, Memoirs.
ArA	Archiv für Anthropologie.
AES-P	American Ethnological Society, Publications.
AGW-M	Anthropologische Gesellschaft in Wien, Mitteilungen.
AJPA	American Journal of Physical Anthropology.
AMNH	American Museum of Natural History—
-AP	Anthropological Papers.
-B	Bulletin.
-M	Memoirs.
-MA	Memoirs, Anthropological Series.
-MJ	Memoirs, Jesup Expedition.
BAE	Bureau of American Ethnology—
-B	Bulletins.
-R	(Annual) Reports.
CNAE	Contributions to North American Ethnology.
CU-CA	Columbia University, Contributions to Anthropology.
FL	Folk-Lore.
FMNH	Field Museum of Natural History—
-M	Memoirs.
-PAS	Publications, Anthropological Series.
IAE	Internationales Archiv für Ethnographie.
ICA	International Congress of Americanists (Comptes Rendus, Proceedings).
IJAL	International Journal of American Linguistics.
JAFL	Journal of American Folk-Lore.
JRAI	Journal of the Royal Anthropological Institute.
MAIHF	Museum of the American Indian, Heye Foundation—
-C	Contributions.
-IN	Indian Notes.
-INM	Indian Notes and Monographs.
PM	Peabody Museum (of Harvard University)—
-M	Memoirs.
-P	Papers.
-R	Reports.
PMM-B	Public Museum (of the City) of Milwaukee, Bulletin.
SAP-J	Société des Américanistes de Paris, Journal.
SI	Smithsonian Institution—
-AR	Annual Reports.
-CK	Contributions to Knowledge.
-MC	Miscellaneous Collections.
UC-PAAE	University of California, Publications in American Archaeology and Ethnology.
UPM-AP	University of Pennsylvania (University) Museum, Anthropological Publications.
USNM	United States National Museum—
-R	Reports.
-P	Proceedings.
UW-PA	University of Washington, Publications in Anthropology.
ZE	Zeitschrift für Ethnologie.

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The Indians of northwestern California occupy a peculiar place in cultural schemes. Although they exhibit a number of typical California traits (such as the mush paddle, lack of symbolism), the preponderance of evidence indicates northern affiliation, and they are usually reckoned as the southern outpost of the North Pacific coast culture area. Aside from northern and southern importations, this area is characterized by certain local developments—the stool, the pillow, the mush paddle, and the horn purse and spoon. The group is definitely intermediate in culture and yet far from parasitic.

The typical tribes of this area are the Yurok, Karok, and Hupa, living along the lower Klamath and Trinity rivers. The Karok and

Hupa are inland; the Yurok extend to and along the coast. Although unrelated linguistically,¹ these three tribes are almost identical in culture.

The principal art is carving in wood and horn. The wooden head-rest, canoe prow, and stool, are nicely shaped, although they rarely bear designs (Goddard, fig. 1,² and Kroeber, pls. 15 and 19).³ However, these articles are characterized by a high degree of skill in execution and finish and attest the excellence of the carver's art. The plank which serves as house entrance is often decorated, sometimes with a row of dots around the door, or triangles carved above (pl. 118*a*, and Waterman, pl. 4).⁴

The principal objects decorated are the horn spoon, the wooden mush stirrer, the horn purse, and to a minor extent such articles as bone hairpins, head-scratchers, horn mesh sticks, and dentalium shells (pl. 119).

HORN SPOONS

Carved spoons are manufactured from elk horn and occasionally from deer horn and wood. Deer horn is harder than elk horn, and the spoons are smaller and less elaborate. The wooden spoons show a slight tendency toward curvilinear outline, owing doubtless to the more easily worked medium, but ordinarily all spoons adhere to the same general pattern.

We have no definite description of the manufacture of spoons. It is said that in the old days the horn was soaked until soft and the spoon then shaped by rubbing with sandstone. Only the horn near the base of the antler was used.⁵ The bowl was made from the thickened cross-section and the handle from the adjacent vertical horn. If this is true, the stem-bowl angle is obtained naturally and not by heating and bending, as among the Kwakiutl.⁶ The latter also claim rubbing with sandstone to be the aboriginal method. An examination of the spoons under a magnifying glass reveals the undoubted use of a sharp instrument on most of the elaborate specimens, although the polish tends to obscure the means of shaping. It is quite probable

¹ The Yurok are Algonkin; the Hupa, Athapasean; and the Karok, Hokan.

² Goddard, *Life and Culture of the Hupa*, UC-PAAE, 1:1-88, 1903.

³ Kroeber, *Handbook of the Indians of California*, BAE-B, 78, 1925.

⁴ Waterman, *Yurok Geography*, UC-PAAE, 16:177-314, 1920.

⁵ These statements are upon the authority of Mr. Robert Johnson, a Yurok, in conversation with Dr. Kroeber.

⁶ Boas, Franz, *Ethnology of the Kwakiutl*, BAE-R, 35, part 1:104, 1921.

that these were made after the adoption of modern tools. Some twenty spoons have a hole for hanging. Four of these holes have been made by drilling from one side and then from the other, leaving a ridge in the center. This is the old method of drilling. More frequently the hole seems to have been made by rubbing until the horn was thin enough to be pierced with a sharp instrument. The edges of the holes are still quite jagged. There is but one case which suggests the use of the gimlet.

The carved spoons were used by the men. Women used a mussel shell, a piece of deer skull, or a piece of undecorated elk horn of "shoe-horn" shape (pls. 105*a* and 119*b*). The men's spoons are shaped much like our modern spoons. The handle meets the bowl at a 45° angle, but occasionally approaches 90°. The upper part of the handle is usually sprung back, probably by the use of heat.

The height of the spoons ranges from 15 to 22 cm. and the width of the bowl from 5 to 7 cm. The bowl is usually longer than wide; it may be almost flat or may be well rounded. The rounding may be increased artificially as the sweep of the bowl is often considerable.

The shape of the spoons adheres fairly constantly to a definite structural pattern. The elements, exclusive of the bowl, may be likened to a column—at the base a pedestal, above it a stem, and at the top a capital. This parallel will provide a convenient terminology. Of the one hundred eight horn spoons, only three lack a capital, and only twelve a pedestal. None of the finished spoons lack both.

The capitals fall into three groups according to outline—the round, the rectangular, and the beehive. The latter group, having a rounded top and a rectangular base, is intermediate between the rectangular and the round. The beehive type is the most numerous, with the round next. This grouping accounts for practically every specimen. The only difficulty lies in differentiating between the three types: a capital may be somewhat rounded at the corners and yet appear essentially quadrilateral.

The capitals vary in width from 10 to 28 mm., with 60 per cent falling between 16 and 24 mm. The mean is 19 mm. These calculations are based on the eighty-five of the one hundred eight specimens which lent themselves to measurement. In height, the range is from 8 to 26 mm. with a mean of 17 mm. Seventy per cent of the cases fall between 13 and 21 mm. The height of sixty-three capitals was measured. The ratio procured by dividing the width by the height runs from sixty to two hundred seventy-five with the mean at one hundred

nineteen. Twenty-six cases, or 43 per cent of the sixty-one measured, are from 1 to 1.19 times as wide as high.

The pedestal is likewise a constant feature. Its origin is problematical. There is no indication that it strengthens the spoon, but it serves nicely as a transition between the wide bowl and the narrow stem.

Ninety-six of the one hundred eight specimens have a definitely recognizable pedestal. These are of two principal types—quadrilateral and inverted funnel. In the latter case, of which there are thirty-two instances, the sides of the pedestal converge and run into the stem. Obviously this is no more than a plain spoon notched at the top of the bowl.

The quadrilateral pedestals range from rectangular to trapezoidal in outline. A two-millimeter difference in width at the top and base gives a noticeable slant. Where the difference is less than 2 mm., or where the disparity seems attributable to inaccuracy rather than intention, the pedestal is not ranked as trapezoidal. Some show variation as great as 12 mm., but most range from 2 to 6. The transition from bowl to stem is doubtless responsible for the slanting line, as the trapezoidal form is practically lacking in capitals. Only six of the capitals measured show a difference of more than one millimeter between top and bottom, and none of more than 3 mm.

The pedestals vary in width from 14 to 42 mm. with 29 mm. as the mean and 28 mm. as the mode. This is based on eighty-one cases. The height ranges from 4 to 29 mm. with a mean of 12 mm. About 43 per cent of the fifty-six cases are between 8 and 12 mm. It is impossible to measure the height of the funnel pedestal, as there is no break at the stem. In no case does the height of the pedestal exceed the width. The ratios range from one hundred to six hundred eighty-three, with a mean of two hundred eighty-two. Fifty-three per cent of the pedestals are from 1.80 to 3.29 times as wide as high. This tendency is scarcely perceptible in the capitals where the height frequently exceeds the width. The pedestal is far wider than the capital both proportionately and absolutely. The proximity of the bowl is undoubtedly the causal factor.

Calculations based on measurement of eighty cases give $+ .49$ for the correlation between the greatest width of the capital and the greatest width of the pedestal. The data for the respective heights are fewer, since it is impossible to gauge the height of the funnel pedestals; but on the basis of forty-nine specimens, a correlation

coefficient of .38 was obtained. There is obviously a stronger relation between the respective widths than between the heights; .49 is not a particularly high figure, but it may be regarded as reasonably significant.

There seems to be no particular association between any type of capital and any type of pedestal. The combination of any two types is about as frequent as chance expectation would have it.

A classification of spoons may be approximated along the following lines:

1. *Plain spoons*.—These spoons have shaped bowls and handles but are devoid of the usual decorative features. All the twenty-three specimens have capitals, and each type of capital is represented. Seven have no pedestal; the normal expectancy would be but two. The remainder of the spoons have either funnel or quadrilateral pedestals. Nineteen are Yurok; three, Hupa; and one of doubtful provenience. However, this fact is of no especial significance, as 70 per cent of the entire collection is Yurok, and the remainder is Hupa.

2. *Spoons undecorated but for notches*.—These spoons would come under the previous classification but for the notching. All but one have the pedestal notched; several have the stem or capital also marked. Fourteen of the sixteen have quadrilateral pedestals. The normal expectancy would be eight. No particular type of capital predominates. Thirteen are Yurok, two are Hupa, and one is of doubtful source.

3. *Spoons with zigzag handles*.—Two principal types of zigzag are represented. The first obtains the effect by the stepped superimposition of parallelograms. The sides slant toward the left. This is a popular basketry motif but occurs only twice in the spoons. The other type is the familiar right-angle or obtuse-angle zigzag, of which there are fourteen cases. Six are Hupa, seven are Yurok, and one is doubtful. The number of angles varies from one to five on a side. In six instances both sides bear the same number of angles; in six instances the right side (as one faces the spoon) has one more angle than the left. Only two instances of the converse occur. This type of spoon seems not to be associated with any particular type of capital or pedestal. Notching is frequent, especially on the pedestal.

