

INDIAN NOTES AND MONOGRAPHS

Vol. XI



No. 1

A SERIES OF PUBLICA-
TIONS RELATING TO THE
AMERICAN ABORIGINES

ARCHEOLOGICAL EXPLORATION OF FISHERS ISLAND NEW YORK

BY

HENRY L. FERGUSON

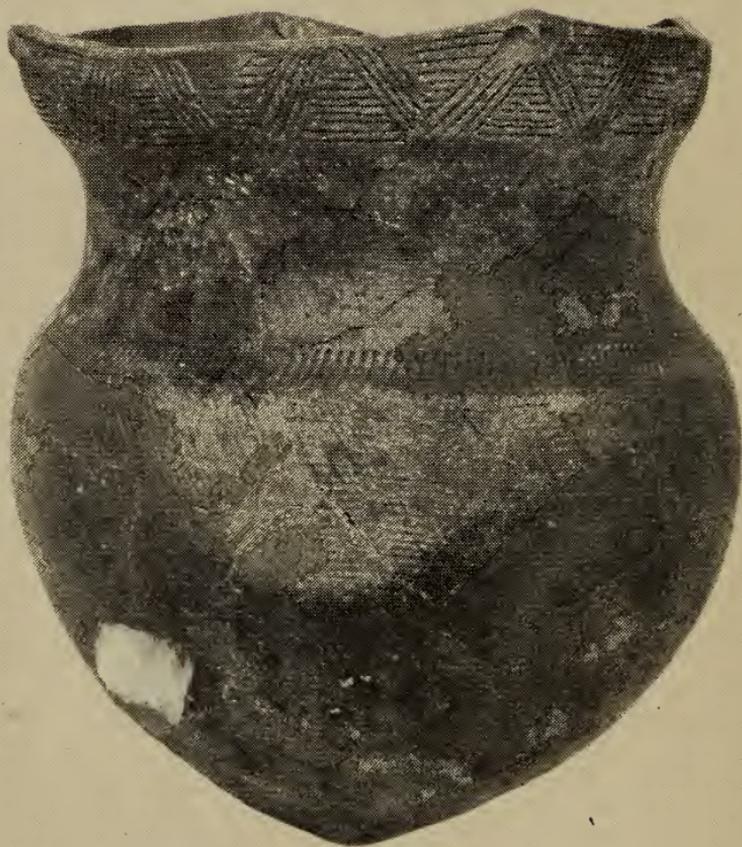
NEW YORK
MUSEUM OF THE AMERICAN INDIAN
HEYE FOUNDATION
1935



THIS series of INDIAN NOTES AND MONO-
GRAPHS is devoted to the publication of the
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can Indian, Heye Foundation, and is uniform
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MUSEUM OF THE AMERICAN INDIAN
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BROADWAY AT 155TH ST.
NEW YORK CITY

Indian Arts and Crafts Board



POTTERY VESSEL

In the Museum of the American Indian, Heye Foundation (Cat. No. 18/7403) Height, 12½ inches

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FOREWORD

The archeology of an island close to the mainland must necessarily be of the same culture as that of the adjacent continental peoples, although a more or less isolated existence may have caused some changes in the daily life of the islanders, because of their different environment. Much has been published regarding the archeology of the islands adjacent to the coast of California, but little of those similarly situated off the Atlantic side of the continent.

Due to the enthusiasm and perseverance of Mr. Henry L. Ferguson, it is now made possible to present the following preliminary report of an island culture off the Eastern coast of the United States.

GEORGE G. HEYE, *Director.*

INTRODUCTION

From early Colonial days until 1895, no record is known of the finding of any Indian artifacts on Fishers Island. About that year a grooved axe, now in the author's collection, was turned up by a plow in one of the fields of Durfee Meadow at the west end of the Island. Some few years later, Mr. W. W. Holmes, of Waterbury, Connecticut, who was interested in archeology, found some artifacts which are now in the museum of the Mattatuck Historical Society in his home city. It was not until 1912, when the author moved to the Island, that the systematic collection of Indian artifacts was commenced. From that year until 1924 farming was carried on throughout the Island, and the specimens found represented purely surface material. After that date the farm lands were uncultivated, and the surface finds gradually ceased. For several years little work was done, but in 1929 some excavating was accomplished in one shell heap, and the following year, really serious work was started. Possibly the results to date lack full scientific value, as proper records have not been kept; but the work so far completed has at least been done carefully, and it is felt that what ground has been gone over, has been thoroughly searched. It is hoped that the following report will add something of value to present infor-

mation concerning the culture of the Indians occupying Fishers Island in pre-Colonial times. Later reports, it is hoped, will present a more complete record of future work. The author desires here to express his sincere thanks to Mr. Blair S. Williams, to Mr. William Shirley Fulton, and to Mr. Harold J. Baker who have all so enthusiastically assisted in the collecting, and who have permitted him to photograph many specimens from their personal collections, some of which are reproduced in the plates illustrating this paper. Also, he is deeply indebted to Mr. George G. Goodwin, Assistant Curator of the Department of Mammalogy, American Museum of Natural History, New York City, for his identification of the animal and other bones found during the research.

HISTORICAL NOTE

Fishers Island, called by the Indians *Munnawtawkit*, lies at the eastern end of Long Island Sound, its nearest point to the mainland being only two miles from the Connecticut shore. Prior to the coming of the white colonists, the Island was heavily wooded, and deer and game birds abounded on it. It was not until 1815 that the appearance changed, and then a great gale laid waste the Island and left it nearly denuded of trees. Good harbors afforded safe camp sites, and springs and fresh water lakes were near at hand. Clams and other shell fish were found in never failing supply, and, with game on land and fish plentiful in the waters about the Island, the Indians who lived there, or who visited it, had no difficulty in securing necessary food.

The earliest records state that the Connecticut coast from Niantic to what is now the Rhode Island state line was originally controlled by the Niantic. Some time previous to the coming of the whites, the Pequot, who were part of the Mohegan living on the Thames River, inland from New London, broke away from their main tribal body and forced their way southward to the coast, dividing the Niantic. The Narragansett occupied land east of the Rhode Island boundary, only distant from Fishers Island about four miles. Just which tribe of Indians came

and hunted and fished and lived on the Island will probably never be known. Certainly the Niantic, Pequot, Mohegan, and Narragansett all lived near enough to make the journey in safety, but at the time the colonists reached Connecticut, the Pequot were in power.

For two years previous to 1637, John Winthrop, Jr., and Lion Gardiner had endeavored to found a settlement at Saybrook at the mouth of the Connecticut River. Continual trouble with the Indians resulted in May, 1637, in sending an expedition of ninety men led by Captain John Mason and Captain Underhill against the Pequot. Proceeding to Mystic, the whites surprised and killed six or seven hundred Indians, completely breaking the power of the Pequot. The survivors escaped and scattered. One band was rounded up at Fairfield and butchered, and from that time the settlers were safe to take up land and begin colonizing the State.

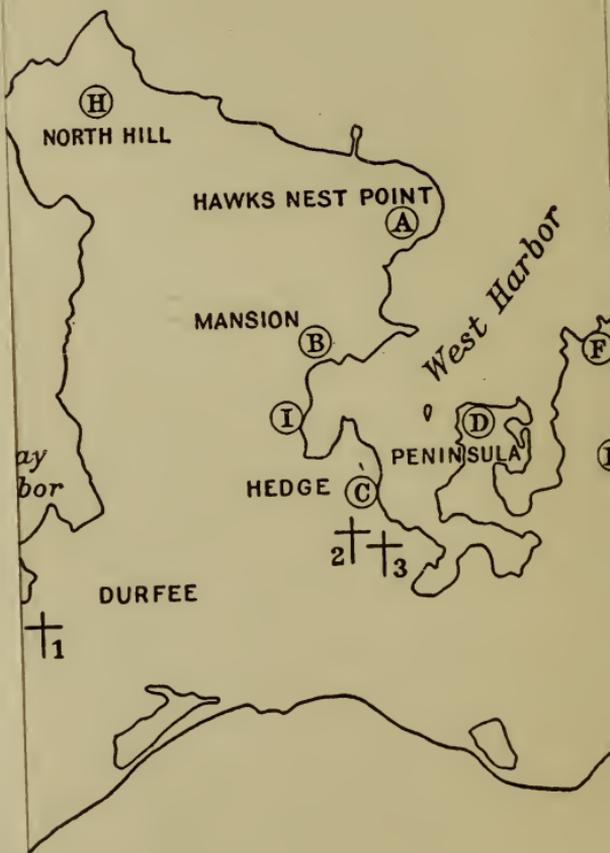
Three years after the Pequot Massacre, John Winthrop, Jr., applied to the General Court of Massachusetts for a grant to Fishers Island, and the following year he applied to Connecticut for a similar one. In 1644 he purchased the title to the Island from the Indians, and twenty years later received a grant for it from the Duke of York. He was well protected in his ownership. In the year of the purchase from the Indians (1644), Winthrop moved to the Island, and his was the only white man's house between the Connecticut River and the Providence Plantations far to the east.

The only trouble Winthrop experienced with the Indians, the first winter, was when Nowequa, a brother of Uncas, came from the mainland and destroyed a canoe. For this act he was forced to pay one hundred fathoms of wampum. From old records, chiefly letters of the Winthrop family, we learn that Indians were later used on the Island as laborers for a number of years. Foundations of several small houses, of which there is no record, have been found on the Island and may mark the homes of these Indian workmen.

CAL EXPLORATION OF ERS ISLAND NEW YORK

SCALE OF YARDS
500 1000 1500

- 1 Stray burials
- 2 Shell heaps



ARCHEOLOGICAL EXPLORATION OF FISHERS ISLAND, NEW YORK

HENRY L. FERGUSON

ARTIFACTS found on Fishers Island since 1912 have been grouped as surface finds; finds in connection with stray burials; and finds in connection with shell heaps. While these specimens are more fully described later in this paper, and classified as to material composition and use, it is considered advisable here to list the various locations with such collated information as may seem of interest and importance.

SURFACE FINDS

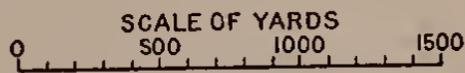
The following different locations contained sufficient relics to designate them as probable camp sites. Each had water easily accessible. In addition to these areas, odd artifacts of stone and pottery have been found in various places removed from obvious or probable camp sites.

Hay Harbor; grooved axe.

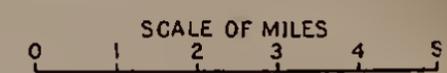
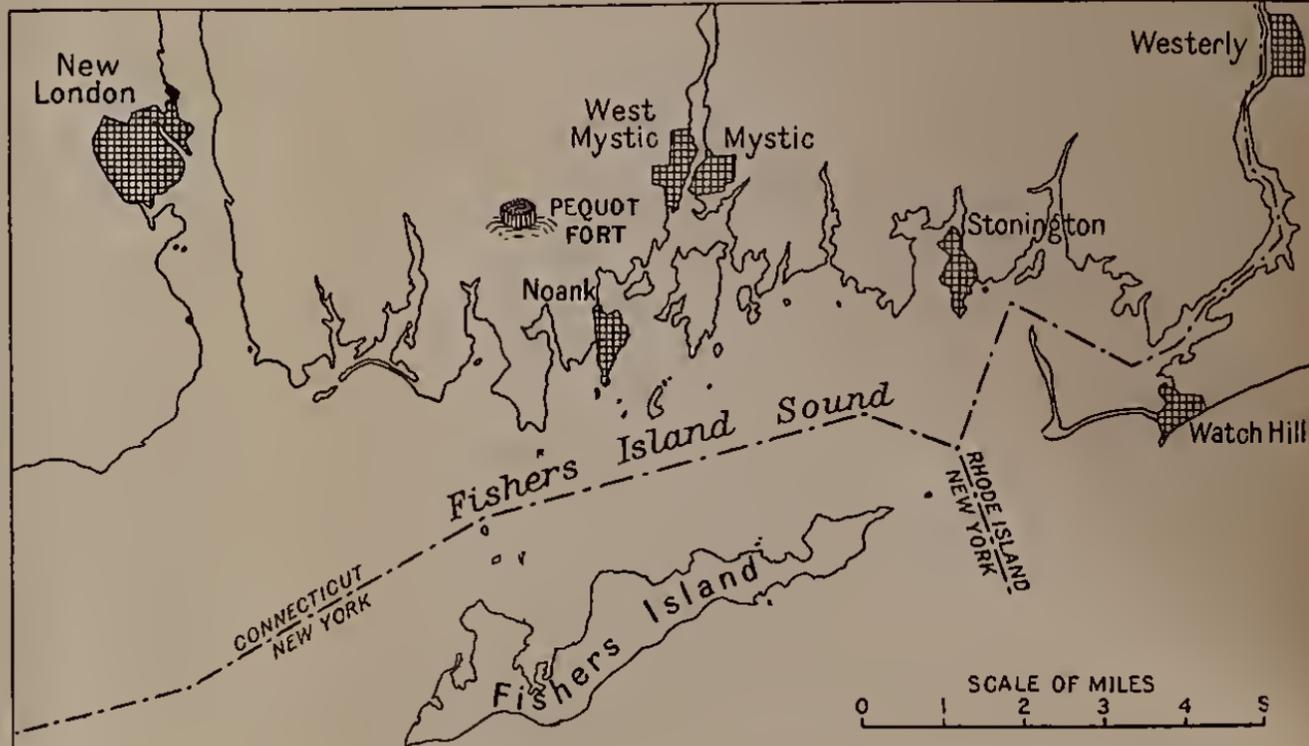
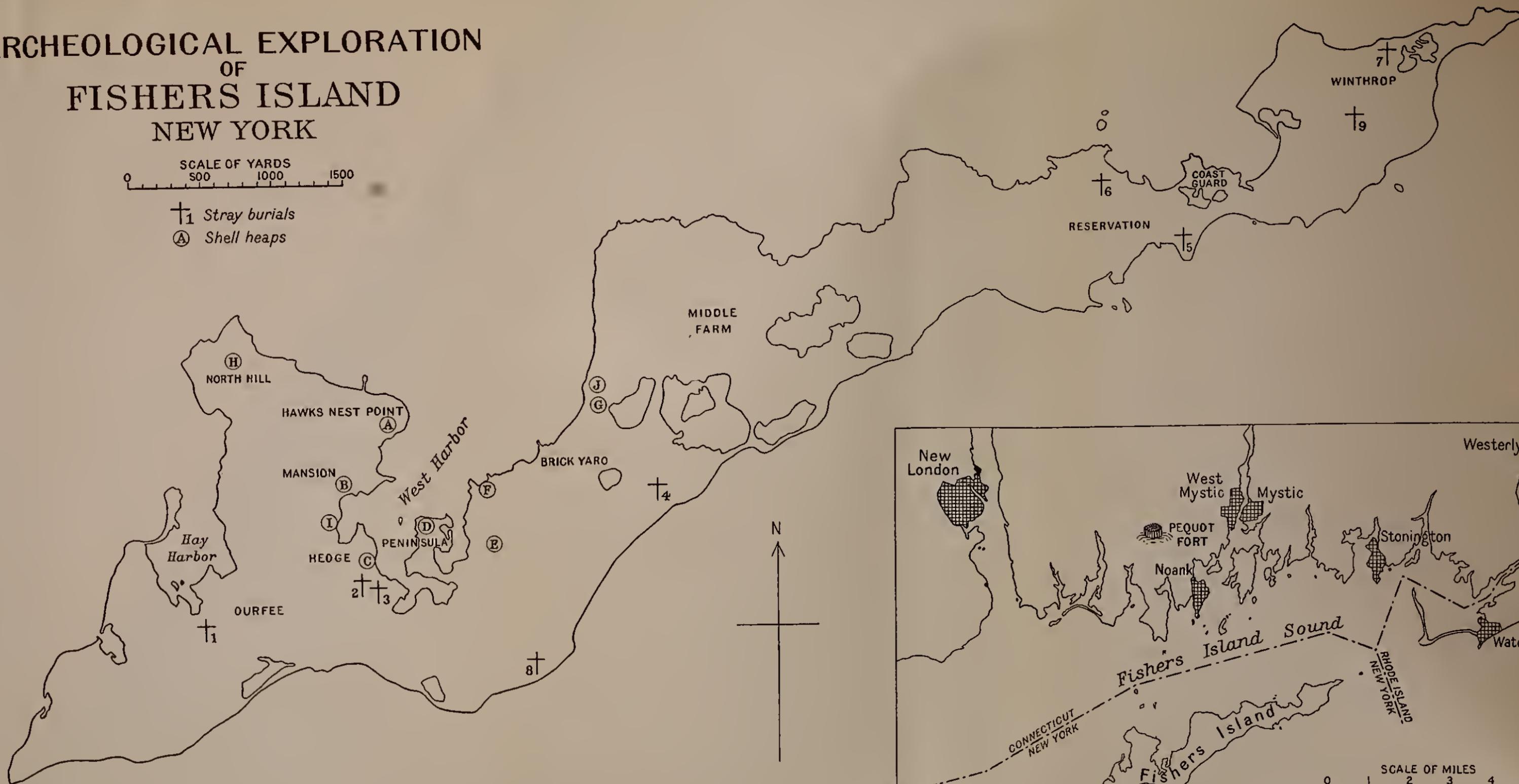
Hawks Nest Point—West Harbor; fragments of stone bowl, stone points and chips.