4. *Spoons with trapezoid, lozenge, or hourglass handles*.—This series of designs may easily have originated from the funnel element, and the supposition is strengthened by the absence of the trapezoid on

purse engravings. The diamond and hourglass are found there, but in that instance are the outgrowth of triangle combinations.

Notches placed at the top of the bowl produce a funnel pedestal. By repeating the notching up the handle, a series of superimposed trapezoids is formed. This tiered handle is the most common, occurring in fifteen of the twenty-nine spoons. Pleasing variation is obtained by inverting the series halfway up the handle. The tiered handle is usually associated with the funnel pedestal, although the quadrilateral is frequent. It may have any kind of capital.

If the funnel motif be inverted, an hourglass figure is formed. By repeated alternate inversions, two hourglass figures, or a diamond flanked on either end by a trapezoid, are automatically produced. Because of this, it is sometimes uncertain whether the design is a diamond or an hourglass (pl. 107c)..

There are two kinds of diamond-shaped stems. With one, the stem converges at the capital and pedestal, making the whole shaft a single lozenge. The diamond thus formed is usually notched at its lateral apices, dividing the stem into two long, funnel-shaped figures with bases touching. More commonly the stem is carved into a series of diamonds.

5. *Openwork spoons*.—Some 20 per cent of the spoons have openwork decoration. Where this overlaps with the trapezoid-lozenge heading the specimens are counted both ways. The openwork tends to take the form of one, two, or three longitudinal slits down the stem (eighteen out of twenty-two cases). Other times small diamond or triangular pieces have been removed, leaving a zigzag outline.

All but seven spoons fall into the foregoing five classes. Six of these seven are barred from the second class only because of incising. The seventh spoon is quite anomalous.

Decoration is not confined to the stem outline. Relief work, notching, and incising are used. The first is rare. Notching is found on forty-eight spoons. Occasionally imitation notching is made by small incisions along the edges. Notching occurs twenty times on the pedestal alone, and nine times on the pedestal and stem. It appears less frequently in other combinations. The incising is not particularly noteworthy. There are five cases of imitation notching, four of a row of short, transverse lines down the back of the stem, three of incised dots, three of crosses, and six of horizontal or diagonal lines. The zigzag appears once in incising. As a general thing, engraving on the spoons is inferior work.

The surface of fully one-third of the capitals is depressed. This may have been suggested by the natural curve of the horn, but is frequently found where there is no trace of concavity on the stem. The face seems to have been rubbed until the desired hollow was produced. This depression is usually associated with a round or beehive capital.

About the same number of spoons have a bevel or ridge. This is usually down the back of the stem or on the back of the pedestal and upper part of the bowl. It occurs three times on the face of the handle. This is a definitely strengthening feature, perhaps suggested by the contour of the horn.

In general, the spoons adhere to a structural pattern—capital, stem, pedestal, and bowl. The capital, pedestal, and stem are worked into characteristic designs. There is no evidence that the decoration of any one part is associated with that of any other part. There is no indication of tribal differentiation. This collection is attributed, 70 per cent to the Yurok, with 30 per cent Hupa. However, the source of manufacture was not ascertained by collectors, and some pieces may have been acquired by their owners in trade, so that the Karok and Tolowa may be represented in the collection.

Aesthetically, the cream of the lot is represented by some thirty-five spoons, elaborately carved and nicely polished. In these, there is a noticeable preference for symmetry in shape and decoration, but an apparent disregard of accuracy in detail. Sixteen of these specimens are rather elaborately carved but show minor discrepancies in the number of notches and the like. The zigzag, if not exactly symmetrical, gives a satisfactory sense of balance. There seems to be no repetition of a certain, preferred number in the decoration; five and ten, the ritual numbers, do not occur more frequently than others. There is nothing to indicate that the carving is other than merely decorative.

MUSH PADDLES

A paddle is used to stir the hot stones in boiling mush. Most of the blades are charred from use. The paddles are of hard wood, from two to four feet in height. The paddle-like stirrer is found widely spread in California, as far south as the Diegueño, but is usually undecorated, except among the northwestern tribes, where it is nicely carved.⁷

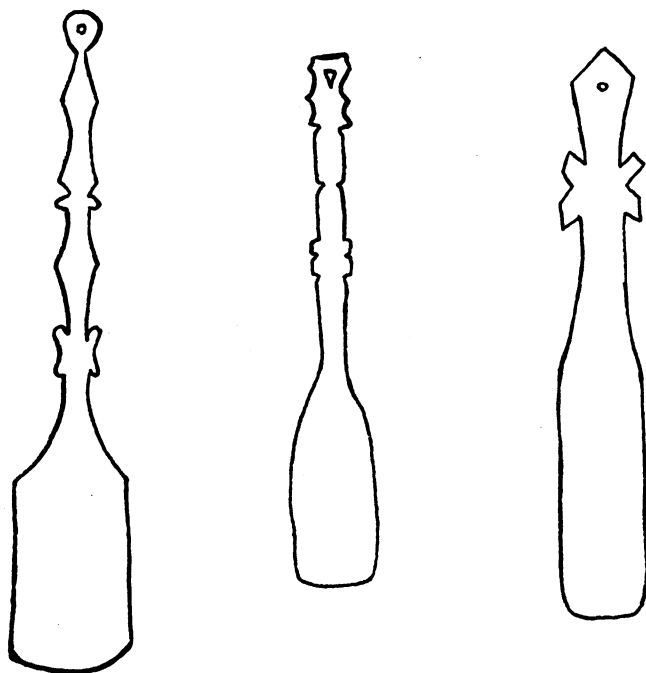


Fig. 1. Iroquois food paddles, strikingly similar to those of northwestern California, even to identical design units. After Waugh.

The paddle is best described by comparison with the spoon. It is immediately apparent that the stirrer follows the capital, stem, and pedestal pattern. The blade is comparable to the bowl, but is flat and much elongated. Eight of the fifty-four paddles are without capitals. Round, beehive, and rectangular capitals are all represented, the first

⁷ Although typical of California, the mush paddle is by no means confined to this area. It is found among the Thompson (Teit, *The Thompson Indians of British Columbia*, AMNH-M, 2:203, 1900) and is mentioned for the Menomini (Skinner, *Material Culture of the Menomini*, MAIHF-INM, 148, 166, 170, 1921). The Iroquois implement is strikingly similar in shape and decoration (Waugh, *Iroquois foods and food preparation*, Canada Geological Survey, Memoir 86:70, pls. 29, 30, 70, 1916). Three of these implements are reproduced in figure 1 of this paper.

by five, the second by four, and the last by eleven cases. Several new types of capital are also found. The trapezoid, probably a variation of the rectangular, is prominent with eleven cases. Its slanting sides may be less likely to split than those of the rectangular, which would follow the grain of the wood. A number of diverse outlines have been included in a cylindrical group, which is composed of those capitals in

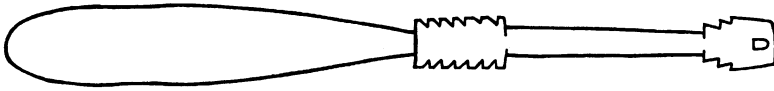


Fig. 2. Wooden paddle.

which the third dimension could not be ignored. Should one disregard this element and consider outline alone, these capitals would fall under the other headings. Six would be rectangular, one round, two beehive, five trapezoid, and one anomalous.

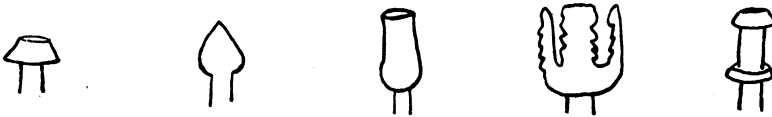


Fig. 3. Cylindrical capitals of mush paddles.

The capitals, measured at their point of greatest width, vary from 20 to 84 mm. with a mean of 46 mm. The height runs from 13 to 122 mm. with the mean at 50 mm. The capital is from .31 to 2.72 times as wide as high. The greatest number of cases lie between .90 and 1.09; the mean is 1.10. The ratio is somewhat smaller than for the spoons; that is, paddle capitals are narrower.

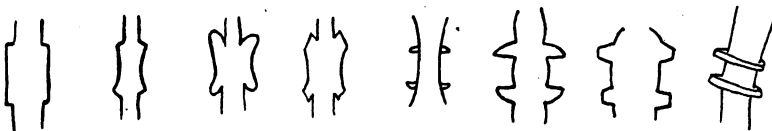


Fig. 4. Modified rectangular pedestals of mush paddles.

Only two paddles are without a pedestal. There are four funnel, one round, three anomalous, and six cylindrical pedestals. The latter would all be rectangular were outline the sole criterion. There are no trapezoidal pedestals. The rectangle is the most common, with thirty-eight occurrences. It is shown above, with some of its modifications.

The pedestals measure 36 to 103 mm. at their widest point. The mean is 60 mm. The height varies from 27 to 250 mm. with the mean

at 91 mm. In striking contrast to the spoons, the pedestal tends to be taller than wide. The ratios run from sixteen to two hundred six with 57 per cent between forty and sixty-nine. The mean of the ratios is seventy-three. This difference in proportion is to be expected. The paddle is essentially a long, flat implement whose width could be contained in two slightly converging lines enclosing the pedestal and blade at their points of greatest width. It tends to length rather than to width. With the spoons, the situation is quite different. The pedestal, intermediate between the stem and the bowl, must inevitably have been influenced by the width of the latter. This comes out clearly in the correlation figures for the widths of the respective capitals and pedestals. The paddle measurements give .70, a rather high figure. The spoon correlation of .49 is indicative of reasonable relationship, but has undoubtedly been lowered by the contiguity of the bowl. This influence is lacking in the paddle, where the pedestal is sometimes the widest part. The correlation between the greatest height of the capital and of the pedestal is only .16 for the paddle, but .38 for the spoon.

The paddle may be compared to the spoon in several other elements of shape. In the first place, the spoon handle is usually flat, while that of the paddle may be rounded or even cylindrical. This element of third dimension has undoubtedly encouraged the variety of capital and pedestal decoration. In the second place, the capital of the paddles is never depressed. This furthers the belief that the hollow of the spoon capital developed from the curve of the horn. A bevel, frequent in spoons, occurs but five times. This suggests that its use in the spoons is purely a matter of reinforcement. About the same proportion of paddles as of spoons is pierced for hanging. There is no indication that the hole in paddles is associated with the round capital.

The paddle and spoon differ more fundamentally in decoration than in shape. The stirrer, unlike the spoon, indulges in elaboration of capital and pedestal rather than in stem decoration. Thirty-nine of the fifty-four paddles have smooth handles, but many modifications of the basic capital and pedestal shapes are found. More specific differences are found in the use of design elements. For example, in paddle decoration the trapezoid is confined largely to the capital. With the spoon it is used either as a pedestal or in combination to form a tiered handle. A further example is supplied by the hourglass motif. With the spoons this occurs frequently as an element of stem

decoration, but almost never as a capital or pedestal. The converse is true of the paddle, where the hourglass is not used on the stem but is the most common pedestal shape (50 per cent of all the paddles). It also occurs occasionally as a capital.

Further comparison reveals an almost total absence of the zigzag on paddles. There are only two specimens, one of which appears to be of the superimposed parallelogram type. The zigzag does not appear in the engraving and only once in the openwork.

The openwork is about half as frequent as in spoons. With the latter it usually takes the form of longitudinal slits down the stem, but this is not characteristic of such openwork as is found in the paddles.

Relief work is rare enough in the paddles, but even then is more frequent than in the spoons. It usually involves the overlapping of the pedestal and blade (pl. 110*e*). Most of the relief work is very pleasing.

Over 20 per cent (twelve cases) of the paddles have some sort of engraved decoration. The principal characters include the triangle, cross, diamond, and straight and diagonal lines. Some of the incising is quite elaborate, at least in comparison with that of the spoons. About half the cases show a concentric motif. Although notching is tremendously popular as a spoon decoration, especially in pedestals, it occurs but seven times in the paddles and then is usually on the capital.

In general, the spoons and paddles differ more noticeably in decoration than in shape. Some of these differences (such as incising, notching, and relief work) can be satisfactorily explained by the natural potentialities of the two materials. Obviously, notching would be unsatisfactory in wood, as the soft material would tend to splinter. The absence or presence of certain design motives seems to be more arbitrary, but, regardless of such minor diversities, the spoon and the paddle give one a very definite impression of affinity.

ELK-HORN MONEY BOXES

The money box is an invention peculiar to northwestern California and is a corollary of the economic and social stress laid on wealth. It is usually of elk (but occasionally of deer) antler and has two principal shapes. The first is made from the fork of the antler (pl. 117, *k, l*). There are only three such specimens in the collection, and none of them show anything distinctive in the way of decoration.

The second type of purse is cylindrical but follows the curve of the horn. It is from 75 to 125 mm. in length. The concave face is slit and the porous inner material removed. The spongy part may be left at the ends and covered with pitch or paint. In one instance it has been replaced by a wooden plug.

The cylindrical box adheres to a structural pattern as constant as that of the spoons and paddles. The middle part of the box is worked down, leaving an enlargement on either end. This raised ring or flange provides support for the lid and strengthens the whole container. Thirty-eight of the fifty-three cylindrical purses⁸ are shaped this way, and in eleven others the end treatment is indicated by the decoration. Only four purses show no trace of the pattern.

The opening is covered by a splint, often the same piece which was sliced off to make the slot. Many of the purses lack this lid and according to Goddard⁹ are incomplete. Frequently crevices are cut in the flanges so that the lid can be sprung in snugly. The cover may be further secured by a thong wrapping (pl. 117).

Ten of the purses have small projections at each end (pls. 113*c*, 114*b*). Their use is unknown, but they may have been for carrying.¹⁰

The transverse groove (pl. 115*a*, *b*, *c*) is the most popular form of decoration. The most frequent incised designs are the triangle and the zigzag. In fourteen cases it is impossible to tell which of the two is intended. Right-angle triangles are often arranged in a double row so as to form a zigzag of bisected parallelograms (pl. 117*c*). Both this and the normal type of zigzag (pl. 115*a*) occur.

Barring grooves, the acute isosceles triangle is the most popular design element. It occurs on twenty-six of the thirty-one incised specimens. The obtuse triangle occurs four times. About the same proportion holds for those indeterminate as triangles or zigzags. The right-angle triangle occurs seven times, the hourglass twice, the diamond and cross-hatching three times each. The diamond and hourglass occur as separate entities, but in several instances are formed by triangle combinations. Incised dots occur five times. The trapezoid is completely lacking.

The designs are usually arranged in transverse or longitudinal rows. Oblique decoration occurs three times. The design area cen-

⁸ Two of these 53 are attributed to the Modoc, 7 to the Hupa, and the balance to the Yurok.

⁹ UC-PAAE, 1:49, 1903.

¹⁰ The dance basket is fashioned on the same pattern as the purse, even to the projections on either end, Kroeber, UC-PAAE, 2: pl. 18, 1905.

ters around two structural features, the slit and the transverse end enlargements. The latter are usually banded by transverse grooves, and further decorated by one or more rows of triangles. A transverse arrangement of design does not occur except on the ends. Decoration of the longitudinal body is usually longitudinal, and rows of triangles frequently frame the opening. The acute triangle is the most common (sixteen out of twenty cases). The obtuse and the right-angle triangle occur three times each. Straight lines or rows of triangles occasionally run obliquely from the opening (pl. 114*a*). The back or sides may bear longitudinal rows of triangles, diamonds, or zigzags.

The lid and projections from the ends are sometimes incised. The usual straight line, triangle, diamond, and hourglass motives are found. The lid design matches that of the box in two cases, but, in general, there seems to be no necessary correspondence between the two.

The incisions are darkened and show up well against the natural cream or tawny background. Red, black, or blue paint may be rubbed in the grooves or applied to the porous ends. The use of colored pigment is noteworthy, as it is conspicuously absent from the spoons and paddles.

In general, the decoration tends to be symmetrical, particularly in the number of grooves at the ends. Three is the most common number of grooves, but inaccuracy in detail is apparent here as with the spoons. A row short one or two triangles was apparently no cause for concern. The designs are usually made solid, but there is slight tendency to do this by concentric filling.

CYLINDRICAL BOXES

The large wooden box in which dance regalia are stored follows the horn purse pattern closely. It has the same enlarged ends and occasionally the transverse grooves. Other than this the boxes are seldom decorated. One shown in plate 118*c* has a carved zigzag motif. The boxes are usually cylindrical¹¹ although there is one rectangular box in the Museum.

¹¹ Kroeber, BAE-B 78:92, 1925.

OTHER INCISED ARTICLES

Minor articles, such as bone hairpins, head-scratchers, dentalium shells, and elk-horn mesh sticks are occasionally incised (pl. 119). The designs are in keeping with those of the purses and consist of triangles, zigzags, and straight lines. The mesh sticks are usually

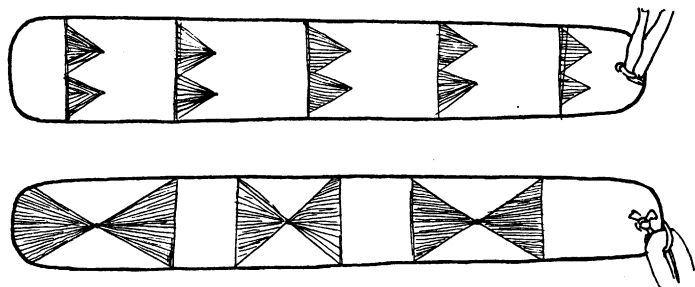


Fig. 5. Head-scratchers with incised triangular designs.
Specimen nos. 1-1245a, 1-1246.

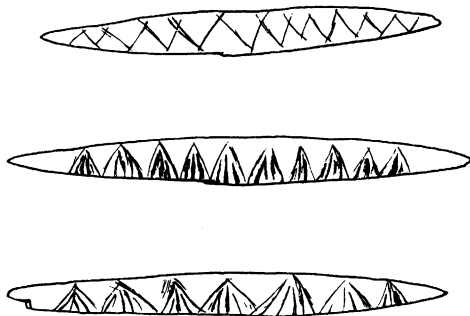


Fig. 6. Incised hairpins. Specimen nos. 1-2190, 1-2189, 1-2191.

decorated with plain lines, but this may be mere coincidence. A stone club¹² has a single zigzag engraved on its face. This is the only indication of incising on stone. In general, this minor incising is what one would expect after observation of the purses.

¹² Loud, *Ethnogeography and Archaeology of the Wiyot Territory*, UC-PAAE, 14: pl. 18, 1918.

RELATION OF CARVING TO BASKETRY DESIGNS¹³

In general, basketry designs are disposed horizontally below the rim, in contrast to the vertical field of the paddle, spoon, and to some extent the purse. Aside from this consideration the two arts differ moderately.

Certain of the familiar carving designs are lacking or but feebly represented in basketry. The hourglass occurs once as a modified snake-nose design, but seems to be rare. The trapezoid, as such, seems to be lacking, at least it is not figured in Kroeber's paper on basketry. Goddard¹⁴ illustrates his discussion of technique by a sketch of a truncated triangle but does not show it on a basket. It is true that the trapezoid appears in the *haxpo'o waxpo'o* design, but it is apparently not an essential element. At any rate it is not found singly.

The diamond, as a single element, constitutes a modified form of both snake-nose and sturgeon-back designs, but there is no instance in basketry in which a double row of isosceles triangles forms a row of bisected diamonds. Likewise, the complete diamond seems not to occur in a row with apices touching.

The acute isosceles triangle does not occur in basketry, although it is undoubtedly the favorite engraving motif. This is perhaps owing to the limitation of technique. That is, in basketry one builds a triangle by the consecutive increase or decrease of a stitch on one or both sides, automatically forming a right-angled or obtuse triangle, the twined stitch being longer than high.

Some of the basket designs, however, do occur in carving. The flint, sharp-tooth, sturgeon-back, and crooked patterns are all found. Plate 113*d* shows the direct transfer of the basketry "spread finger" design to engraving, yet this sort of direct transfer is not frequent. Of course elements as simple as the triangle and zigzag are bound to occur in identical form. The rectangle is lacking in the engraving, which suggests that it may be an outgrowth of the textile technique.

In general, basketry designs are more varied and complex than those of carving. None of the intricate textile designs are copied in engraving, although that might well have been done. The *waxpo'o*, foot, elk, striped designs, and many combinations have no counterpart in the incising. However, as one would expect, the correspondence between the basketry and purse decoration is more pronounced than between the basketry and spoon and paddle decoration.

¹³ Based on Kroeber, *Basket Designs of the Indians of Northwestern California*, UC-PAAE, 4:105-164, 1905.

¹⁴ Goddard, *Life and Culture of the Hupa*, UC-PAAE, 4:1, fig. 6, 1904.

GENERAL SUMMARY

Broadly speaking, the art of these peoples is fairly uniform. Considering the differences in material and size, there is a surprising degree of similarity between the spoon and the paddle. The purse, too, adheres to the same sort of design elements, although it calls for engraving rather than sculpture. The basketry decoration also conforms to a considerable extent.

It is safe to declare that the carving art of northwestern California is purely geometric, unsymbolic, and dominated by the triangle and zigzag. The triangle is probably the more fundamental of the two. The sketch below (fig. 7) shows how triangles may combine to form a zigzag. The first two are basketry designs, and the last is a purse engraving.