Peninsula—West Harbor; stone points, limonite pendant, and other specimens; complete list of finds not available.

ARCHEOLOGICAL EXPLORATION OF FISHERS ISLAND NEW YORK



- †₁ Stray burials
- Ⓐ Shell heaps



- Sand Bank—West Harbor; fragments of badly decomposed skeleton, potsherds, crude stone points.
- Wilderness Farm; stone points, potsherds.
- Hill Field—Wilderness Swamp; stone points, potsherds.
- Brick Yard, West—West Harbor; celt, stone points, potsherds.
- Brick Yard, East—near Barlow Pond; stone points over a large area; fragments of stone bowls.
- Beach—Middle Farm—North Shore; grooved axe, hammer stone, stone scrapers, points, and one net sinker.
- Pond—Middle Farm; stone pestle.
- Durfee Meadow; pottery bird's head; grooved axe.
- Chocomount Cove; potsherds, object of metal. The land here has not been plowed.
- Coast Guard Field; fragments of stone bowls, broken stone gorget, stone hoes, points and chips, potsherds, pottery pipe stem, pottery gaming disc.
- Winthrop Fields; celt, hammer stones, stone mortar, points, gouge, and a limonite paint stone.
- Reservation Field; broken banner stone, fragment of stone gorget, stone points, potsherds, pottery pipe stem.
- Grass Pond; stone chips, potsherds.
- Ponds; several good points have been picked up along the edges of the Island's many ponds when the water levels have fallen. In all probability these were used or lost while fishing or hunting.

STRAY BURIALS

have been located from time to time, by accident, in widely scattered locations on the Island. These points are designated by numbered crosses on the map. That burial accompaniments were found with only two of these burials, probably points more to carelessness or disinterest among those excavating rather than to an actual lack of such artifacts. In no instance was any record made of the position of

the skeletons nor of the depth at which they were found. From accounts, all were in shallow graves.

BURIAL NO. 1. This skeleton was found when widening the road near Fort Wright gate. With it were found a fragment of a brass object, a limonite paint cup, and a lead bullet. No record of the position of the skeleton was made by the workmen, who merely gathered up what they happened to see.

BURIALS NOS. 2 & 3. About 1895 two skeletons were dug up by C. W. Hedge while putting in a pipe line. No records were made.

BURIAL NO. 4. While excavating for the cellar of the Walker house, a laborer drove a pick into a skull. This was saved with some of the other bones. A rumor, probably with some truth in it, says that a bead necklace was found. If so, it has not as yet been traced.

BURIAL NO. 5. In 1926, while excavating for the Fishers Island Club, laborers dug into a stone lined grave, and destroyed it before notes or pictures could be made. No artifacts were found.

BURIAL NO. 6. A skeleton, without discernible accompaniments, was found and reburied while grading was in progress at the Reed property on Hungry Point.

BURIAL NO. 7. While constructing the seventh green on the golf course in 1926, a scraper turned up a skeleton in white sand. The skull was lost, having been dumped in the fill before the bones were no-

ticed. With this burial a perforated black stone pebble ornament (pl. IX, *a*) was found.

BURIAL NO. 8. This skeleton, of an adult, was found near the ocean on the south side of the Wilderness Swamp while putting in a pipe line. No artifacts accompanied it.

BURIAL NO. 9. A child's skeleton was uncovered on the high land east of East Harbor while widening the road. No artifacts were found.

SHELL HEAP BURIALS

In two of the shell heaps so far worked, Hedge and Peninsula, complete or partial skeletons were found.

HEDGE. The first burial encountered was exhumed from shells at a depth of 18 in. It proved to be the skeleton of a child of about ten years of age, and was a reburial. The skull was badly crushed, and was placed where the pelvis should have been, facing east. The pelvic, arm, and finger bones were placed where the skull should have been. The leg bones were missing. A bone bodkin was found with this burial.

The next burial was found 2 ft. beneath the surface, and was also a reburial. The bones lay in a fire pit covered by $1\frac{1}{2}$ ft. of shells and 6 in. of topsoil, and reposing upon 1 ft. of ashes and shells. The skeleton was in a flexed position. The skull, though badly crushed, was in proper relation to the spine, facing southeast. The arm bones were laid across

the pelvis, the leg bones being missing. In the stomach position were found the skeletons of two fish and several clam shells. These latter were in pairs showing that the bivalves were whole when placed in position. The scales and bones of the fish were well preserved. Nothing else was found directly with this burial, but within a radius of 2 ft., and within the same pit, bone and stone implements and some potsherds were found.

About 1 ft. nearer the surface and the same distance to the southeast of this burial, another skull was found with parts of the jaw bones missing. No other bones were located.

Four feet southeast of the second burial, and about 3 ft. beneath the surface, on the edge of a fire pit, were found pieces of another skull, the whole of which when restored would measure approximately 5 in. in diameter. In this instance, too, no other bones were found.

Four feet west of the third burial, another reburial was encountered. This skeleton was badly dismembered and broken. The arm and leg bones were missing.

PENINSULA. In the first area uncovered, a burial in perfect condition was exhumed. The skeleton was that of an aged person buried in a flexed position nearly east and west with the skull facing south. No accompaniments of any description were found in connection with the bones.

SHELL HEAPS

The shell heaps on the Island are not large in area, and, except in two instances, lie under about 7 in. of top soil and have an 8 in. average depth of shells, mostly of long clams, badly broken. In these two deposits, the shell layers vary from a few inches to three feet in thickness. In the shell heaps so far excavated, and in the top soil overlying them, not a single article of European manufacture has been found, except where the owner of an adjoining house had buried refuse, though the regular layers of shells and the pits have yielded a variety of Indian artifacts. The locations of the shell heaps are designated on the map by circled capitals.

HAWKS NEST POINT (A). This midden lies at the southern part of a hill near the site of the original camp. It measures 300 ft. long by 70 ft. wide, and runs from high water-mark inland. The surface area was formerly plowed, and the topsoil is, therefore, mixed with small pieces of shell. Excavation was commenced near the road and carried westward, revealing one pit after another, often only a foot apart, and varying in depth from 3 ft. to $4\frac{1}{2}$ ft. Some pits were full of long clam shells, some, of round clams, and two contained only scallop shells. In most of the pits, some oyster and mussel shells were found scattered throughout. No burial was encountered here, but it is possible that graves may be encountered higher up on the hillside. This midden has

yielded so far half of a broken boat-stone, a slate ornament, a celt, hammer stones, sinkers, stone scrapers, bone awls, points, and many potsherds. Fish and deer bones were found throughout, and a piece of moose antler and fish hooks were recovered.

HEDGE SHELL HEAP (C). A fine spring, which is now filled up, furnished water for the camp site which was probably situated on the hill-top north of the deposit. The shell heap lies in a hollow of the hills, and this whole site affords one of the best sheltered places on the Island for camping. The surface soil has been plowed, and as the area has been used for many years as a chicken yard, broken shells and surface refuse abound. Excavations here have been carried on in three separate sections. The entire area opened in Section A approximates 28 ft. square, and 6 in. below the surface, the first layer of shells averaged 8 in. in thickness. From appearances, the deepest parts of this midden, except for three or four pits, appear to follow the contour of the ground, which slopes gradually and is clearly not dug. In the autumn of 1933, at a depth of 5 ft., beneath two distinct deposits of shells, and in 5 in. of yellow sand, a skeleton of a seal, minus the skull, was uncovered. A bone harpoon point (pl. XIII, *n.*) was found among the bones. Near it was found the boat-stone shown in pl. IX, *b.* This section of Hedge has yielded potsherds, occasional arrow points and hammer stones, and bone needles and awls.

Section B, an area about 12 ft. by 44 ft., lies 35 ft. northeast of A, at the base of the hill slope, and a road has covered this deposit for years. As new cement pavement was to be laid, digging in this area was pushed with all haste. Shells were encountered at a depth of 4 in. and continued downward for about 3 ft. Several pits were found, all about 3 ft. in diameter and 4 ft. in depth. In one section where mussel shells abounded, about three-quarters of a jar, shown restored in the frontispiece, was found. Potsherds, pieces of stone pipe bowls, a gaming stone, bone awls and pins, and several stone mortars were found among the shell layers. Some of the pottery pieces had disintegrated and could not be saved.

Section C was opened due northward from the center of B for 20 ft. at a width of 10 ft. For half the distance the average depth of the topsoil was 8 in. Beneath this, the shell stratum measured about 16 in. with 4 in. of underlying ash. Early in the digging, a pit measuring $4\frac{1}{2}$ ft. by 3 ft. deep was located, though nothing was found in it save a few potsherds and some animal bones. The earlier laying of a pipe line had ruined much of the structure and contents of this pit. Between two boulders on the western boundary of the excavation, another fire pit was located and opened. This section has yielded a bone bead, bone awls, a slender pestle-like stone, a broken, badly decomposed, ornamented pot and a clam shell dipper (pl. XI, g.).

BRICK YARD—EAST (G). This shell heap lies in a hollow about 75 yds. from Barlow Pond, and the entire area from about 200 yds. south and west has furnished surface finds. This is a small deposit, measuring only 100 ft. by 25 ft. Two pits and no burials were found in it. About 8 in. of top soil covers the layer of shells which varies from 1 in. to 4 in. in depth. Only a portion of this heap has been searched and has yielded a shell spoon, a broken bone fish hook, bone awls, hammer stones, arrow points, and a crude axe. Broken pottery, in useless fragments, and the usual quantities of animal bones were found throughout.

PENINSULA (D). About 5 in. of top soil covers this deposit, and a spring is located at its southern edge where the marsh commences. It was in the first section dug, an area about 8 ft. by 5 ft., that the undisturbed burial was found. Twenty feet east of this excavation another pit was started before work was discontinued for the winter. The shell heap measures 30 ft. by 60 ft., and has an average depth of 2 ft. from the surface. Arrow points, a graphite paint stone, and potsherds were found.

BAY VIEW (B). This deposit lies at the water's edge, and has an area of 150 ft. by 90 ft., and only one pit has been excavated. The topsoil was mixed with shells to a depth of 12 in. beneath which an 8 in. layer of shells was found. Beneath this was a stratum of yellow dirt about 6 in. thick, and below, shells continued downward for more than 2 ft. In

fact, the layer was not dug through. The shells of the lower deposit were nearly all those of long clams, their interiors browned as from roasting. This is the only shell heap yet found with a thick stratum of these unbroken and scorched shells. Stone chips and potsherds were encountered throughout.

Five additional shell heaps have been located, but remain as yet untouched. They are Holmes (E), Brick Yard—West (F), North Hill (H), Mansion House Field (I), and Barlow (J).

DESCRIPTION OF ARTIFACTS

ARTICLES OF STONE

Axes. There have not been many axes found, and those that have been recovered are all of the completely grooved type. Representative ones are shown on pl. v. The best one (*c*) is finely finished and is $9\frac{3}{4}$ in. long, with a circumference of $10\frac{1}{2}$ in. about the ridge nearest the cutting edge. This was found near the entrance of Hay Harbor. It weighs $6\frac{1}{4}$ lbs. and is made of a claystone porphyry. Two comparable axes have also been found. These are not available for measurement or description. One crude grooved axe (*a*) was found on the beach at Middle Farm, on the north shore of the Island. Those shown as *b* and *d* are of different form.

Banner Stone. The half of a black basalt banner stone of the bipointed type, with large transverse

perforation (pl. IX, *i*) similar to the type found in the Ohio valley, came from Reservation Field.

Boat Stones. In one of the pits opened in Hawks Nest Shell Heap a fragment of a broken slate boat stone was recovered (pl. IX, *j*). This shows no evidences of perforation. Another fragment (*b*) of a steatite one was found at Hedge Shell Heap. It has two perforations, one at the end and one on top; next to the latter, on the broken edge, are traces of a third one, and on the concave side the start of still another is in evidence. On the top it has been scored with several incised lines.

Celts. One good celt (pl. VI, *d*) was found on the surface at Brick Yard—West. This measures $3\frac{5}{8}$ in. in length and has a circumference of $3\frac{5}{8}$ in. A small but perfect implement (*e*) of this type was found on the surface of the high ground to the south of the present eighth green of the golf course—old Winthrop Fields. Both of these specimens are of the petaloid type. The cutting edges of two broken celts were excavated near the second burial exhumed from Hedge Shell Heap. Another celt, a stone with natural depressions on the sides and with a well worked edge, was recovered from Hawks Nest Shell Heap.

Chipped Points. Plates I, II, and III depict types of arrow and spear points, knife blades, scrapers and perforators, of shapes and materials similarly used on the adjacent mainland. Many were recovered as surface finds from Hawks Nest Point; Peninsula—

West Harbor; Sand Bank—West Harbor; Wilderness Farm—Hill Field; Brick Yard—West; over a large area at Brick Yard—East; on the beach at Middle Farm (yielded over two hundred); Coast Guard Field; Winthrop Fields; Reservation Field; and from the banks of several ponds at low-water level.

Close to the second burial uncovered in Hedge Shell Heap, a small point was found with the broken celts and bone awls. These were about 2 ft. under the surface among the shells. Other points were also found during the digging at Hedge. A few points were recovered from shell layers at Brick Yard—East and one point from Peninsula Shell Heap.

Chips have been found in quantities on the surface at Hawks Nest Point, Coast Guard Field, on elevations near Grass Pond, east of the golf course, and in the shell deposit at Bay View.

Dishes. Fragments of a soapstone dish were found with many arrow points and chips on the surface of the high ground above the shell deposit at Hawks Nest Point. Other fragments of similar steatite bowls have been found on the East Brick Yard Field and on the Coast Guard Field.

Gaming Stone. One flat, circular stone (pl. VI, *b*), of the type sometimes referred to as "chunk stones," was obtained at Hedge Shell Heap. This has been fashioned from an irregular slab of stone and shows no evidences of finishing on its flat surfaces.

Gorgetts. Only three fragments of stone gorgets have been found. One of sandstone (pl. IX, *d*) shows,

besides part of a perforation, two incised lines. This specimen comes from the surface of Coast Guard Field. Another one (*f*) of slate, also showing a perforation, was picked up on Reservation Field. The third fragment (*h*) is well finished and of a hard stone and was found in Hedge Shell Heap.

Gouge. Only one gouge has been found, and this a small one (pl. VI, *a*). The hollowing is but slight and starts about half-way down the blade. The cutting edge is sharp and shows considerable use. It is a crudely finished specimen, the pecking marks showing on the back of it. An unusual feature is that secondary chipping shows along one edge. It was found close to the eighth golf green near Winthrop House.

Grinding Stones. A few of this type of artifact were recovered, by far the most interesting being the one shown on pl. VII, *b*. Unfortunately, this specimen has been broken and part is missing. It is grooved on both sides, the depression shown being $2\frac{1}{8}$ in. wide and $\frac{7}{16}$ in. deep, while the one on the opposite side is $1\frac{3}{8}$ in. wide and $\frac{1}{8}$ in. deep. It was in all probability used in finishing pestles.

Another unusual grinding stone is depicted on pl. VI, *g*. It shows much use all over, and two surfaces (on the left) are so worn that they almost form a cutting edge where they meet.

Hammer Stones. A single hammer stone was found with other stone implements on the beach at Middle Farm. Several more have been recovered as

surface finds on Winthrop Fields during construction work on the golf course. A variety of hammer stones were found scattered through all the sites in Hawks Nest, Hedge, and Brick Yard—East Shell Heaps.

Hoes. The only hoes as yet collected are four in number, three of which are shown in pl. iv. Two, (*a.* and *c.*) were surface finds in a section of Coast Guard Field, situated at the narrow neck of the island, near its eastern point. The largest one (*a*) 10½ in. long, shows no evidence of having been used, while the other two do so to a slight extent; (*c*) is of the wide-blade, narrow-top type, the most convenient for hafting. The hoe not shown is also of this type. A great part of their surfaces have disintegrated, probably due to sand-blasting. That illustrated in pl. iv, *b* was found in Section B of Hedge Shell Heap.

Mortars. A small, flat mortar was found on the surface with other stone artifacts near the present eighth golf green, originally Winthrop Fields. Another has a depression on both sides. That shown on pl. viii is $\frac{7}{8}$ in. deep, and the other $\frac{1}{2}$ in. This and several crude mortars have been recovered from Hedge Shell Heap.

Paint Cup. A limonite paint cup (pl. vi, *c*) was found with Stray Burial No. 1 near the gate to Fort Wright. The cup rested on a fragmentary brass ornament. The edge of the concretion has been ground smooth, as has also a projection on its base.

Paint Stones. Paint stones of both limonite (pl. IX, *e*) and graphite (*c*), showing much usage on their surfaces, have been frequently met with.

Pendants. An irregular, flat, black slate pendant (pl. IX, *g*), with a biconical perforation and the beginning of another adjacent to it, came from the shell heap at Hawks Nest Point.

Another pendant of a small natural pebble (pl. IX, *a*), also with a biconical drilling, was an accompaniment of Stray Burial No. 7.

A triangular shape limonite pendant was a surface find southeast of the peninsula in West Harbor. It measures $\frac{3}{4}$ in. wide at the perforated end, and is 1 in. long, with a thickness varying from $\frac{1}{32}$ in. to $\frac{1}{16}$ in. The perforation is $\frac{1}{16}$ in. in diameter and is of the biconical type. One surface is quite smooth, the other shows where it was split from a larger piece and then worked down by grinding. The edges have been worked down to shape.

Pestles. An artifact that might be classed as a pestle is a slender stone rod, $10\frac{1}{8}$ in. in length and having a circumference of $8\frac{7}{16}$ in. (pl. VII, *a*). This was recovered during low water on the edge of Middle Farm Pond. Both ends show much use, but the sides have not been worked. Several other broken pestles have been found in shell heaps or elsewhere.

Pipes. A fragment of soapstone pipe bowl, with cross-hatched decoration, was found in Hawks Nest

Point Shell Heap. Parts of two other pipe bowls have also been uncovered in Hedge Shell Heap.

Scrapers. Small scrapers are shown on pl. I, *a, b*, and a large one, probably used in skin dressing, is pictured on pl. III, *a*. The objects *b* and *c* on the same plate might have also seen use as scrapers, but more probably they are unfinished blades. Drill points are depicted on pl. II, *a, b*, and the larger type of perforator on pl. II, *c* and pl. III, *d*.

Sinkers. Several natural stones grooved for use as net or fish-line sinkers (pl. VI, *h, i*) were recovered from the various shell heaps. These vary in size from $2\frac{3}{8}$ in. in diameter to $1\frac{1}{16}$ in. and are the type common to the New England shore districts. One notched net sinker (pl. VII, *c*) and another of similar type have been found.

Smoothing Stone. The only one recovered is illustrated on pl. VI, *f*. All surfaces show wear, particularly the ends. This was found in the Hedge Shell Heap.

OBJECTS OF BONE

Awls. Many examples of so-called awls have been recovered from the shell heap excavations. These seem to fall into three classes: the flat, perforated type (pl. XII, *i, j, k, l, m, n, o, p, q*); the heavy type (pl. XIII, *d, e*); and the pick-like type (pl. XIII, *f, g, h*). These latter are made from cracked bone, the point having been sharpened and the sides smoothed by rubbing. They are too small and delicate to have

been used for drilling and were, possibly, implements for picking out the flesh from shellfish.

The perforated type does not have the appearance of being strong enough for drilling in most instances. Of the nine found, only one could be used practically for this purpose; the others, too, appear to be better suited for picks or forks for eating purposes. The perforation was probably used for a thong, to enable it being attached to a belt or part of the clothing.

Three awls, in good condition, were found near the second burial discovered in the Hedge Shell Heap, about 2 ft. under the surface; and perforated and plain awls have been recovered from other sections of this area, a great number from Section B. Some awls were found in each pit in the Hawks Nest midden.

Seven awls, of fine workmanship and in excellent condition, were found in the shell layers at Brick Yard—East. Three were of the perforated type and the rest, ordinary sharpened bones.

Arrow Points. One arrow point, made from the toe bone of a deer (pl. XII, *d*) and one of antler (*c*), were recovered from Hawks Nest Shell Heap. Another arrow point, fashioned from a bird bone (*b*), is interesting on account of the well shaped barbs on its base.

Beads. A bone bead (pl. XIII, *k*) measuring $1\frac{5}{8}$ in. in length was found in Hawks Nest Shell Heap. Two others (*i*, *l*) were recovered from Section C in Hedge Shell Heap. In the same area, two bones

showing marks of circular cutting were also found. These, probably, were discarded in the process of bead manufacture. Two beads (pl. XII, *e*), made from fish vertebrae, were recovered from Hawks Nest Shell Heap.

Bodkins. One bodkin of the usual type, made from the ulna of some member of the deer family, is shown on pl. XIII, *o*. The fragment of a flat bodkin was found in the Hedge Shell Heap.

Fish Hooks. Three bone fish hooks, two perfect, the other broken by the trowel (pl. XII, *f, g, h*) were found, the entire ones in the shell deposit at Hawks Nest Point. These are nearly identical in shape, and each has a groove in which the line could be fastened. The broken one was recovered from Hedge Shell Heap.

Fish-hook Barb. Only one bone barb (pl. XII, *a*), of the type attached to a piece of wood or bone, has been found. A small groove for lashing purposes may be seen on the lower end.

Harpoon Point. The harpoon point (pl. XIII, *n*), found at a depth of 5 ft. among the bones of the seal burial in Section A at Hedge Shell Heap, is the remnant of what, originally, was a longer point, as is shown by the re-cut base. It presents two barbs on one side. A fragment of another is shown, *m*.

Knife Handle. A well shaped and preserved tool handle of antler (pl. XIII, *j*), probably for a knife, was discovered at Hedge Shell Heap.

Pins. Three bone pins were found in Hedge Shell Heap. One, $5\frac{7}{16}$ in. in length, has an oblong head, on which a cross-hatched design is carved (pl. XIII, c). The second (a), $6\frac{1}{8}$ in. long, was made from a deer bone and is not ornamented. The third, (b), $6\frac{5}{16}$ in. in length, is without any head, well tapered to a sharp point, and has three grooves near its base.

Scraper. A bone skin scraper (fig. 1.), broken at both ends, was found in Hedge Shell Heap. This was made from the rib of a member of the deer family. One side was worked down to an edge about as sharp as a paper cutter, the other being left natural.

POTTERY

Bead. A fragment of a crude, barrel-shaped bead (pl. XI, e), $1\frac{3}{4}$ in. long, was obtained at Hedge Shell Heap.

Bird's Head. Probably in some ways the most interesting specimen yet met with is the pottery head

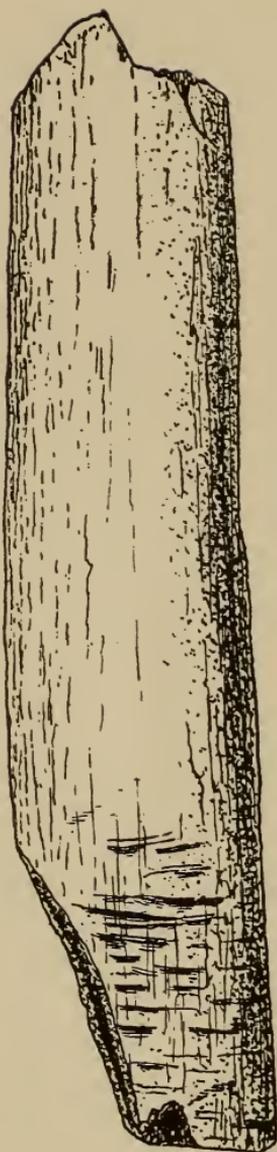


FIG. 1.

of a crested bird (pl. XI, *a*). This is of a brown pottery and highly polished by much rubbing. Though still showing a trace of a break at the rear end, the base has been carefully ground off. It is without doubt the handle from the rim of a bird-type bowl, such as is often met with in the southeastern part of the United States. By comparison of form, clay, and finish with other specimens in this Museum, it is certain that its origin was in the Tennessee Valley. It is $1\frac{7}{16}$ in. high and was discovered north of the Durfee Meadow.

Gaming Disc. One pottery gaming disc (pl. XI, *d*), $1\frac{3}{16}$ in. in diameter, was found on the surface at the ancient camp site near the Coast Guard Station.

Jar. About three-quarters of an Iroquoian-type vessel (frontispiece) was recovered by Mr. Harold J. Baker from Section B of Hedge Shell Heap, and presented by him to the Museum of the American Indian, Heye Foundation (catalogue number 18/7403). This is a fine specimen, and is shown fully restored. It measures $12\frac{1}{2}$ in. in height and is 11 in. wide at its greatest circumference. It has four points on the rim with nodes in front of them made by pinching the clay, when soft, between the thumb and forefinger. Below the rim is an incised decoration of lines and dots, and a band of the same at the lower part of the neck. The entire lower part of the jar has a paddled decoration of a twisted cord type, probably made by wrapping a string about a wooden paddle. It is of a uniform dark brown color and, from the evidence of

carbon attached to it in places, was undoubtedly used as a cooking pot.

Pipe Stems. Pottery pipe stems, two in number, (pl. XI, *b, c*) were recovered from the Hedge Shell Heap. Two other pipe stems were found on the surface at the Coast Guard and Reservation Fields.

Potsherds (pl. X) have been found at many points on the surface of the Island and have been recovered from practically every shell heap. All of this pottery was so badly broken or scattered as to make any, save small restoration impossible. Most of the sherds found were well fired and are of good quality. Two colors predominate, a reddish brown and a slaty black, but some of dark brown are also met with. Some few pieces of vessel rims show typical Algonkian and Iroquois types of incised and punctate ornamentation, as may be seen by referring to the illustration. The Algonkian type predominates, by a rough estimate, two to one. Plate X, *a, b, d, j, k* and *l* show sherds of this culture, and *c, e, f, g, h,* and *i,* those from the Iroquois.

ARTICLES OF SHELL

Dipper. A large clam shell (pl. XI, *g*), worked considerably on its edge, was probably used as a food stirrer, the side of the pot wearing the edge away. It would naturally be used as a dipper. It was unearthed in the southeastern corner of Section C of Hedge Shell Heap.

Spoon. A spoon fashioned from a conch shell (pl. XI, f) was found at Brick Yard—East Shell Heap. This measures $3\frac{1}{8}$ in. in length.



FIG. 2.

ARTICLES OF METAL

Bullet. A leaden bullet, much misshapen, was an accompaniment to Stray Burial No. 1.

Ornaments. A perforated object of metal (fig. 2), $4\frac{5}{16}$ in. in length, was found on a sandy hillside near the Goodwin place on Chocomount Cove. It is made of brass, having been fashioned from some utensil of European manufacture, probably one of the brass kettles so commonly traded to the Indians in Colonial days. The perforation has not been drilled but has been punched out, thus casting doubt as to its aboriginal origin as an ornament.

The fragments of a badly decomposed brass ornament were found with Stray Burial No. 1, near the gate at Fort Wright. It lay among the bones on a fragment of bark, under a small stone paint cup. This object was also probably made from a brass utensil, as on one side of it there is still adhering to it some lead solder.