Fig. 7. Triangular and zigzag motifs.

Furthermore, it is plain that this art is distinctive from that of most of California, where carving is absent and where basketry design is the chief form of aesthetic expression. It differs fundamentally from the art of the North Pacific Coast which is dominated by conventionalized human and animal motives. It lacks also the symbolism of the Northwest Coast.

It is interesting to note that this specialized type of decoration has been applied to three principal objects, each of diverse origin. Spoon manufacture perhaps received its initial impulse from the North Pacific Coast, although the finished product is quite different; the mush paddle is undoubtedly an elaboration of the simple California implement; and the horn purse is a local invention.

EXPLANATION OF PLATES

Below are given the specimen numbers and provenance of objects illustrated. The sequence is from left to right unless otherwise specified.

Plate 103. Elk-horn spoons, Klamath river. *a*, 1-1237, height of stem, 15 cm.; *b*, 1-1238.

Plate 104. Elk-horn spoons, Klamath river. *a*, 1-1241, height of stem, 12 cm.; *b*, 1-1240.

Plate 105. Elk-horn spoons, Yurok. *a*, 1-1974, woman's spoon; *b*, 1-9429; *c*, 1-1938; *d*, 1-11573, height of stem, 10.8 cm.; others on same scale; *e*, 1-1103; *f*, 1-1308.

Plate 106. Elk-horn spoons. *a*, 1-1303, Yurok; *b*, 1-1068, Yurok, height of stem, 14 cm.; others on same scale; *c*, 1-2113, Yurok; *d*, 1-2355, Hupa; *e*, 1-1118, Yurok; *f*, 1-1112, Yurok; *g*, 1-2069, Yurok; *h*, 1-1943, Yurok; *i*, 1106, Yurok; *j*, 1-2219, Yurok; *k*, 1-845, Hupa; *l*, 1-1099, Yurok.

Plate 107. Elk-horn spoons. *a*, 1-1104, Yurok, height of stem, 5.8 cm.; others on same scale; *b*, 1-2031, Yurok; *c*, 1-1993, Yurok; *d*, 1-2030, Yurok; *e*, 1-849, Hupa; *f*, 1-1236, Klamath river; *g*, 1-1241, Klamath river; *h*, 1-1240, Klamath river; *i*, 1-1937, Yurok; *j*, 1-1875, Yurok; *k*, 1-2347, Hupa; *l*, 1-1986, Yurok.

Plate 108. Elk-horn spoons. *a*, 1-4444, Klamath river; *b*, 1-106, Klamath river, height of stem, 10.5 cm.; others on same scale; *c*, 1-2348, Hupa; *d*, 1-792, Hupa; *e*, 1-1238, Klamath river; *f*, 1-1237, Klamath river; *g*, 1-791, Hupa; *h*, 1-794, Hupa; *i*, 1-2028, Yurok; *j*, 1-1239, Klamath river; *k*, 1-2226, Yurok; *l*, 1-1316, Yurok.

Plate 109. Wooden mush paddles. *a*, 1-820, Hupa, height, 75 cm.; *b*, *c*, *d* on same scale; *b*, 1-1911, Yurok; *c*, 1-821, Hupa; *d*, 1-882, Hupa; *e*, 1-9471, Yurok, height, 81.5 cm.; *f*, *g*, *h* on same scale; *f*, 1-1633, Yurok; *g*, 1-2188, Yurok; *h*, 1-11828, Yurok.

Plate 110. Wooden mush paddles, Yurok. *a*, 1-2198, height, 92.5 cm.; *b*, *c*, *d* on same scale; *b*, 1-1860; *c*, 1-1891; *d*, 1-1833; *e*, 1-1618, height, 76.5 cm.; *f*, *g*, *h* on same scale; *f*, 1-2192; *g*, 1-2194; *h*, 1-2193.

Plate 111. Wooden mush paddles. *a*, 1-1647, Yurok; *b*, 1-819, Hupa, height 64 cm.; *a*, *c*, *d*, *e* on same scale; *c*, 1-1611, Yurok; *d*, 1-1892, Yurok; *e*, 1-1948, Yurok; *f*, 1-2224, Yurok, height, 87.5 cm.; *g*, *h*, *i* on same scale; *g*, 1-1563, Yurok; *h*, 1-1640, Yurok; *i*, 1-1679, Yurok.

Plate 112. Wooden mush paddles. *a*, 1-2002, Yurok, height, 100 cm.; others on same scale; *b*, 1-862, Hupa; *c*, 1-2001, Yurok; *d*, 1-2035, Yurok.

Plate 113. Elk-horn purses. *a*, 1-1562, Yurok; *b*, 1-2278, probably Yurok; *c*, 1-2286, probably Yurok, length, 9.2 cm.; others on same scale; *d*, 1-1427, Yurok.

Plate 114. Elk-horn purses. *a*, 1-2284, probably Yurok, length, 15.6 cm.; others on same scale; *b*, 1-914, Hupa; *c*, 1-2288a, probably Yurok; *d*, 1-2068, Yurok.

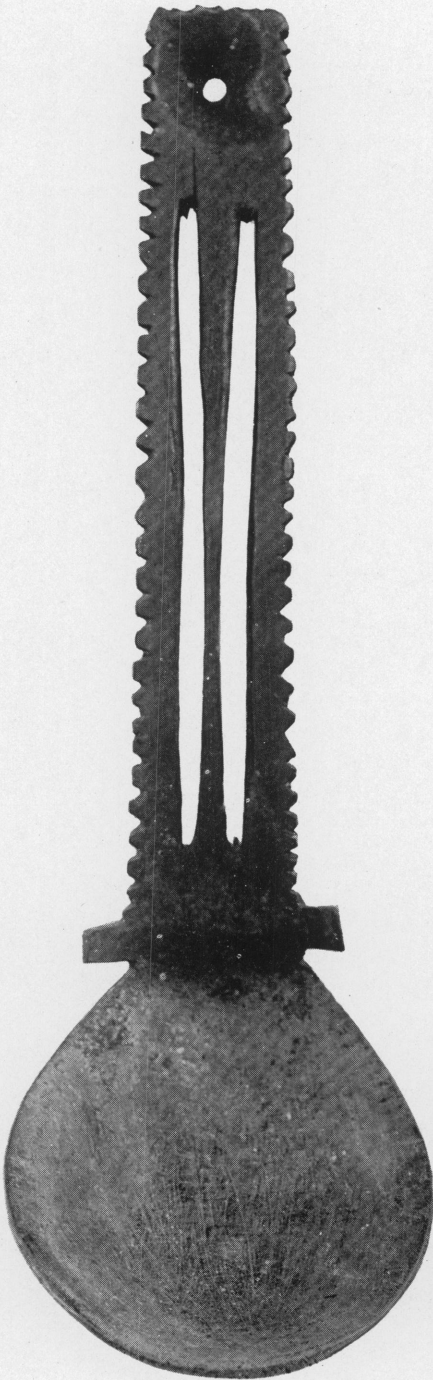
Plate 115. Elk-horn purses. *a*, 1-1219, Yurok, length, 14.5 cm.; others on same scale; *b*, 1-810, Hupa; *c*, 1-9482, Yurok.

Plate 116. Elk-horn purses. *a*, 1-2283, probably Yurok; *b*, 1-1560, Yurok; *c*, 1-1222, Yurok, length, 10.3 cm.; others on same scale; *d*, lid to *c*.

Plate 117. Elk-horn purses, Yurok, except *d* and *e*. *a*, 1-4425; *b*, 1-1220; *c*, 1223ab; *d*, 1-1251, Klamath river; *e*, specimen lost; *f*, 1-1221ab; *g*, 1-1222; *h*, 1-1149; *i*, 1-1145; *j*, 1-1148; *k*, 1-1150; *l*, 1-1151, height, including lid, 9.5 cm.; others on same scale.

Plate 118. *a*, entrance to sacred house, Takimitlding village, Hupa; *b*, 1-1555ab, wooden box, Yurok, length, 105 cm.; *c*, 1-2020, wooden box, Yurok, length, 46 cm.

Plate 119. Various objects, all Yurok but *i*. *a*, 1-2023, netting shuttle, length, 28 cm.; others on same scale; *b*, 1-1944, woman's spoon; *c*, 1-2144, mesh measure; *d*, 1-2138, mesh measure; *e*, 1-2092, mesh measure; *f*, 1-2189, hairpin; *g*, 1-11817d, hairpin; *h*, 1-9532, girl's head-scratcher; *i*, 1-1246, Klamath river, "louse killer"; *j*, 1-1573, strung dentalia, ornamented.