CONCLUSION

Until further research is accomplished, it is not advisable to express definite ideas as to results thus far. From the preliminary work done, there arise, however, several striking points, mostly of a negative character. One of the most interesting is the almost complete lack of relics showing contact with the white settler. With the exception of the two objects made from fragments of brass kettles (one of them from the surface, and, possibly, not used by the Indians), and the bullet, nothing has been recovered of Colonial origin.

It should be borne in mind that until 1644 the Indians inhabited the Island. In that year John Winthrop, Jr., completed his purchase and moved there. It is not conceivable that he would allow Indians in any number to live on the Island, because of fears for his family's safety in so isolated a location. The year 1644, therefore, was probably the last date that the camp sites could have been used as such by Indians. We know from records that in later years some Indians were employed as laborers. These most likely, lived in houses furnished by their employers.

It is doubtful if anything new of Indian workmanship has been discovered on Fishers Island, with the possible exception of the pestle grinder. Probably the three pins, the broken boat stone, the pottery bird's head, and the harpoon are of most interest.

The varieties of awls show three types and most certainly were not all used for drilling.

A marked scarcity of ordinary shell beads and personal ornaments is noticeable, due undoubtedly to the fact that but a few scattered and unrecorded burials, and some reburials, have been unearthed. There is probably an Indian cemetery somewhere on the Island. When this is discovered, much more will be learned of its ancient inhabitants.

Many deer bones and the remains of other animals have been found. In the sea, fish and shell fish abounded, and birds were plentiful, so that the Indians did not have much labor in supplying their needs. Whether the Island was used only in the summer months, or whether the Indian inhabitants lived upon it all the year, cannot be definitely proven at the present time.

IDENTIFIED BONES

A large assortment of the bones and teeth that have been found while exploring the shell heaps, whether in the top soil or in the shell deposits themselves, was sent to the American Museum of Natural History for identification. The following list has been identified by Mr. G. G. Goodwin, Assistant Curator of Mammals.

ANIMALS

Beaver	Castor canadensis (Kuhl)
Deer (Virginia)	Odocoileus virginianus (Boddaert)
Dog (Domestic)	Canis familiaris

Fox.....	<i>Vulpes fulva</i> (Desmarest)
Mink.....	<i>Mustela vison</i> mink (Peale and Beauvois)
Moose.....	<i>Alces americana</i> (Clinton)
Muskrat.....	<i>Ondatra zibethica</i> (Linn.)
Otter.....	<i>Lutra canadensis</i> (Schreber)
Ox (Domestic).....	<i>Bos domestica</i>
Pig (Domestic).....	<i>Sus scrofa domestica</i>
Porpoise.....	Sp. (?)
Seal (Harbor).....	<i>Phoca vitulina concolor</i> (De Kay)
Sheep (Domestic).....	<i>Ovis domestica</i>
Woodchuck.....	<i>Marmota monax</i> (Linn.)

BIRDS

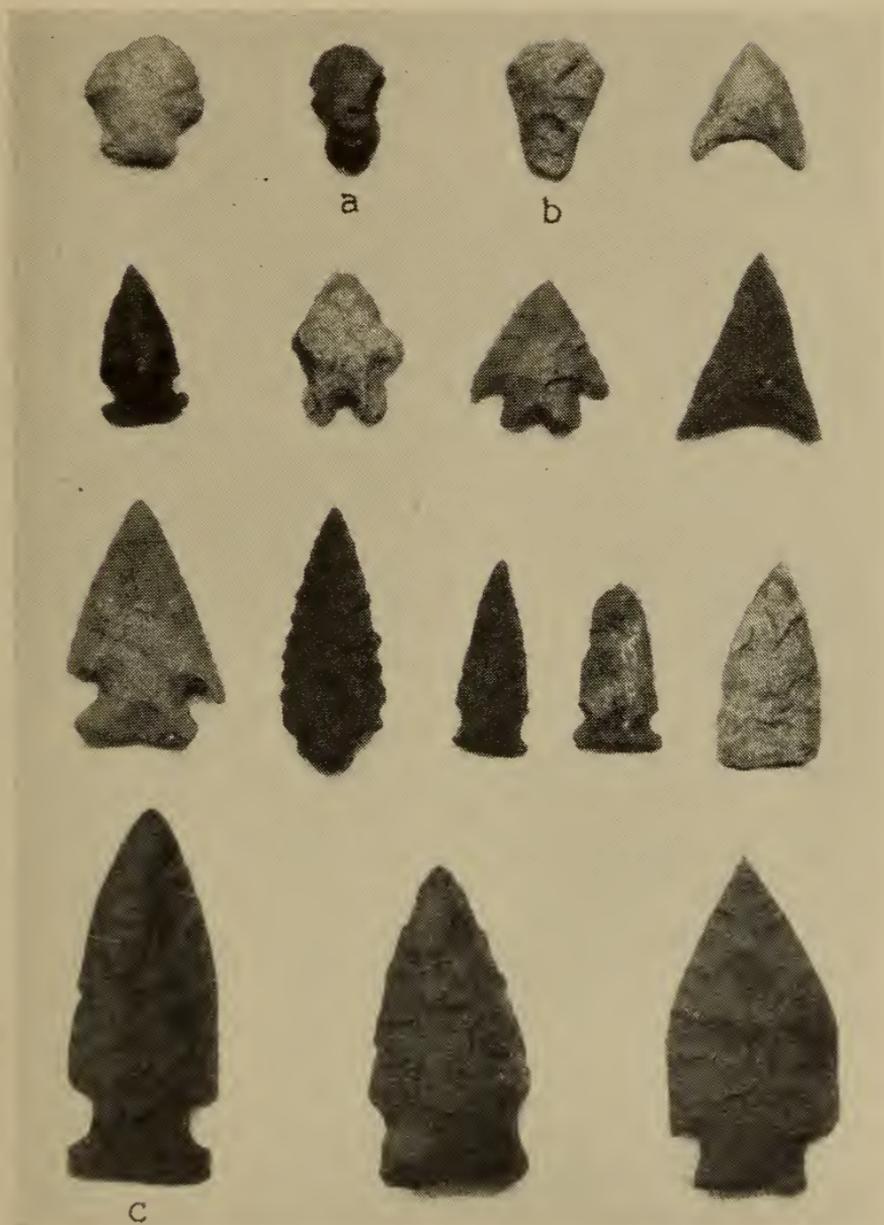
Duck (Golden eye).....	<i>Clangula clangula</i> (Linn.)
Duck (Scoter).....	<i>Oidemia</i> sp. (?)
Eagle (Golden).....	<i>Aquila chrysaetos canadensis</i> (Linn.)
Black Brant.....	<i>Branta nigricans</i> (Lawr.)
Goose (Canada).....	<i>Branta canadensis canadensis</i> (Linn.)
Lesser Snow Goose.....	<i>Chen hyperborea hyperborea</i> (Pallas)
Grouse (Ruffed).....	<i>Bonasa umbellus umbellus</i> (Linn.)
Gull.....	<i>Lavus</i> sp. (?)
Loon.....	<i>Gavia immer immer</i> (Brunnich)
Merganser (American).....	<i>Mergus merganser americanus</i> (Cassin)

FISH

Black Fish (Tautog).....	<i>Tautoga onitis</i> (Linn.)
Dog Fish (Spined).....	<i>Squalus acanthias</i> (Linn.)
Shark (Sand).....	<i>Carcharias littoralis</i> (Mitchell)
Sheepshead.....	Sparidae

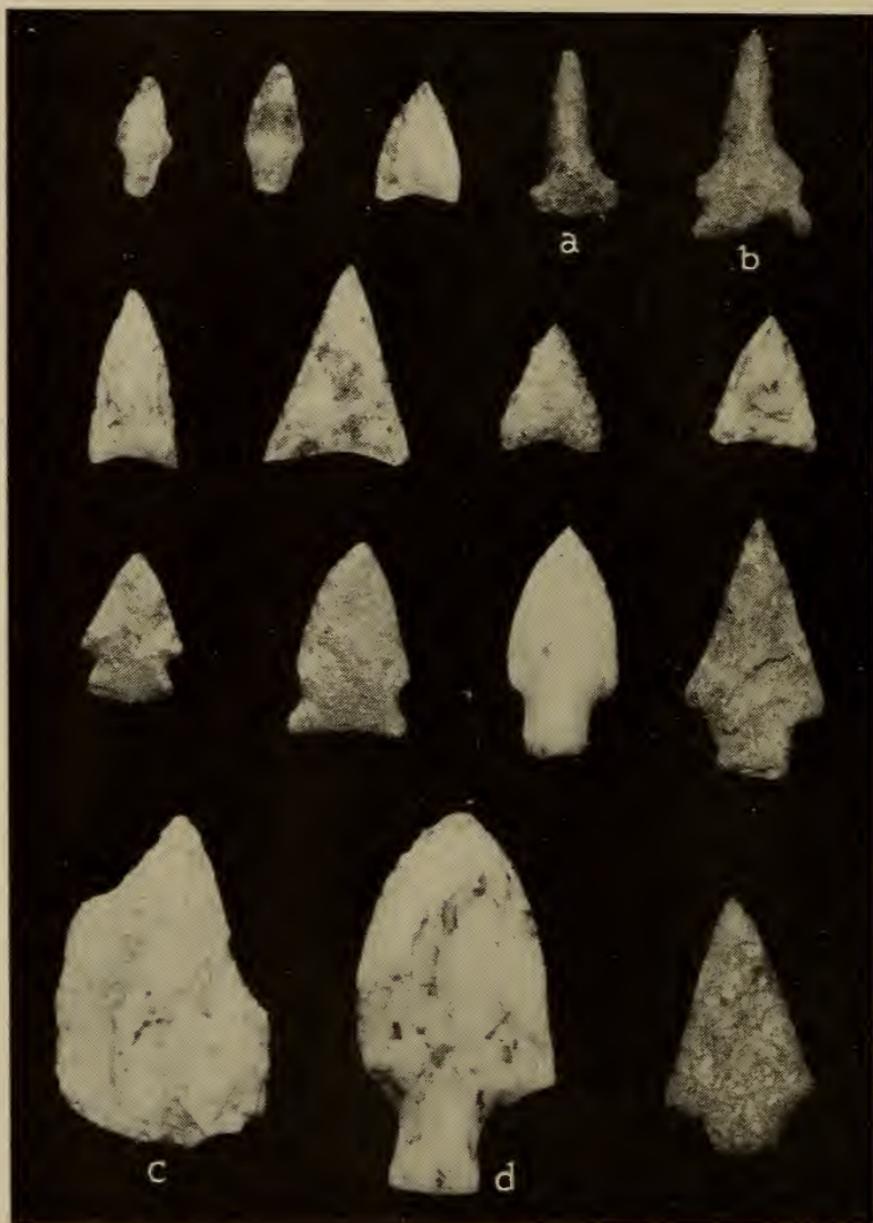
REPTILES

Turtle (Painted).....	<i>Chrysemis picta</i> (Schneider)
Turtle (Snapping).....	<i>Chelydra septentina</i> (Linn.)