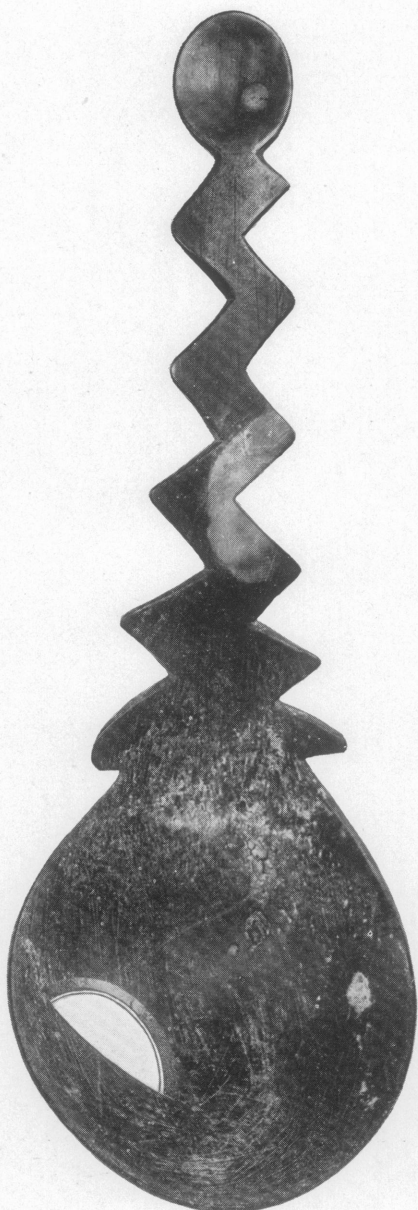


a

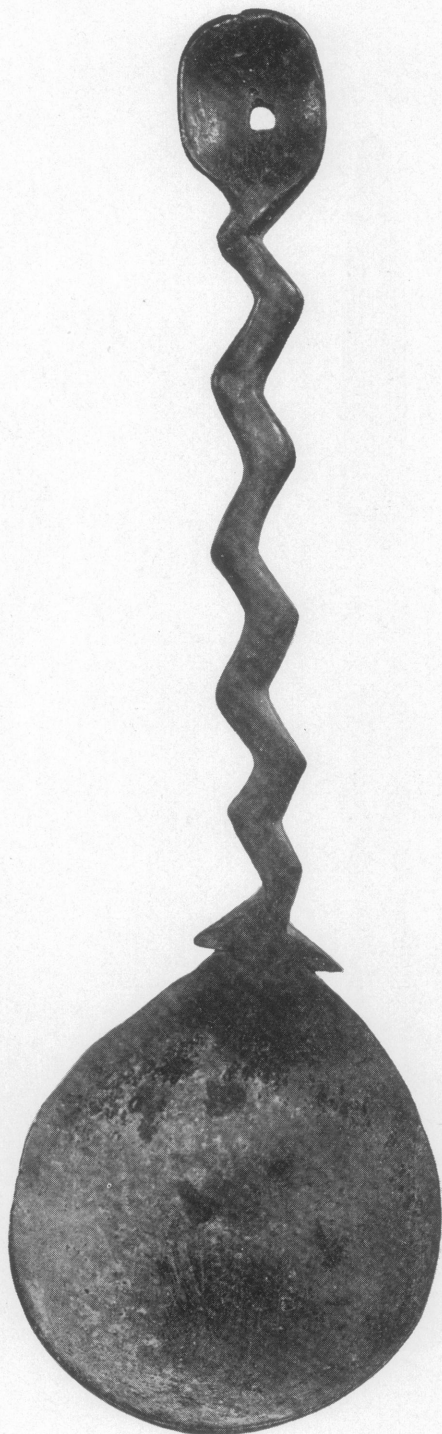
ELK-HORN SPOONS



b

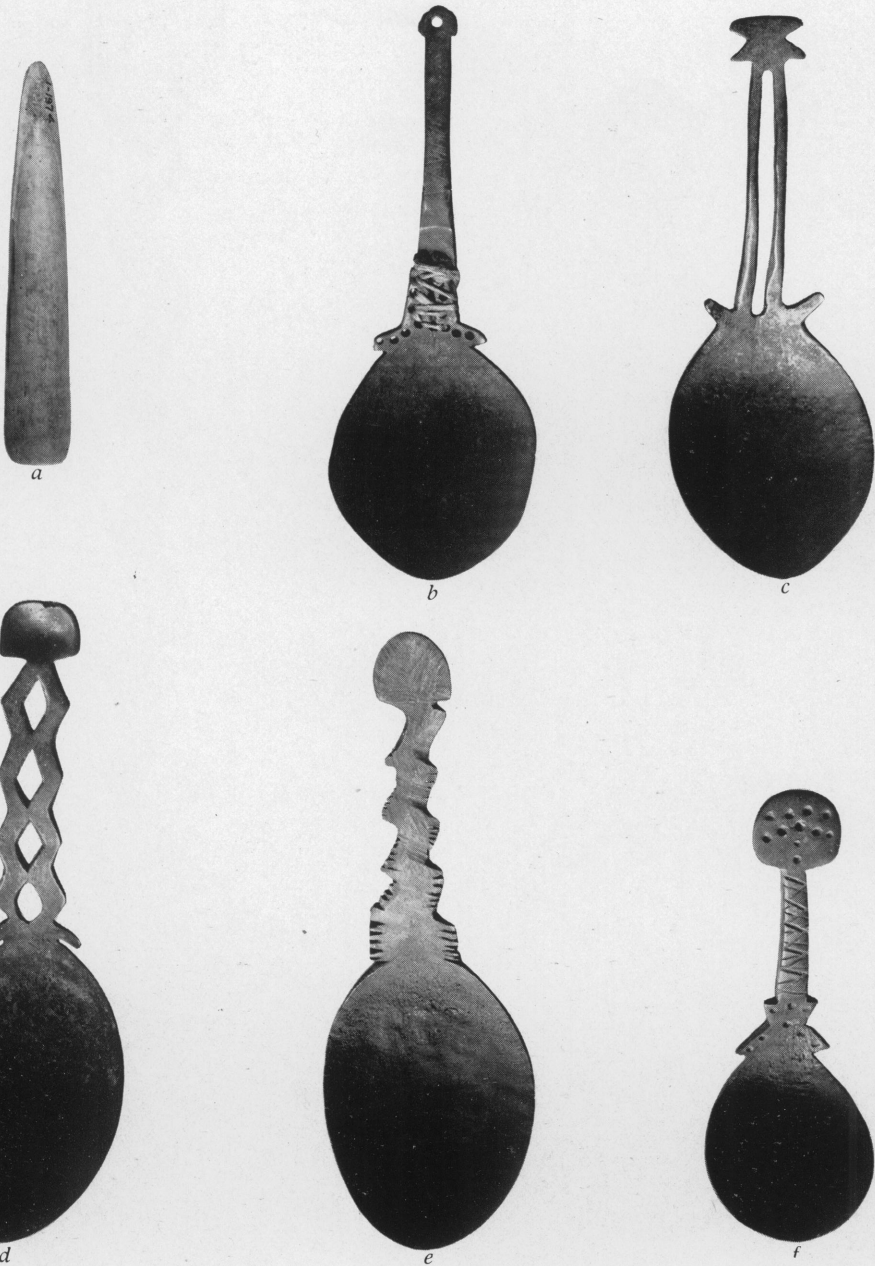


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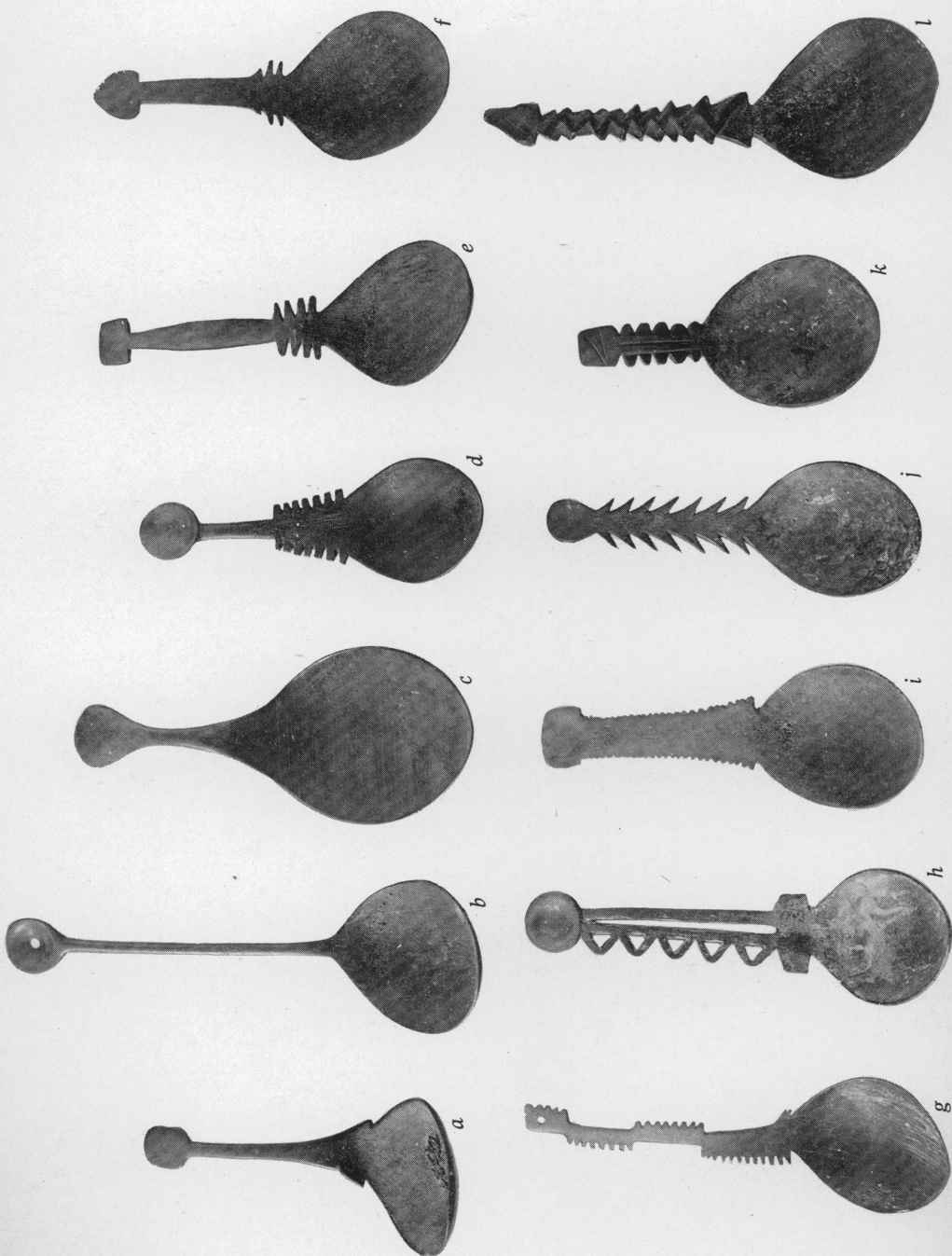