ARROW POINTS, SCRAPERS, AND SPEAR POINTS,
OF STONE

Length of c, $3\frac{1}{8}$ inches



ARROW POINTS, PERFORATORS AND KNIFE BLADES
OF STONE

Length of *d*, $3\frac{1}{4}$ inches



a



b



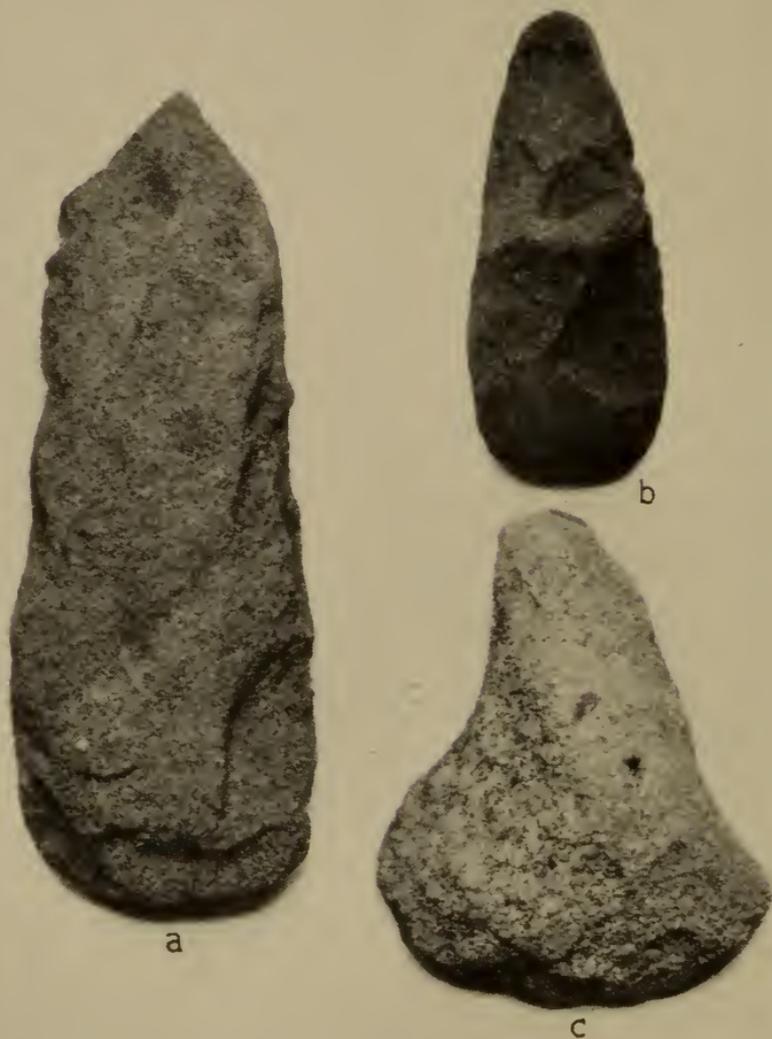
c



d

SPEAR POINTS AND SCRAPERS OF STONE

Length of *b*, $5 \frac{9}{16}$ inches



STONE HOE BLADES

Length of *a*, 10½ inches



a



b



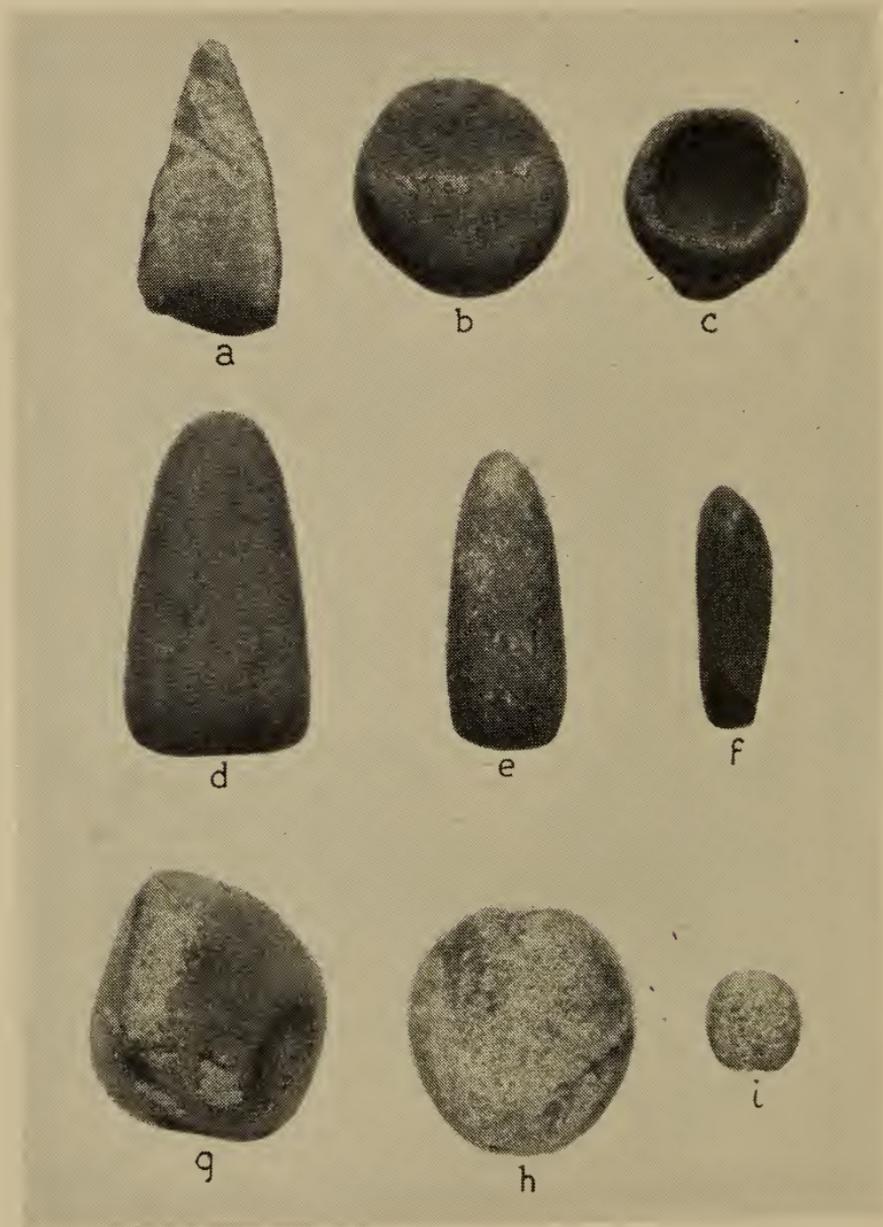
c



d

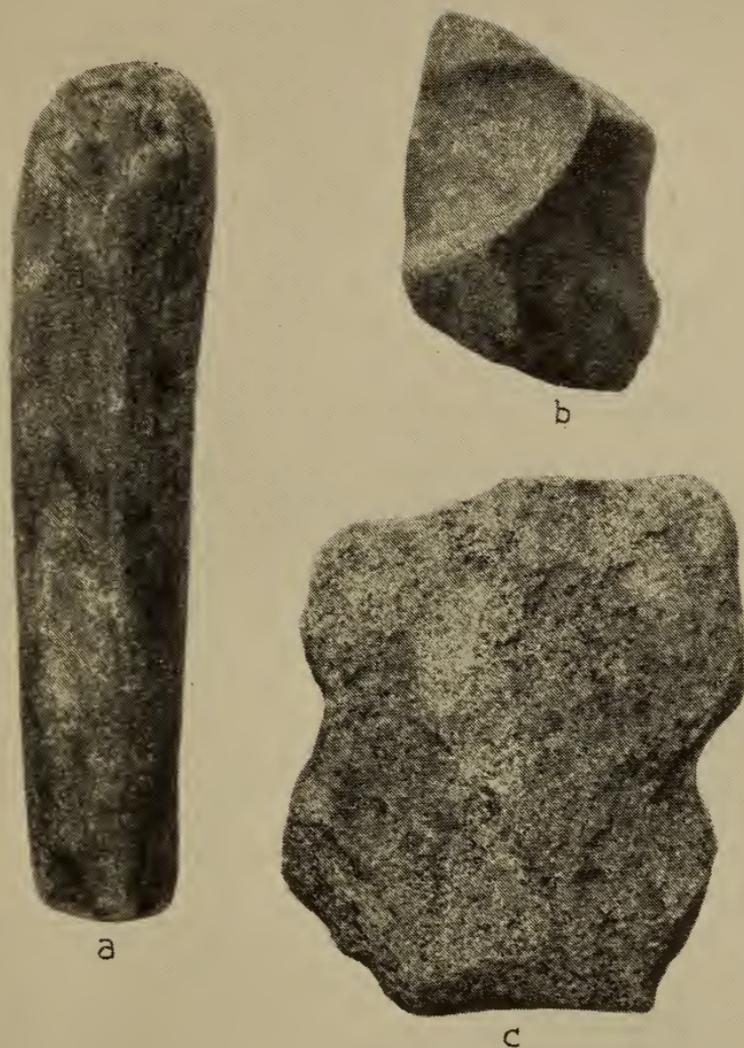
GROOVED STONE AXE-BLADES

Length of c, $9\frac{3}{4}$ inches



VARIOUS OBJECTS OF STONE

Length of *d*, $3\frac{5}{8}$ inches



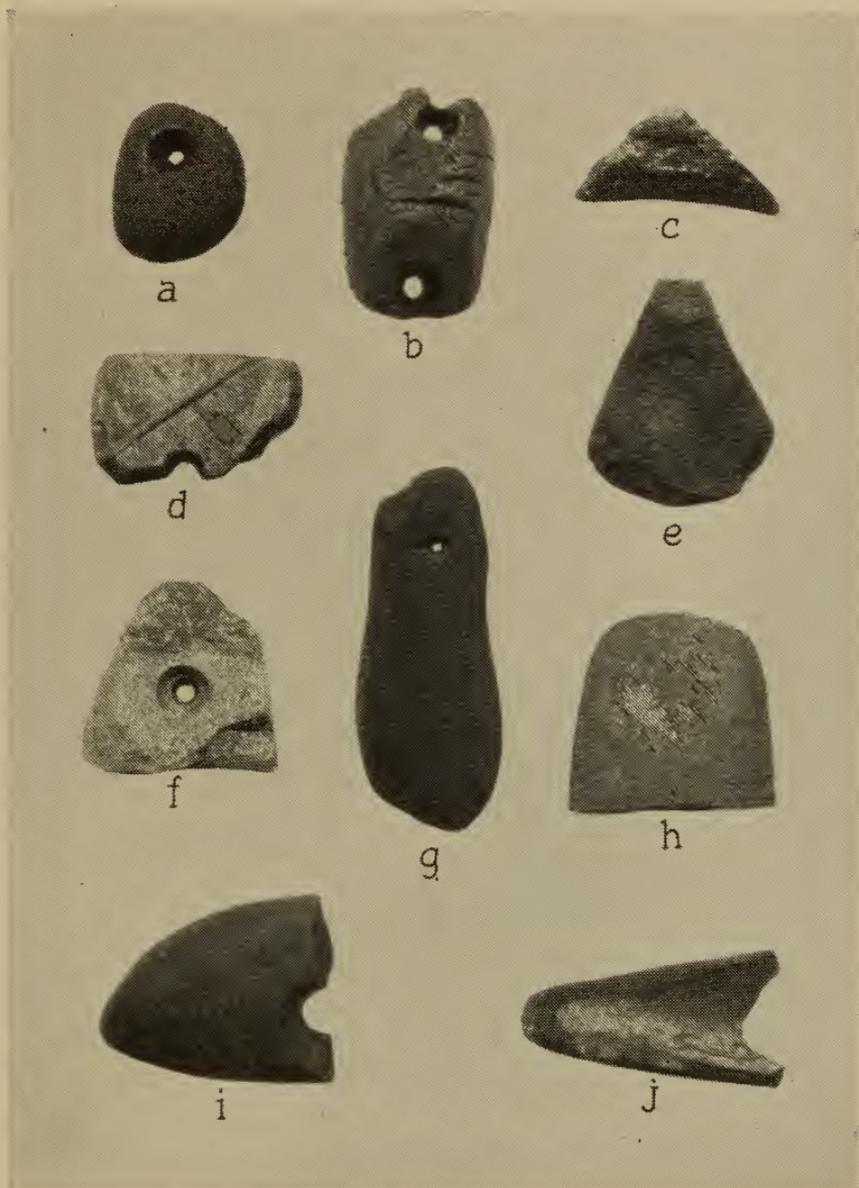
PESTLE, GRINDER AND NET SINKER OF STONE

Length of *a*, $10\frac{1}{8}$ inches



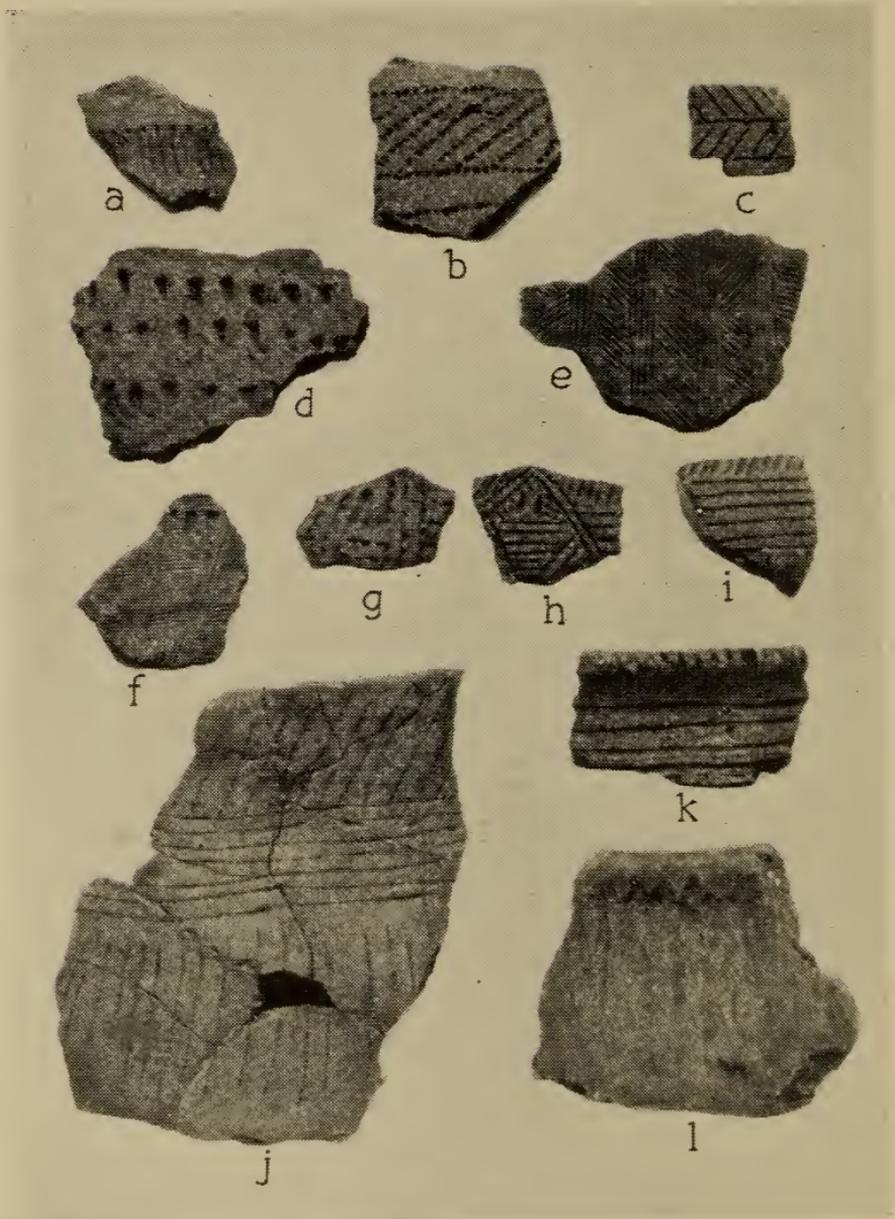
MORTAR OF STONE

Length, 10½ inches

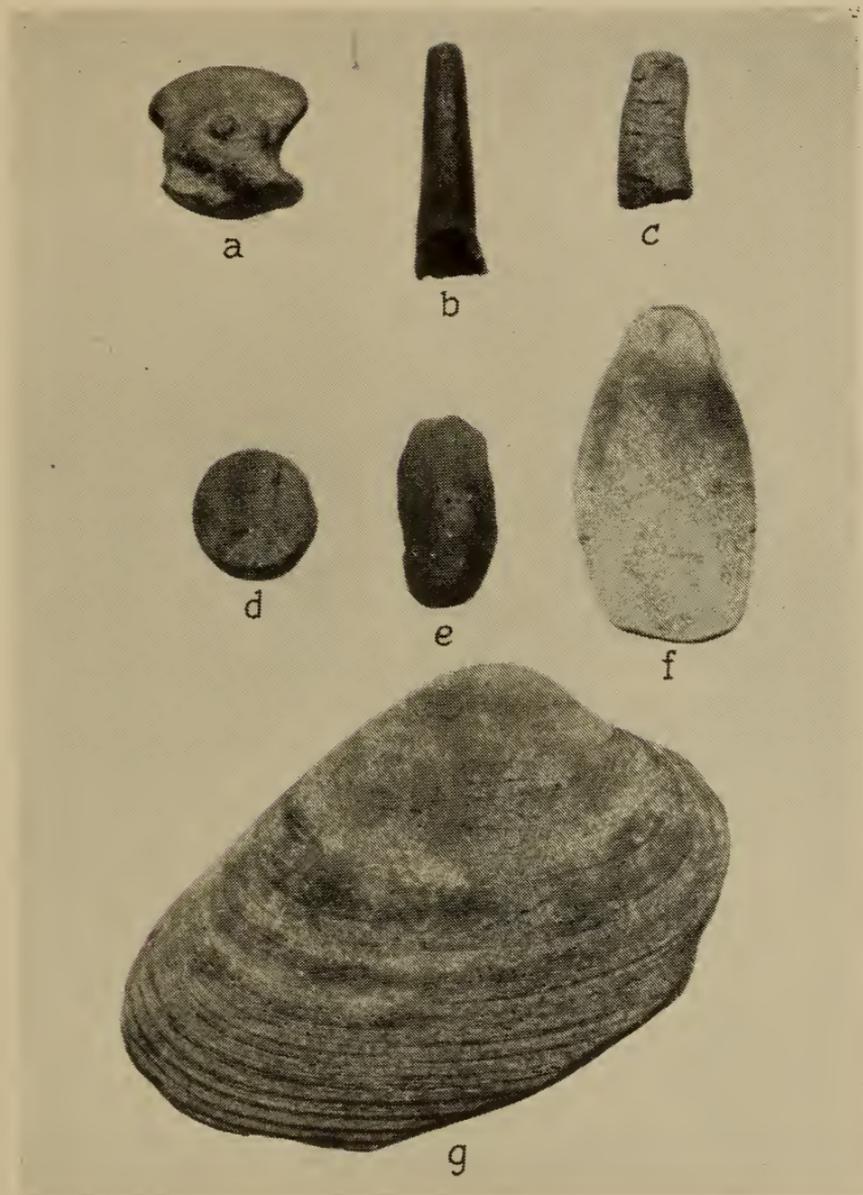


VARIOUS OBJECTS OF STONE

Length of *g*, $2\frac{11}{16}$ inches

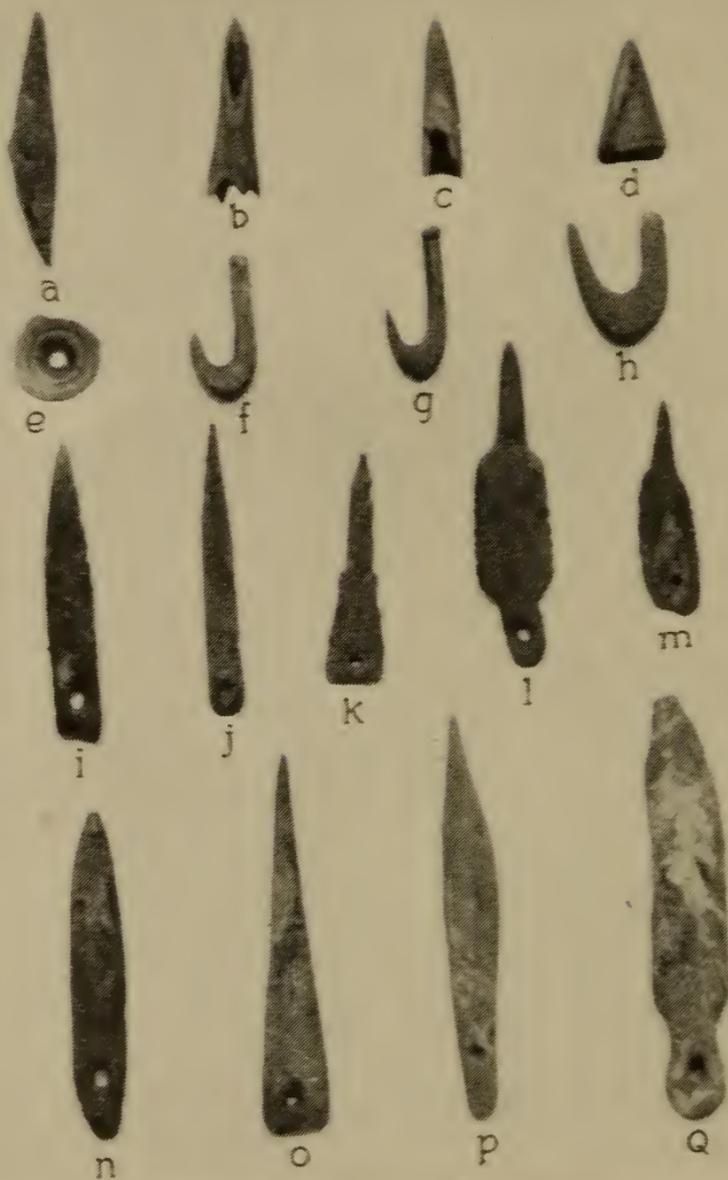


POTSHERDS
Height of *j*, 4½ inches



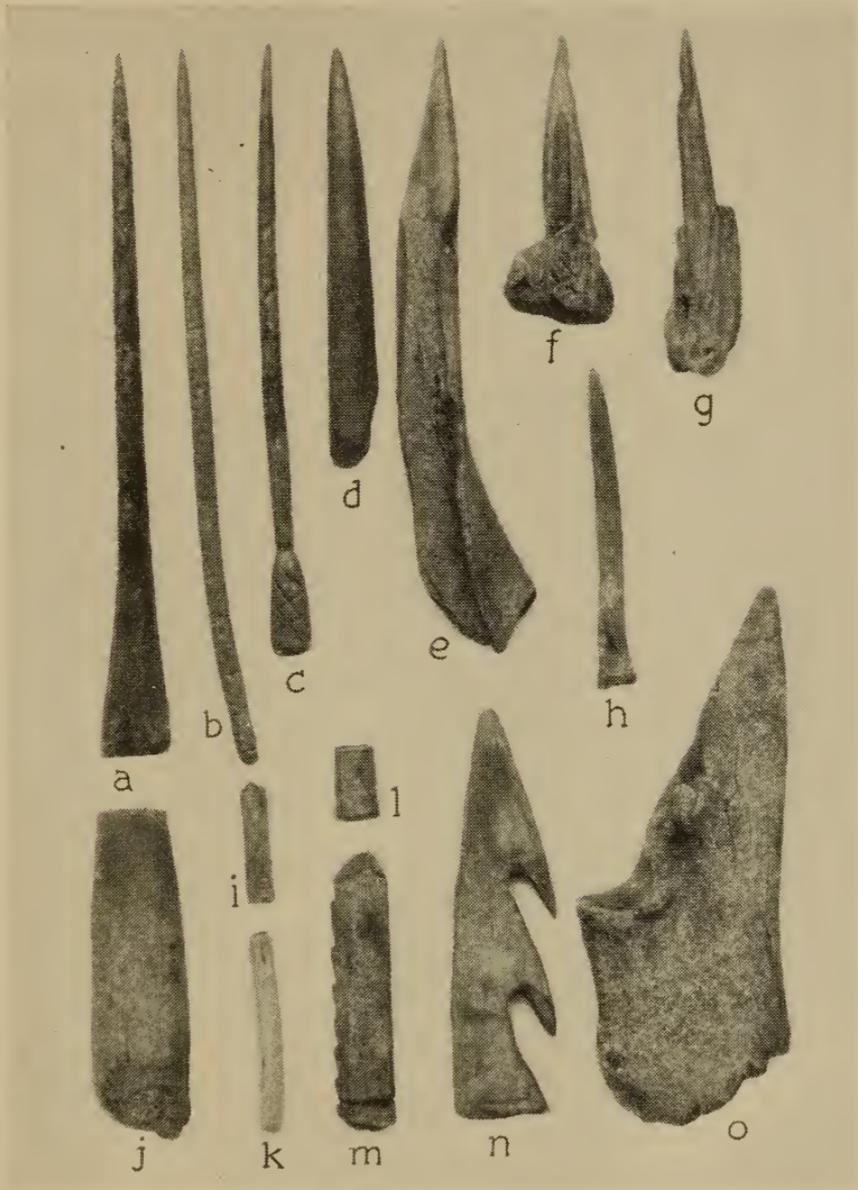
VARIOUS OBJECTS OF POTTERY AND SHELL

Length of *g*, 6 inches



VARIOUS OBJECTS OF BONE

Length of *g*, $3\frac{1}{4}$ inches



VARIOUS OBJECTS OF BONE

Length of *n*, 3½ inches

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Indian Arts and Crafts Board

INDIAN NOTES AND MONOGRAPHS

Vol. XI



No. 2

A SERIES OF PUBLICA-
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MONTAGNAIS ART IN BIRCH- BARK, A CIRCUMPOLAR TRAIT

BY

FRANK G. SPECK

NEW YORK
MUSEUM OF THE AMERICAN INDIAN
HEYE FOUNDATION

1937

Indian Arts and Crafts Board

THIS series of INDIAN NOTES AND MONOGRAPHS is devoted to the publication of the results of studies by members of the staff and by collaborators of the Museum of the American Indian, Heye Foundation, and is uniform with HISPANIC NOTES AND MONOGRAPHS, published by the Hispanic Society of America, with which organization this Museum is in cordial coöperation.

MUSEUM OF THE AMERICAN INDIAN
HEYE FOUNDATION
BROADWAY AT 155TH ST.
NEW YORK CITY

Indian Arts and Crafts Board



Grove of canoe birches (*Betula papyrifera*) near Lake Netségami (lake at one side of river) peeled by Lake St. John Montagnais family of Tsebi'c to secure bark for containers.

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EXPLANATION OF CHARACTERS USED
THROUGHOUT THE TEXT

- denotes lengthening of vowel or doubling of consonant.
- ˘ denotes aspiration following vowel or consonant.
- ə denotes mid-mixed vowel shorter than α .
- α denotes open, obscure vowel, as English u in *but*.
- ^w denotes whispered w, only following k.
- ' denotes stress accent.
- c used in native words, denotes a medial palatal surd, as sh in English *wish*.

MONTAGNAIS ART IN BIRCH-BARK, A CIRCUMPOLAR TRAIT

FRANK G. SPECK

INTRODUCTION

RESEARCH in the history of American Indian art has suffered unquestionably through a lack of published material by which comparisons and analyses could be made. This circumstance, however, has not prevented devotees of the history of art from constructing theories of origin and advancing systems of evolution in explanation of its mysterious forms. Dogmas, once formulated, have been presented with a finality admitting little or no reconsideration of their substance. Many of these might have been of a different complexion had they been postponed until types of art and historical data concerning them had been forthcoming from tribes and areas at the time not reported upon. To have proceeded in such a manner may have been in some cases injudicious. It was until but recently regarded as a fact beyond question that the art styles of Middle America stood in a sole category as viewed in relation to registers of design in areas beyond. Eskimo decoration was at one time thought to frame a consistent and uniform tradition throughout the

range of distribution and history of its people. When considering the history as well as the aesthetic character of decorative systems, art students need not be asked to admit that something must still be left to the imagination.

The material here offered advances several suppositions, all intended to reconstruct some phases of the history of art techniques and decorative concepts found in the cultural life of three divisions of the Algonkian peoples of eastern North America. A temporary indifference of spirit that might be affected toward the meaning of these tribal types is dispelled when the uniform character of style and technique in each of them is given full weight. Mohegan decorations, for instance, show a strong individual character. They constitute a style of treatment by themselves in spite of the fact that when analyzed into elementary design units these reveal affinities with those of the Montagnais and Algonquin whose specimens of ornamentation are before us. The outcome of comparison of these with the elements of Iroquois and Central Algonkian art-forms shows them to be not particularly different. From a prevalence of dots, bars, domes, ovals, scrolls, double curves or involutes, all with their varied combinations, we shall, it is believed, ultimately discover a connection with earlier, now almost forgotten, systems of hieratic picture-writing among the eastern tribes. Through an analysis of symbols this is apparently true for some groups and is sus-

pected for the whole of the Middle Atlantic and New England areas, if we believe the testimony of tradition.

We could be led to assume as much for the others when we estimate them all from the point of view suggested by consideration of the records in pictures handed down among the Ojibwa in the *Midéwiwin* ceremony and among the Delaware in the *Walam Olum*. For some years the accumulated material illustrating the art of the tribes here summarized has been studied and compared, and the findings now call for appearance in printed form. Some results are offered to contribute substance, whatever it may signify in historical retrospect as concerns the northern peoples, to the study of indigenous folk-design in which specialists as well as art appreciators are becoming interested.

ART IN BIRCH-BARK

The utilization of the canoe birch (*Betula papyrifera*) in northern North America has been a most important factor in the economic progress of Indians from Newfoundland to Alaska. To the Montagnais-Naskapi north of the St. Lawrence from Seven Islands to the head of James Bay and north to the Height of Land, beyond which its growth is too feeble to be of much service, the outer bark of this noble tree has been the indispensable "vegetable rawhide," as Ernest Thompson Seton has so aptly

termed it. Here it is requisitioned for use in a multitude of forms; to roof the forest wigwam, to build the canoe, and to bend and sew in the making of pails, pots, pans, dishes, spoons, boxes, trunks, and containers of every size and description.

Birch-bark plays a significant part in the historic culture of these hunting bands, not only in domestic industry but in art behavior. Yet up to the present time we have no adequate study of the birch-bark complex. Knowledge of its component traits rests almost solely upon material gathered into museums without full text explanation, and upon passages in the accounts of explorers—mute material sources bearing witness to the almost complete dependence of the natives upon the substance nature affords so generously ready-made for human utility. The manufacture of birch-bark domestic commodities must be very ancient, and the question naturally arises as to what may be said of the antiquity of its decoration. In view of the attention being given in ethnological literature to problems of industry and art techniques, as processes acting one upon the other, the following study of material and notes collected from the Indians of Lake St. John and neighboring regions has been prepared.

In most attempts to deal with the history of the arts it is usual to trace progress from simple conceptions of technique onward through the more and more complicated developments leading finally to the advanced stages of culmination viewed as such

from a consideration of technique and material. This arrangement of theoretical premises seems natural and acceptable. If such a conception be applied to the crafts of the tribes of northern North America a certain series of logical steps evolves in respect to the art industries of these tribes which it is manifestly profitable to examine. Amid the extreme simplicity of economic and social life of the Algonkian speaking groups of eastern Canada and northeastern United States it seems characteristic of their culture that the trend has not been toward invention of processes and ideas which have marked the advance of other regions more favored by an abundant supply of material and where closer contact with stimulated populations has caused inventions to arise and spread. Here, for instance, woven basketry and pottery making have never invaded the area.

Without referring in further detail to the general culture of the northeastern tribes it is proposed to present for consideration the results of prolonged study of the birch-bark industry and the collection of many such specimens of the Montagnais-Naskapi, Lake St. John Band, whose location around Lake St. John in the Province of Quebec and the southern interior of the Labrador peninsula has been described and detailed in another report.¹ The Lake St. John Indians are typical of the inhabitants of the more favored section of the northern zone, living well within the tree limit and amidst an abundance of

fur-bearing and game animals, including not only the woodland caribou but the moose. In social and economic life the resemblances are quite strong with the more northerly bands of Naskapi and Cree, yet in their industries there is much to point to long intimacy with the Algonquin proper and the Ojibwa of the region north of the Great Lakes.

In the present work, a single branch of industry is examined, the making and ornamentation of birch-bark containers of the Montagnais of the lower St. Lawrence, in whose economic history the use of birch-bark has been indispensable and continuous since the early stages of their culture.

From collections made for the Museum of the American Indian, Heye Foundation, The American Museum of Natural History, the Field Museum of Natural History, The University Museum, University of Pennsylvania, the National Museum of Canada, and Nationalmuseet, Copenhagen, Denmark,² the notes and illustrations provided through their cooperation have been arranged in the form in which they are now presented.³ The specimens of birch-bark household utensils and containers available for examination number by estimate several hundred; hence, coming chiefly from artisans of the Lake St. John Band, the aggregate should represent quite completely the techniques and decorative concepts of the region. In another paper awaiting publication the author has prepared material in the same branch of industry and art from a near-by and

culturally homologous group, the Algonquin of River Desert, which gives an angle of comparison for an initial step in dealing with the art history of the Algonkian speaking peoples.