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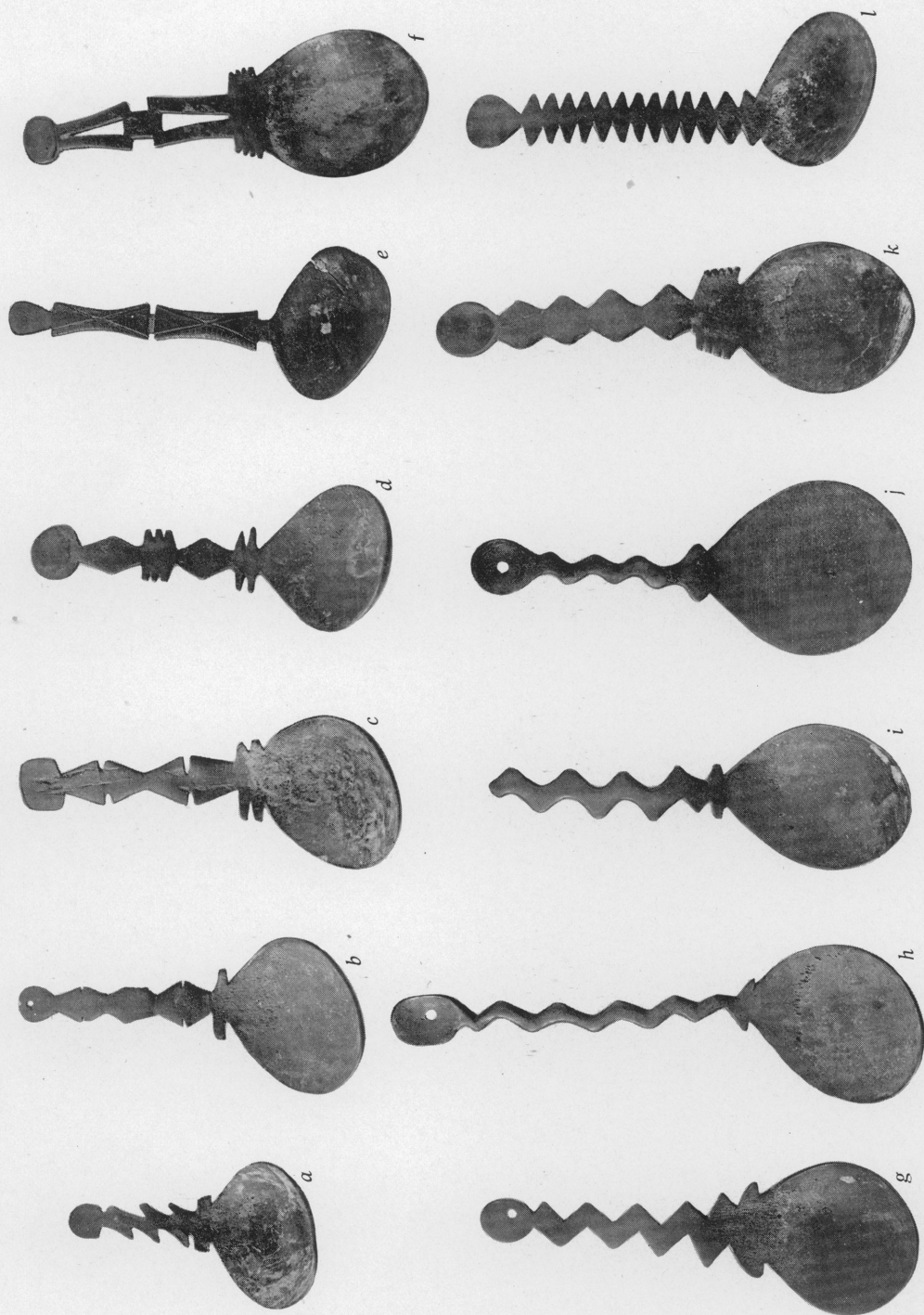
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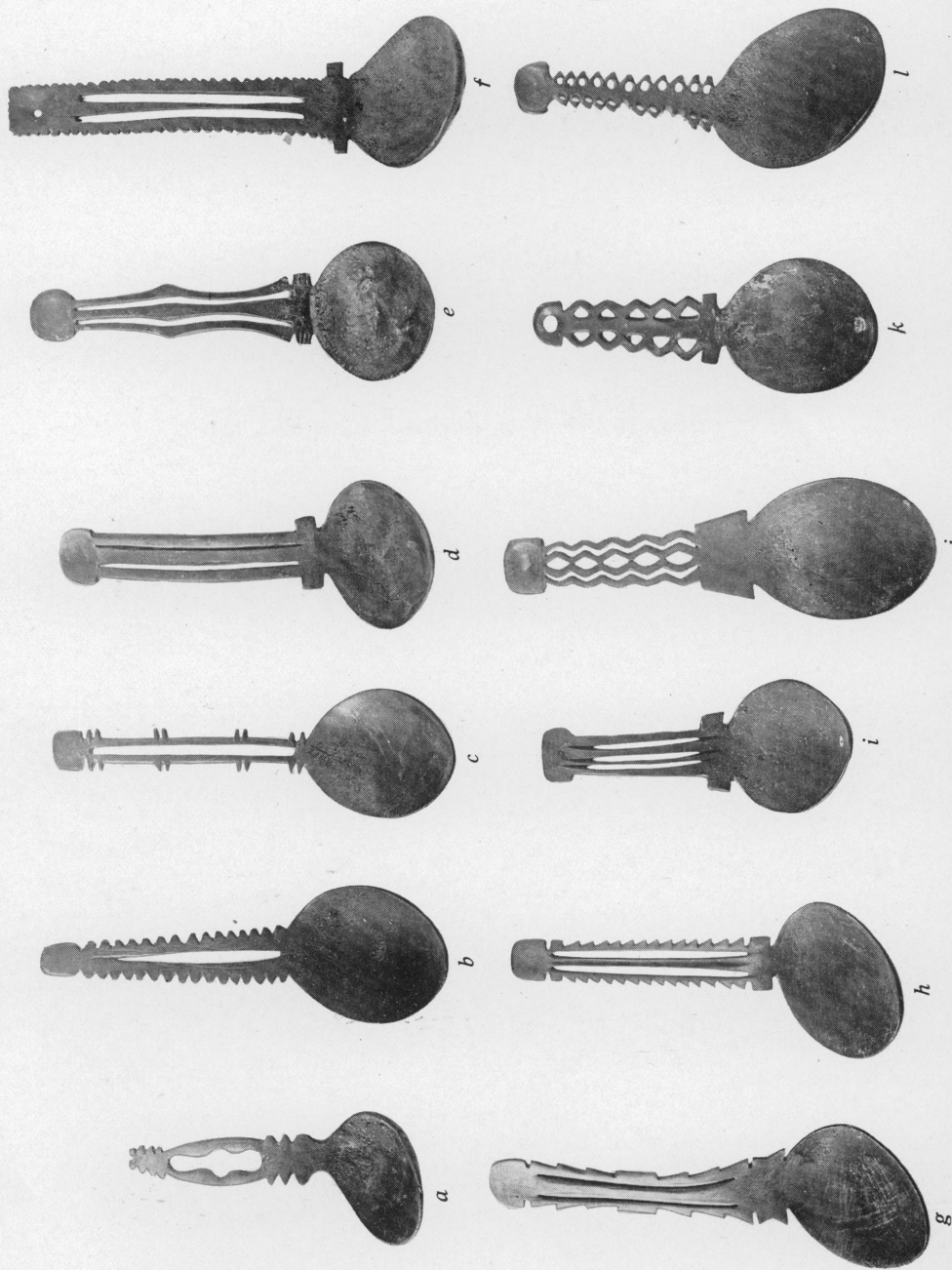
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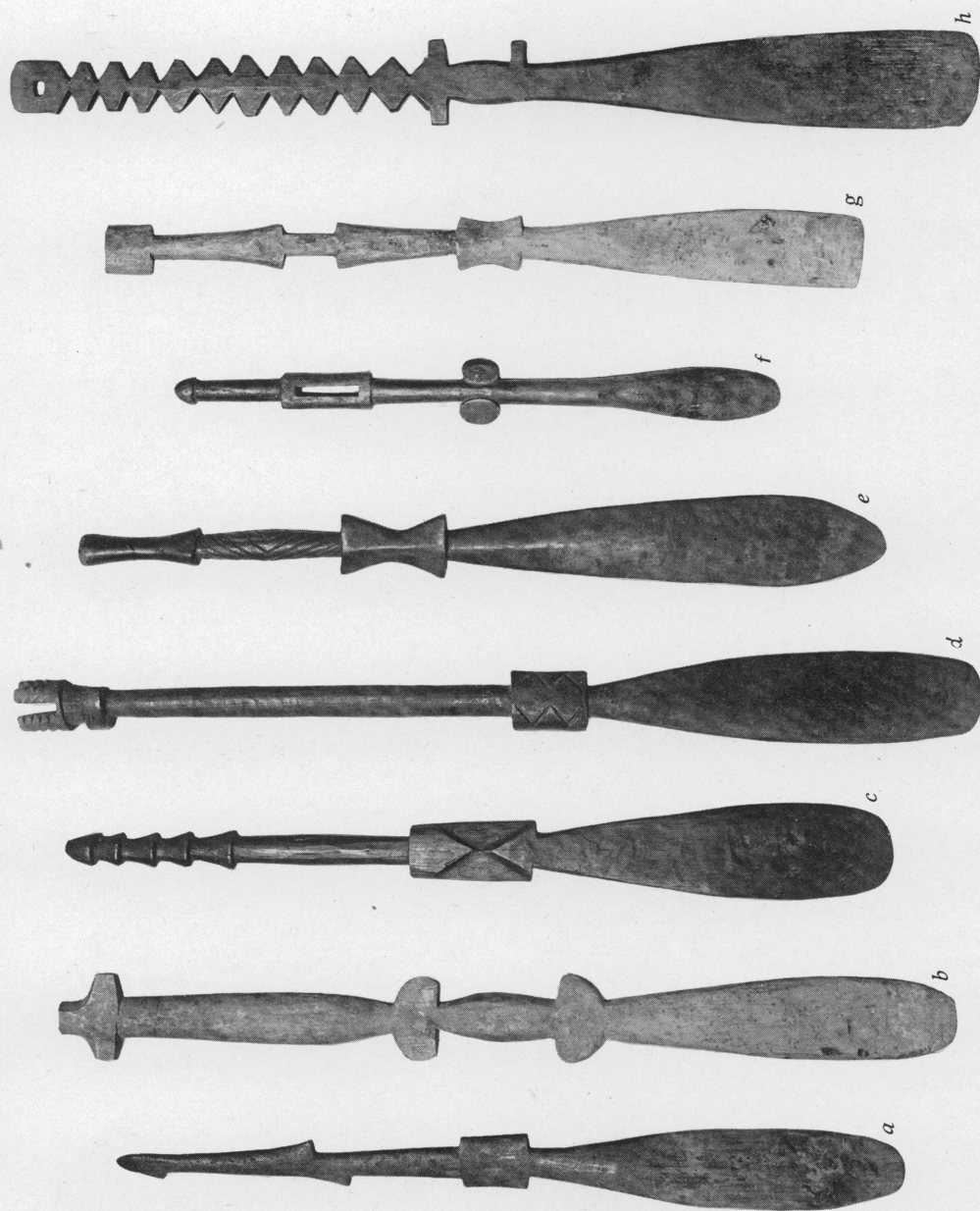