The investigations now under way, however, are but the beginnings of treatment of tribal art in northeastern America. A preliminary attempt to present material available, and to outline some characteristics in the field of inquiry, was made some years ago.⁴ Later a monograph was prepared dealing with the art of the Penobscot of Maine, one of the first groups to be studied in the northeastern region.⁵ These papers should be consulted in connection with the present theme. For groups farther west, yet with the same general art complex, reference should be made to the report of Davidson on *Têtes de Boule* bark decoration and to the studies of Densmore in Chippewa (Ojibwa) art techniques.⁶

Among the older authorities who invite us to consider the history of the technique is one from New England. Daniel Gookin, the first Indian Commissioner of Massachusetts, is the author of clear testimony in regard to the material and decoration of the containers of the natives of his time. "Their pails to fetch their water in, are made of birch barks, artificially doubled up. . . . Some of their baskets are made of . . . barks of trees: many of them very neat and artificial, with the portraitures of birds, beasts, fishes and flowers upon them in colours."⁷ This appears to be the earliest reference giving

definite description of the bark receptacle in terms that we can recognize as applying to the still existing birch-bark constructions and their ornamentation. Gookin's remarks allude to observations made among the tribes of New England, and could have been strictly applicable to the Penobscot as we know their art and industry from contemporary sources. As such, his description applies to the related groups whose techniques and forms of decoration we find preserved for our consideration to the present day.

It is, accordingly, no longer upon dubious or feeble bibliographical support that our knowledge of the early bark technique rests.

The material here presented is practically an exclusive study of construction and designing of the Montagnais bands at Lake St. John and resident at Escoumains, the former being an interior group of the region about the lake of their name, the latter a band located below the mouth of the Saguenay on the north shore of the St. Lawrence. At the same time occasion has been taken to illustrate and discuss figures on some specimens of bark containers collected from the Mistassini who inhabit the environs of the lake of that name. Specimens from this group are not so common, and as they possess properties resembling those of the Lake St. John Indians, the material has been included.⁸

The whole life of decoration upon birch-bark among the Montagnais owes its existence to the phenomenon of nature which produces a thin dark

substance forming a coating on the inner surface of the bark peeled from the tree late in winter or early in spring, the so-called sap or winter bark. Its designation in Montagnais is *ilnuckwi'*, meaning "Indians' bark," or "bark intended for man's use." Birch-bark is, in general, *wuckwi'*; the thin sheets not serviceable for container manufacture are *pi'tockwi'*. Bark taken off in summer lacks the dark coating, whence it happens that containers made of summer-peeled bark must remain plain. The seasonal influences of nature upon the art industry of a group must be given due significance in theorizing on the history of the arts among uncivilized peoples. If, for instance, a custom should arise resulting in taboo against peeling bark during the season of winter, we would witness the decline of bark vessel ornamentation or else the substitution of embroidery, such as quill or moose-hair mosaic, or painting upon the surfaces of containers in place of the scratching-away process. While at present we do not know of definite instances of such a factor behind the growth of technique, the condition is quite within the realm of the possible. There is no satisfactory explanation, as yet, for the irregularities of art development in the northern area—in the appearance of moose-hair embroidery upon birch-bark boxes of the Huron⁹ and Abenaki, the porcupine- and bird-quill mosaic technique of the isolated Micmac and the centrally located Ojibwa, Ottawa, Menomini, and some of the Pottawatomi,¹⁰ the absence of surface

ornamentation among the Têtes de Boule, some groups of Ojibwa and most of the known bands of Woods Cree, and the etching technique of decoration among the Algonkian populations forming the Wabanki group and those of the Province of Quebec and eastern and northern Ontario.

Still another association might be traced for the early development, if not the origin, of birch-bark vessel making in North America, namely, in the direction of the maple sugar industry. The Ojibwa and related groups around the Great Lakes region, and eastward among the other tribes to the Atlantic, in whose economic cycle the collection and reduction of the sap of the sugar maple¹¹ forms an important early spring activity, could scarcely carry out the process of syrup boiling, sap gathering and storage without the bark vessels.¹² The inseparability of native maple syrup manufacture and that of the birch-bark vessels has evidently not impressed itself much upon those who have dealt in detail with the former.¹³ The suggestion is, however, open for consideration from a negative as well as a positive point of approach. It happens, as regards the evolution of Montagnais birch-bark work, that the question is not directly pertinent, since the sugar maple is now so rare, or entirely absent, in their territory as to be almost unknown as a source of food supply.¹⁴ If, then, birch-bark buckets and other types of containers are to be regarded as inventions of maple syrup makers, the idea must have become diffused

to the northern area apart from the syrup industry itself, or, looking at the question from another angle, the Montagnais could have wandered from the sugar making zone and applied the bark vessel craft to other purposes. Yet it should be noted that Le Jeune¹⁵ refers to the Montagnais of his time, 1634, as obtaining a sweet juice in small quantity from a tree they called *michtan*.

While ignorance of such questions of origin will be inevitable for some time to come, we cannot overlook the consideration of allied techniques in ornamentation of surfaces, encountered in other areas of North America, which embody similar preparation by carving and designing. The reference on this point is to the decoration of painted and incised rawhide parfleches in the Plains area.¹⁶ Spier defines the areas and types of decoration of these rawhide trunks and envelopes as constituting an underlying element in the art development of Plains culture. If we assume as much for the birch-bark decoration of the forest area, the comparison and evaluation of the two provinces of art may ultimately lead us somewhere. There is much similarity in the construction as well as in the technique of decoration in both types of containers, the general form of the folded parfleche trunk, while not common or universal in the birch-bark area, being represented in envelopes of bark in some groups of the forest zone.

Aside from the principles of construction there is sufficient coincidence in the character of the raw

material, hide and birch-bark, to challenge the attention of the specialist in the evolution of industry. The absence of rawhide or parfleche containers in the area where birch-bark is used economically, and the absence of birch-bark containers in the Plains area where rawhide is used, would suggest that somewhere in the evolution of these utensils there have been common historic factors at work producing two typologies diverging from an earlier handicraft— influenced by the conditions of the plains-hunting and the forest-hunting regions respectively. It would be premature at this time to attempt treatment of the coincidental features of both crafts, but in the techniques of carving figured outlines of design and removing the outer layer of the rawhide surface to produce a design in low relief we have something resembling the positive and negative carving and etching in birch-bark decoration. There is, moreover, something identical in the geometrical designs of the northern forest tribes and those of older parfleche ornamentation on the plains which may reasonably be regarded as an old phase of design conception going back to common sources. The homology between the two techniques in question, though apparent both in processes of decoration and in patterns, yet requires more detailed description of parfleche decorative methods—the tools, the measuring, the formation of patterns—than we now have, before conclusions can be drawn. Attention is also directed to the ornamentation of the upright

posts supporting the man's back-rest in the Plains area. On many of these the bark is cut away leaving a positive design; a technique quite similar to that applied to birch-bark in the forest zone. It is sufficient to suggest at present that the scraped and painted decorations of the Plains and the scraped birch-bark decoration in the forest area are both nearer to the foundations of art in their respective districts than the forms of design in porcupine-quill and beadwork in both areas, where, in the later periods of art, these techniques of embroidery have superseded painting.

TYPES AND CONSTRUCTION OF BIRCH-BARK
CONTAINERS

Three major and two minor constructional forms of bark containers, and the lines of the patterns from which they are cut, are recognized as types by the Lake St. John Indians. These are denoted by Roman numerals, and are given their native designations both in the Lake St. John and the Mistassini dialects, abbreviations LSJ and M being used respectively.

TYPE I. *Bustc'la'gən* (LSJ); *bustcia'gən* (M): "container," "to put things in." Generally referred to as the birch-bark basket in literature, though it seems hardly proper to classify the birch-bark craft as basketry. It is the most completely finished and most widely uniform of the types made by the forest

tribes ranging from the Atlantic coast of Canada to the Yukon. In the eastern woodland area it is often ornamented with etched designs. The majority of those made by the Lake St. John Indians invariably have both sides, the cover, and often the ends well filled with figures. The designs on both sides may be alike or different as appears in the plates. Frequently they possess lids fitted by a collar and attached by a line of leather to the side or to the thong by which they are supported when carried or hung up.

They range in size from those holding but a few buttons or trinkets (two inches in height) to the large trunks for clothes—and, in rare cases, for food—capable of holding almost half a bushel (two feet in length and one foot in height). The latter receive the special designation *mi'ctābustc'la'gān* (LSJ): “big container.” Pls. xv, xvi, xvii.

The most usual dimensions are 12 to 14 by 10 to 12 inches, and the principal form characteristic is that the bottom is rectangular with the sides tapering inward, making the top opening smaller than the base of the vessel. The Lake St. John forms do not show such high tapering sides as do those of some bands in Ontario.

It may be noted that not all of the bands of the Labrador peninsula use these bark vessels, for none have been obtained from the populations east of Seven Islands and Moisie river, on the Gulf of St. Lawrence coast, or north of Lake Nichikun, which

can be regarded as of authentic or habitual manufacture among them.

A variety of this type of container is the simpler article intended for the reception and storage of bear or caribou grease, berries, meat or other foods, the function of which differs from that of TYPE I intended for personal effects only. This variety is called *mi·gwəna'gwi* (LSJ), denoting a food container without a cover (pl. XVIII, *d*). In this container the rim hoop is lacking and the mouth space is narrowed by bringing the edges of the two long sides almost together, so that the opening may be closed by a fastening thong tied to each side, or by a simple section or flap of bark laid inside over the contents beneath the tie-strings.

The probability of this type of container being the technical predecessor of the *bustc'la'gən* has already been commented upon. Its simpler construction points to this position, while its lack of usual decoration and a much wider distribution throughout the snowshoe-hunting area of the continent supports such an assumption from the theoretical angle.

TYPE II. *Mak^wce'wi·la'gən* (LSJ); *mæg^wce'wi·yaḡən* (M): "feast dish or pan"; occasionally, when smaller and lower in height and used as a family or individual food tray, denoted as *wuckwi'·wi·laḡən* (LSJ): "bark dish."

Of special significance is the term *nuwi·la'gən* (*nula'gən*) LSJ; *nuwi·ya'gən* (*nuya'gən*) M: "my dish," applied to this form of meat dish or basin.

In the words of the natives this is the spiritual way of referring to the food dish, implying that it is regarded as a ceremonial utensil whose use is connected with the prayer processes involved in securing and consuming food supplied through spiritual agencies. The decorations on such articles are usually made by command of the successful hunter who compensates his spiritual helpers by honoring them with representations of their forms upon the sides of his bark containers. So we find that the figure of a beaver or a fish appears upon the meat dish of one who, in response to prayer or revelation, has obtained the creature for his larder. The so-called floral figures also perform the same devotional function. The subject of spiritual symbolism in the Labradorian area has been dealt with in another study to which the reader is referred.¹⁷

It should be noted in this connection, also, that the bark dish is occasionally given as a spiritual souvenir by an aunt, a mother, or a godmother to a girl to bring her the blessings of health and long life. In one such case, a specimen from the Escoumains Band of the lower St. Lawrence,¹⁸ the inner bottom of the dish bears an inscription in Montagnais, written in ink or pencil, mentioning the names of the giver and receiver with a few words of benediction suggestive of Catholic influence. The occurrence of votive inscriptions in the bottoms of bowls will undoubtedly appeal to the student of human institutions as a case to be weighed out with

a view to determining its validity as one of diffusion or independent development. Inscribed bowls, to cite one instance, are characteristic of the Semitic peoples of southwestern Asia. The distance between the two areas of occurrence would seem to be insurmountable were it not for the obvious links forged through Byzantine and Roman Catholic institutions having their termini in the two areas under consideration for this particular feature.

For those who are interested in details, the inscription is given together with its translation:

*etci·ctohwa'gənt pi·cəm kami'lt' ume'lu uckwi·la'gən
nitikuna'ucin Pi'lameni's. muk tce'tci· tce's'i·tuk
ume'luets' mi'cini·tcets' tcei'cpit's pi'kupita'mwa'ne.
ume' kami'lkuyan' e'cpits' kalapua'tci· mi·na'stagan
ni·kami·na'ctan. tce'telta'kuts' kami'·lagan e'tit'.*

TRANSLATION: On a certain day of the month I have given this nice bark dish to my god-child, Filamen [Philemon], for you to think of me in remembrance kindly, of me who writes this, until the time when it wears out. This is what I have given to cherish as long a time as possible for house-keeping, like a thing you take care of lest it break. It belongs to you to save, the same as she who gave it.

The first word of the above text refers to a date which should be there, but which is lacking in the inscription. Its author evidently did not know the date of the event. The Montagnais, when in the bush, keep an account of the days by making pin holes in a little book furnished by the priests

(*tci·te'k'hi·gən*: "pin-book"), and if they have missed marking a day, the count is lost.

In size the dishes or pans vary from those having a diameter of three or four inches to those fourteen inches across the top. In the case of the deeper basins of this form, the depth may be from nine to twelve inches (pls. XVI, *n*; XIX; XX, *c*, *e*).

The bark pans or dishes, like other container constructions, are usually formed by making four triangular cuts at the corners of the sheet of bark resulting in a somewhat rectangular basin. The pattern in pl. I, *f* shows this. There is, however, a modification of the common form in which the triangular cuts number eight, which when turned up and sewn produce a basin or pail more rounded in its flat plane, like a straight sided, flaring top bowl. The pattern for this construction is given in pl. I, *g*, and specimens are shown in pls. XIX, *a*, *b*; XX, *a*. Bearing the designation of meat pails, these forms are somewhat distinctive in character for the Montagnais, it would seem, and are built up from the idea present in the pattern of the trays and pails shown in pl. I, *f*.

TYPE III. *Bustc'lagən kawa'wi·wi·yats* (LSJ): "round containers." This is the cylindrical, sometimes oval box of bark with either rounded or oval fitted top and bottom (pl. XX, *b*, *d*). The bottoms in specimens from this area are never of wood,¹⁹ but of a section of bark sewn in the orifice. They frequently have fitted covers. These are property

containers, not being used to hold food. They furnish a tempting surface area for art expression and, hence, are invariably ornamented. Sometimes nests of six are made of graduated sizes to fit one inside the other. The round or oval box does not seem to have such a wide distribution to the north and west as the others, hence the question of its range and development is pertinent.²⁰

Made in the same form as the preceding but smaller in size, sufficient in capacity to contain the beaver "scent" or castoreum²¹ carried on trapping excursions by the hunter, and also made into match boxes, the small cylindrical oval or round-bottomed box is of common occurrence. The attachment at the side is either by spruce root sewing or by the morticed lock fastening. The bottom is invariably made of a section of wood held in place with tacks or wooden pegs. The mouth is closed by a wooden plug having a toggle button, and sometimes a leather thong, for its attachment by suspension to the hunter's belt (pl. XXI, *Group A*).