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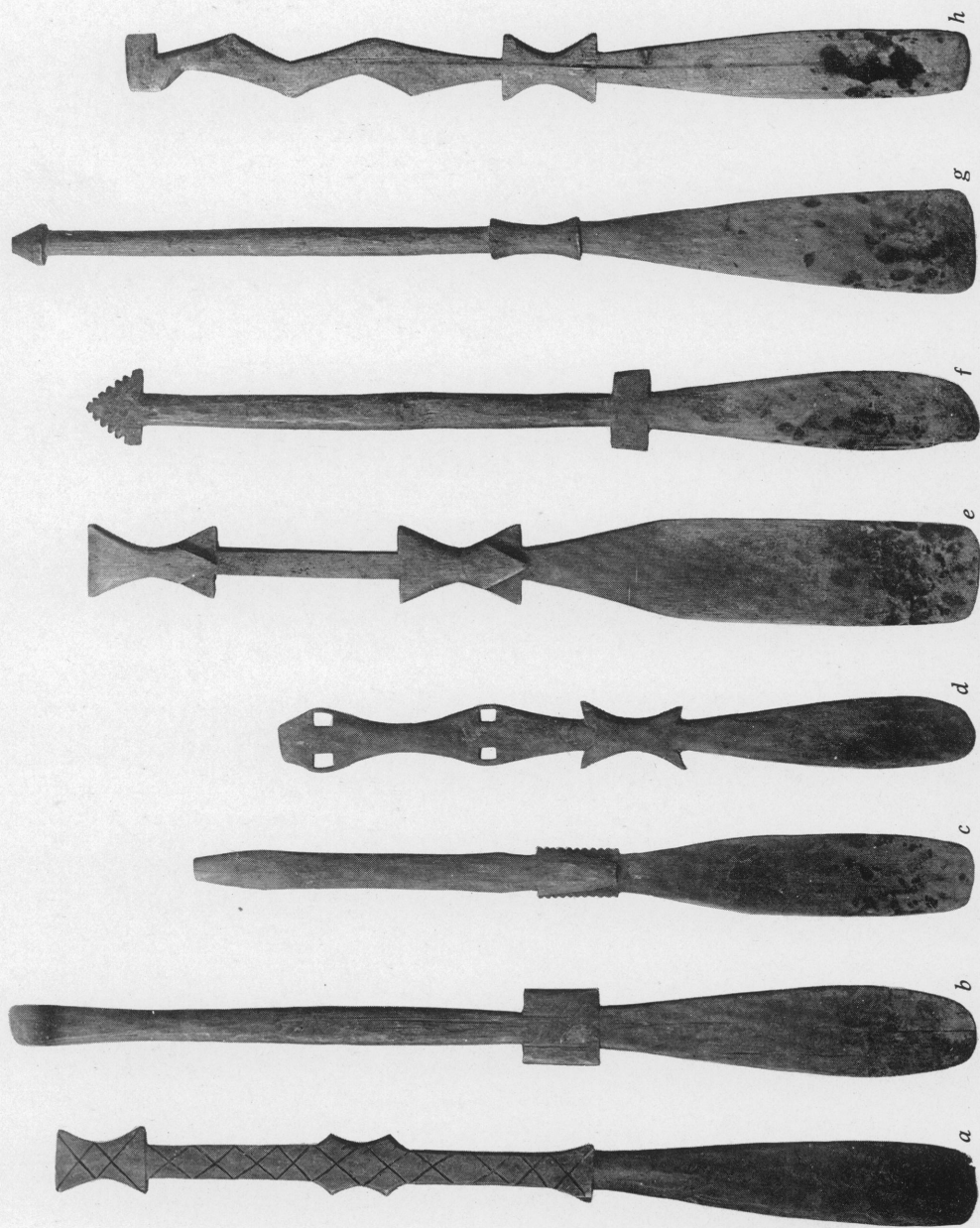


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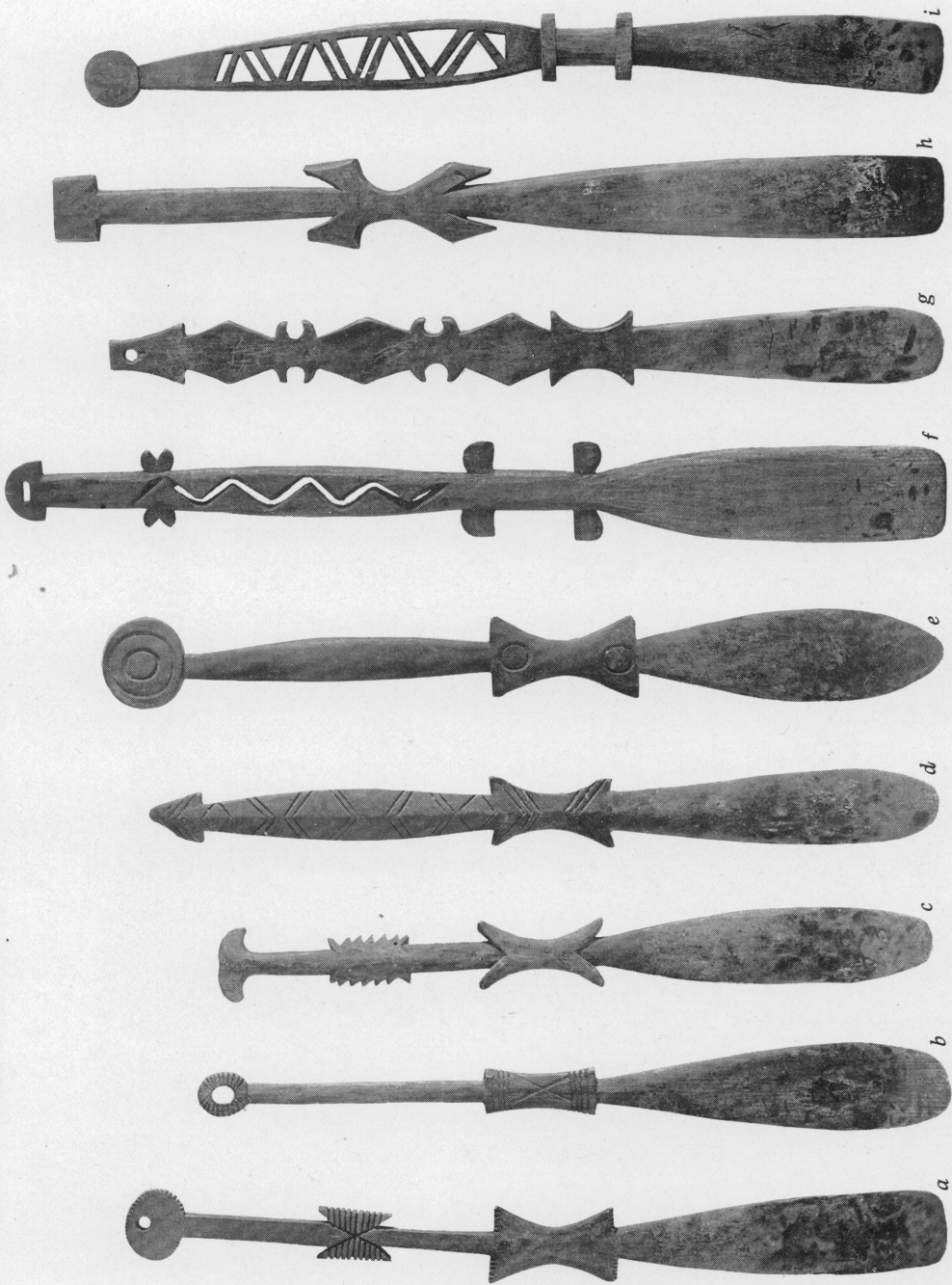




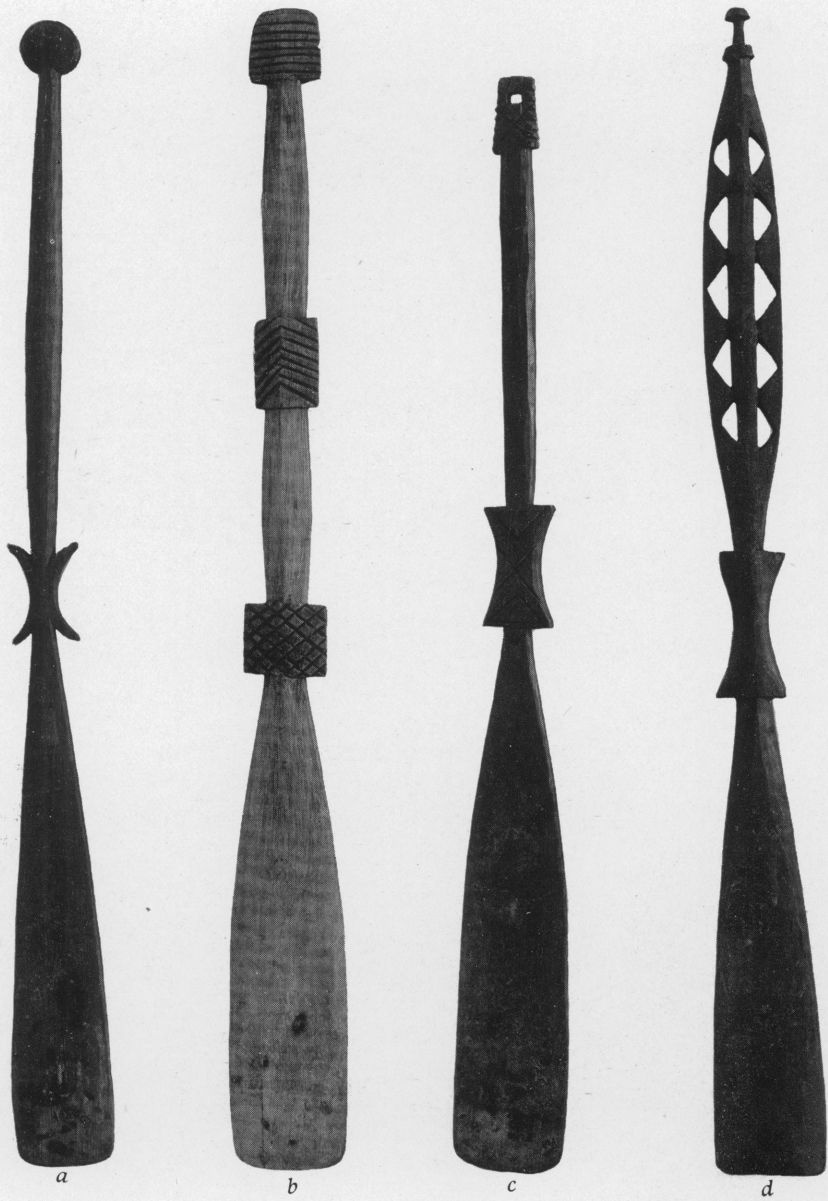
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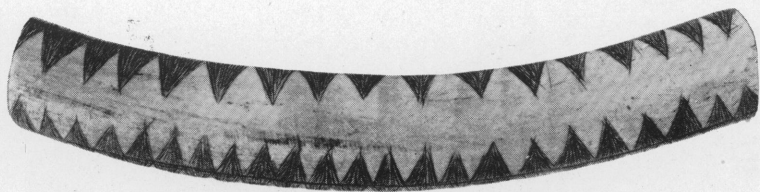
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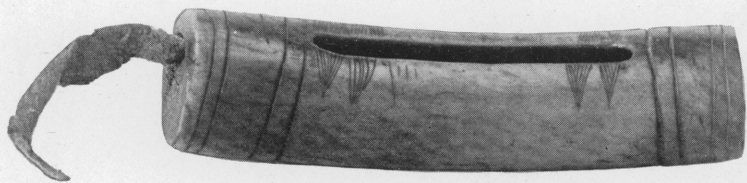
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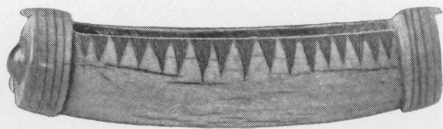
WOODEN MUSH PADDLES



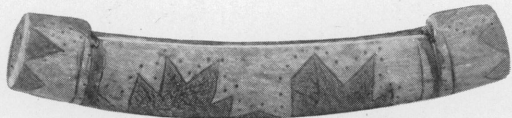
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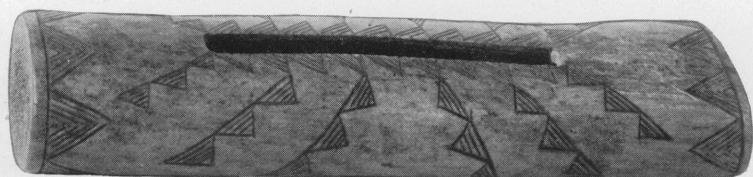


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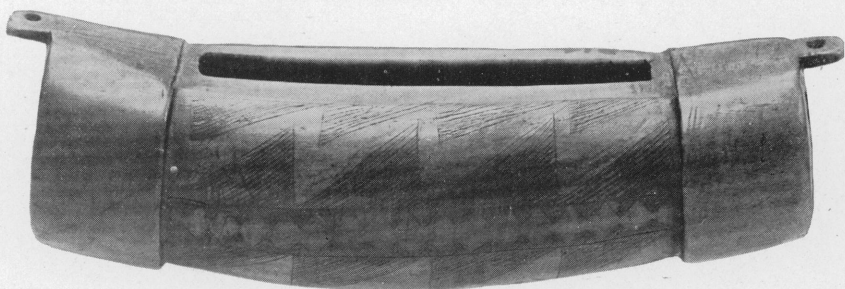


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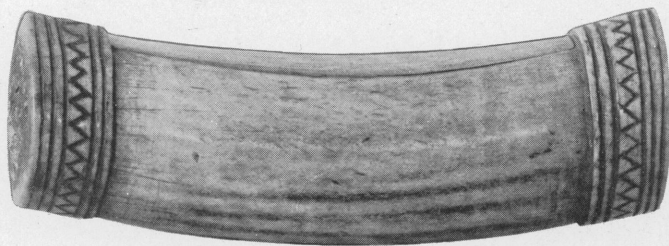
ELK-HORN PURSES



a



b

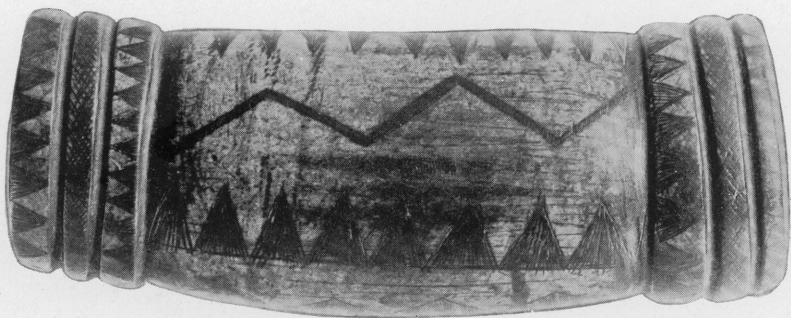


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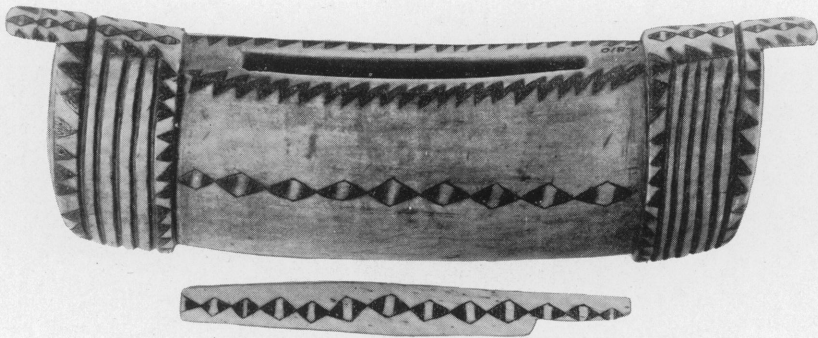


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ELK-HORN PURSES



a

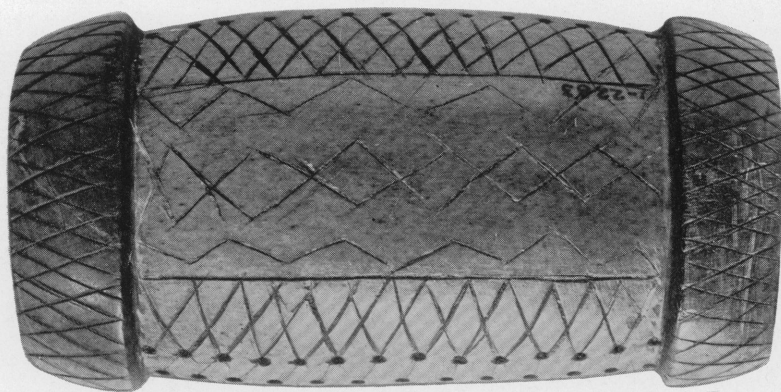


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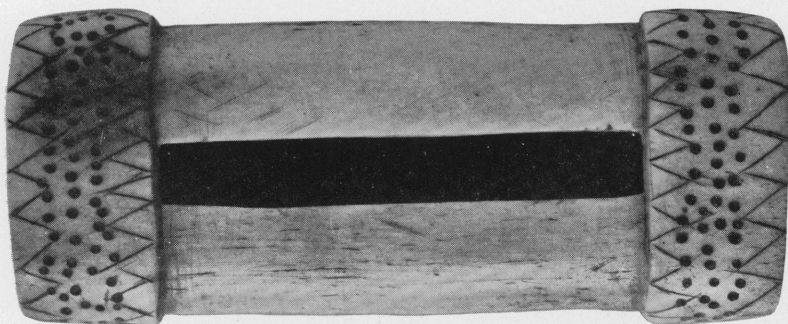


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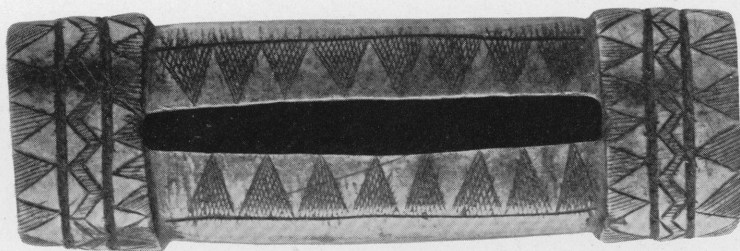
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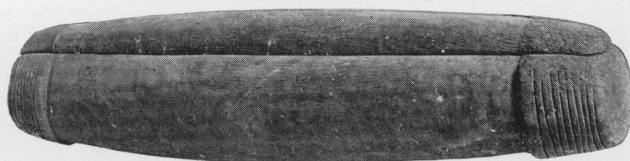
ELK-HORN PURSES



ELK-HORN PURSES



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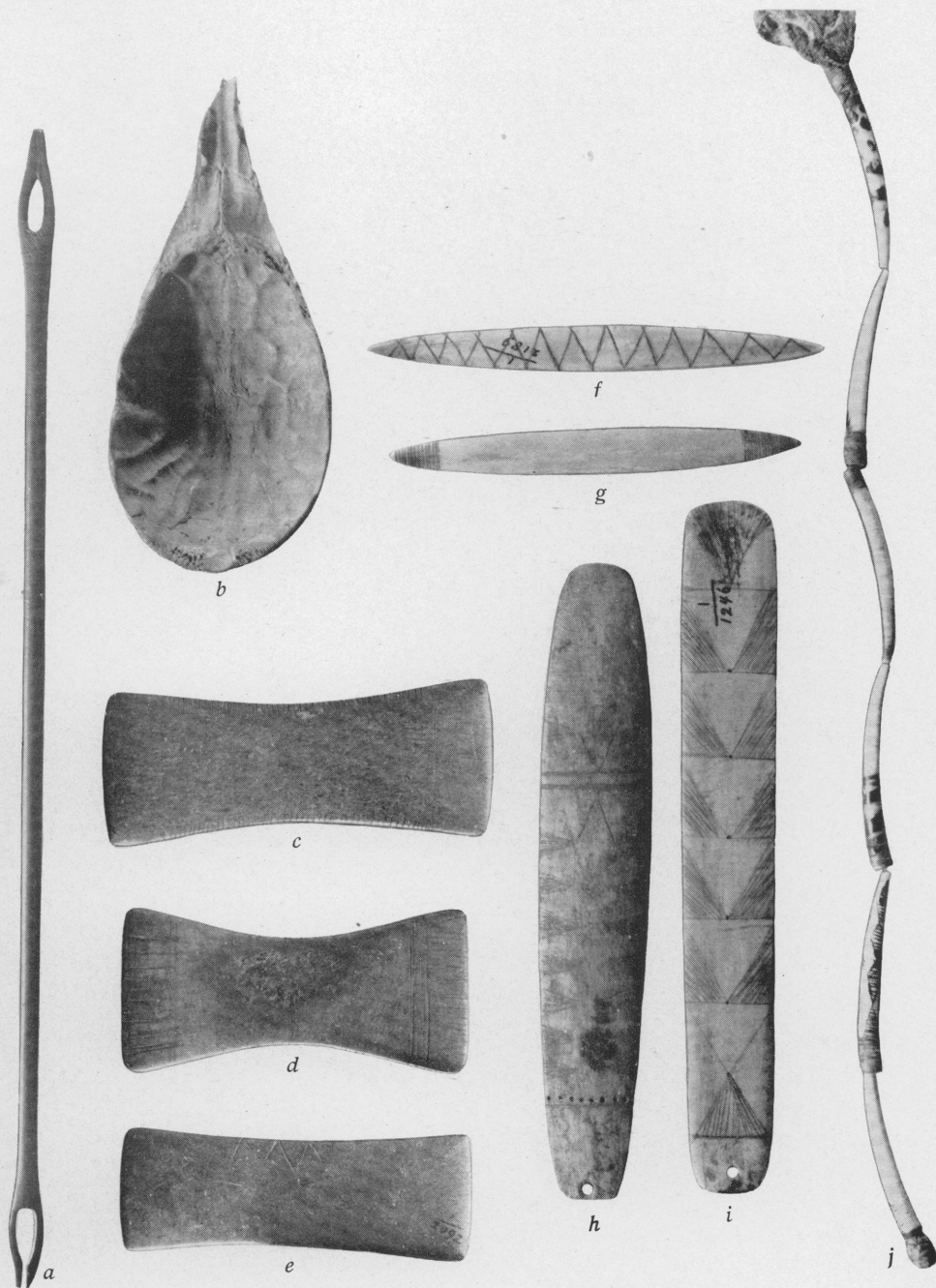


b



c

SACRED HOUSE, HUPA; WOODEN STORAGE BOXES



OBJECTS OF BONE, HORN, AND SHELL

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