The scent boxes are termed *wi·cānau'mi·uc* (LSJ); *wi·cānau'mi·ut* (M): "scent holder," and are ordinarily four or five inches in length with a diameter of an inch or an inch and a half. They are not decorated. The size employed for matches depends upon the kinds of matches used, ranging about a three inch dimension. These are more frequently ornamented with scratched designs. The match

box is called by a translation of its name into Montagnais, *tci'mənmi·uc* (LSJ); *tci'mənmi·ut* (M).

TYPE IV. *Tci'pkwela'gən* (LSJ): "folded dish." The principle underlying the construction of this form is that the bark is folded, not cut. The section of bark from which it is made is rectangular, the four corners being bent into a V shape by double folding which brings the four sides up to form the walls. The opposite narrow ends are then held fast and the folds locked by sewing them with spruce roots, or by fastening with wooden skewers. It is made on the principle of the modern cardboard oyster container. Here also is evident a simple, hence early, method of construction. The folded containers are seldom decorated in any way; their use is limited to the storage of food, grease, and berries, or, as pans or buckets for culinary purposes, we find them serving, when more efficient articles are not to be had, for boiling food. Vessels of this type are made hastily and discarded, since they are not durable, and do not figure as permanent domestic property. They are often constructed of the outer bark of the tree, another indication of their primitive character. They never show covers (pls. XVIII, *f*; XX, *j*).

The pattern for the manufacture of the folded vessel is shown in pl. 1, *d*. It might be added, as something worth noting, that although widespread among the Wabanaki and Montagnais-Naskapi divi-

sions, the containers show no variation whatever in shape or construction.

TYPE V. The simplest type of birch-bark container is the single-folded length of bark sewn across two perpendicular sides. It is called *cikwu'nmi·ut* (LSJ): "comb case." As its name implies it is a receptacle for the hair comb, though sometimes cards or other flat objects are kept in them. The sewing may be with spruce roots, babiche, or thread. Decorations are usually seen on the better ones. They also frequently have attached to one end the dried tail of a porcupine which serves as a cleaner for the comb (pls. XX, *f*, *g*; XXI, *Group B*).

The cut out patterns made for the construction of Montagnais containers of the different types shown in pl. I, bear the designation *wulckwe'mcigən* (LSJ); *wi·yæckwe'mckhi·gən* (M).

The high-ended dishes which are characteristic of Mistassini construction are made by a pattern of different proportions from that of the Montagnais, as is shown in pl. I, *c*. The Mistassini dishes of this exceptional form (pl. XX, *c*) are called *te'ti'pwi·yagən*: "curved end dish." The high ends are likened to the dashboard of the toboggan, as the name implies.

MATERIALS OF CONSTRUCTION AND PREPARATION

The Lake St. John people employ no other material than birch-bark for their containers. The sewing is done only with spruce roots, split and

divided and used in natural colors which vary in shade according to the length of time they have been allowed to soak in water where they acquire a certain extent of coloration from the vegetable stains present. Deliberate dyeing of the roots for sewing is not practised in the area, except in specimens secured from the band at Escoumains,²² and in two or three from Lake St. John. One specimen from Lake St. John had a rim wrapping of soft, shredded bark, basswood or cedar, suggesting the habit of the Algonquin and Ojibwa. Hoops of maple are invariably present on the larger and more durable specimens.²³

There are no indications whatever to show the practice of decorating the rims or sides of containers with porcupine-quills, although it has been occasionally mentioned by travelers in the general region of the Gulf of St. Lawrence, as occurring, woven or imbricated, in the root wrapping of the upper edge. Several specimens from the Escoumains Band showed red- or purple-dyed lengths of grass in this position which may point to an earlier use of quills.²⁴

The reinforcement of the rim of bark vessels by sewing a strip of bark beneath the hoop, as observed in the work of the Algonquin, Ojibwa, and Athapaskan, does not occur in the handicraft of the Montagnais—one specimen only, to the author's knowledge, being the exception.

A word or two is called for regarding the tools used by the Montagnais in making articles of bark. Be-

sides the axe, wooden wedges and knives employed in removing the bark from the tree, there are the special tools required for the cutting and trimming of the sheets of bark to be made into containers. Chief among these is the crooked knife with iron blade and curved wooden handle, the *sine qua non* of all handwork of the northern forest tribes. These utensils are, however, made of materials obtained from the traders. This does not mean that a sharp edged chipped stone implement will not do the same



FIG. 1. Perforator made from moose bone (LSJ).

work, for the author has seen it demonstrated dexterously as a practical operation. The Indians still adhere frequently to the use of a bone perforator for making the holes through which the spruce roots are run, in the sewing process, for binding on the hoops and making the stitch perforations at the sides of the vessels. The bone perforators are occasionally decorated with notches and incisions made with a file (fig. 1).

DECORATION OF BIRCH-BARK CONTAINERS

Familiarity with the cutting of birch-bark sheets into constructional pattern outlines would breed in the native mind the ingenuity required to create

such an invention as the decorative cut-out pattern proves to be. Both patterns are functionally parts of a single process, producing not only the domestic utensils themselves, but the means of their beautification. This is an intrinsic reason for associating the designing faculty with manufacture, both together being entirely possible as achievements of even very crude native culture. To illustrate the

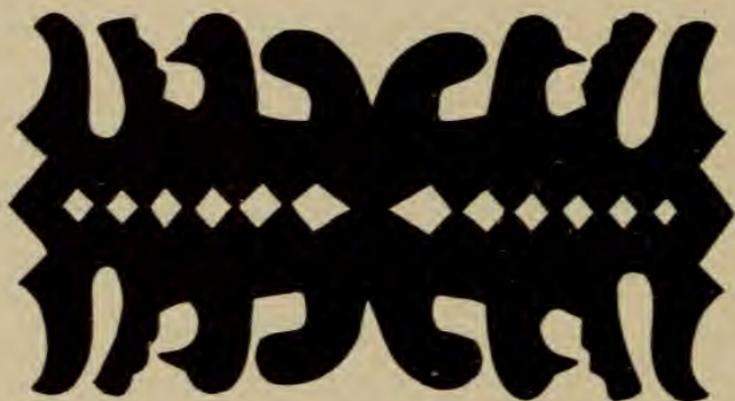


FIG. 2. Cut-out pattern for cover of bark container (LSJ).

point, take for instance the rejected ends of the rectangular sheet of bark from which patterns shown in pl. I, *a*, *b*, are cut clear.

The level base and symmetrically curved outlines of these ends have the general form of the symmetrical double-curve cut-out bark patterns—often a far cry from the simple originals—observed in parts of the ornamentations on baskets and containers shown in pls. II, *a-k*, *o*, *q*, *x-cc*; III, *g-l*; VII, *d*; IX, *h*, *j*, *k*, *l*; and in figs. 2, 3, but especially those in

pls. VI, *g*; VII, *a*. While the cut off ends are, to be sure, waste material, the trimmings and discards, as they lie about the ground in camp where bark vessels are being constructed nevertheless appeal to the eyes of the children who habitually gather them for playthings and hoard them as pretty treasures until the curious figures become familiar images in their juvenile consciousness.

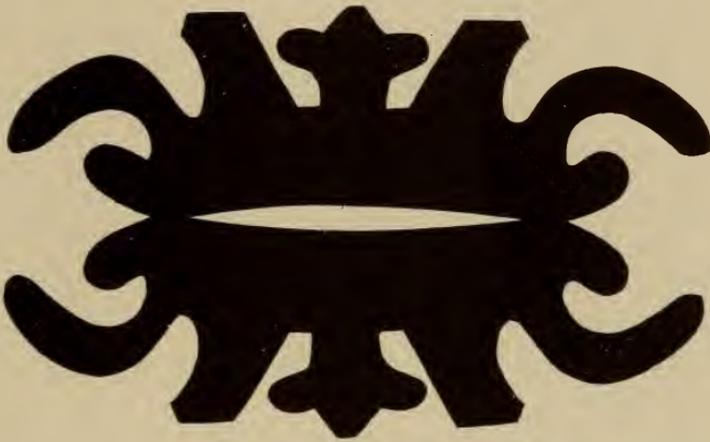


FIG. 3. Cut-out pattern for cover of bark container (LSJ).

The two sources, then, from which the design figures arise in the experience of the younger female children are to be traced to the play motive of bitten patterns and to the outlines of varied form in cut-out patterns of bark work in general. The child who plays with these figures soon becomes the adult artisan who makes out of them things of use and beauty in the literal sense of the term. Both aspects of the purposes of craftsmanship evolve out of famil-

ilarity with the same material. We do not need to repeat mention of the constant reliance of the Indians of the northern forests upon the rind of the indispensable birch tree for the materials of their native industries. Aside from the precepts of sheer theory, observation of the details of daily habit and pastime among living groups are worth a great deal when they illustrate the problems we seek to solve. Hence it must mean something to have witnessed even the trivial incident of a child playing near its mother in camp, surrounded with a litter of bark and root scraps, going about its play with a handful of these scraps mingled with bark play-figures of leaves, animals, and what not, all equally fantastic and mysterious to the eyes of their tiny possessor. Indeed, a collection of cut-out playthings taken from a camp of Indians in the bush would include in its miscellany as great a number of scrap rejects as of actual figures.

But these are not ordinarily collected in making up material for exhibit in our museums, and so, unless the circumstances are recorded in notes and given due significance, the association between play and deliberate purpose remains obscure in the development of theory. It is not so obscure, however, to the field observer of experience, and this consideration must have a bearing upon the question as to whether or not the decoration of birch-bark vessels and containers among the forest tribes of the north could have had its development inde-

pendently of the influences brought to bear upon native life in the hunting camps by the urbanly organized early French colonists.

With his own background of observation and experience in mind, the author is inclined to agree with Barbeau concerning the influences of early French decoration on the artistic endeavors of the northern Indians, but he is not as yet convinced that these same aesthetic tendencies, or that *all* the designs produced, are derived from alien influences subsequent to the coming of Europeans—particularly in view of the cited references to figures of leaves and plants in the periods of first contact.

There are two recognized methods by which figures may be produced upon the dark surface of the bark.

A. Designs are made by laying the cut-out design pattern upon the surface to be decorated and *scraping away* the surrounding area of dark substance, leaving the design to stand out dark against a light background. These are designated *positive* designs, suggestive of the terminology of photography, since it is the background that has been acted upon in the production of the image; the background light, the figure dark.

Montagnais birch-bark decoration is almost exclusively the effect of this process. The name it bears is *mi'cini·kwuta'gən* (LSJ): "design cut out" or "engraving"; and also *micina't'hi'gən*: "marked by scraping away," a more suitable term.

B. Designs are made by scraping them *into* the dark coating of the bark, as one would do in carving. The figure produced is then shown in lighter colored lines or spaces amid a dark, untouched background. These are designated as designs in the *negative*.

The Montagnais, however, consistently avoid using this method of figuration. When questioned, the only reason given is that it is not satisfactory for their purpose. Contemporary art tradition has ordained the method of procedure, and it will remain for speculation to assign a reason for it. Perhaps theirs is a more advanced art technique. There are no separate designations for the two processes in Montagnais.

In half a dozen examples, however, the Montagnais artisan has chosen to combine the two processes, making the principal figure of the decoration by the positive method, and establishing another figure within the first by scraping away the inner area to form an enclosed outline figure inside the negative design. Illustrations of these specimens are shown in pls. xv, *c*; xvi, *a*, *k*; xvii, *g*, *h*, *l*, and the designs are reproduced in pl. viii. The Montagnais artist when asked for native names indicates this process by defining the marking or scraping as being done inside or outside the design.

It need hardly be pointed out that the two techniques correspond to the processes of carving. Method A is equivalent to carving in high relief, while method B corresponds to low relief.

In subsequent study of decorative techniques in the area of birch-bark ornamentation, it will be found important to determine the prevalent notion of workmanship in this respect. The two methods undoubtedly have good reasons for their existence as preferred systems in the tribes where they occur, and it would seem that there might be some principle of stratification in their relative history and distribution. So far as observation of museum material, combined with field inquiry, permits a general statement to be made, it would seem that the negative process holds sway in the northwest among the Athapaskan groups, while in the Quebec area the Algonquin divisions have developed the positive method, some of them practising both in designing their bark objects—as observed in some regions of Ojibwa and Saulteaux occupation. Others, like the Montagnais, follow the positive method except for the rare cases of the mixed technique just noted, while still others in the Wabanaki region south of the St. Lawrence carve their bark decorations exclusively in the negative, the Penobscot and Micmac showing typical examples.

Reverting to the facts at hand we observe the Montagnais preparing their winter bark for decorative treatment by moistening the dark surface, sometimes swabbing it with a wash of boiled willow bark so that the coating will be softened and more easily scraped away with the knife blade. The term *kacka'c'higən*: "scraped off," is usual in the Lake

St. John vernacular applied to the process; but a more exact designation for the act of producing designs by scraping is *i'tc'na't'hi.gənu*. To define the design-producing art another phrase should be included in the native terminology, *ma'ta'u micina't'hi.gən*: "design or figure marking by scraping."

BITTEN PATTERNS

The custom of producing ornamental figures by biting impressions into folded sections of thin filaments of birch-bark prevails in an unbroken distribution throughout the region inhabited by the hunting tribes of the birch-bark area of northeastern America. It is recorded for the Ojibwa as early as 1860 by Kohl,²⁵ by Densmore,²⁶ and discussed as a possible source of origin of Algonkian designs by Spier.²⁷

The most pertinent and perhaps one of the earliest references to bitten bark patterns in the area under consideration appears in a letter from Rev. P. Thierry Bechefer to M. Cabart de Villermont, indicating, among a list of objects sent to the latter, "pieces of bark on which figures have been marked by the teeth."²⁸ Much significance is likewise to be given to the mention of bitten designs among the Beothuk by Howley²⁹ from information he secured first hand in 1866 from an old woman who personally knew Shanawdithit, or Nancy, the last living Beothuk survivor. Quoting his informant, Howley says: "She would take a piece of birch bark, double it up

and bite with her teeth into a variety of figures of animals or other designs, i.e. to say when the bark was again unfolded, the impression thereon would be such." Howley adds in passing that he had seen a Micmac Indian perform the same feat: "He would select a piece of thin clear inside bark, which was soft and pliable, then fold it several times tightly. By some peculiar way of manipulating his teeth, he would leave their impress in the bark, upon unfolding which the figures were distinctly recognizable."³⁰ And again, referring to Shanawdithit: "She would take a piece of birch bark fold it up, and with her teeth bite out various designs representing *leaves, flowers, etc.*"³¹ The italics are the present author's.

That we have here unquestionable evidence of the aboriginality of bark-pattern-biting, even of such designs as leaves and flowers, as well as animals, in the northeastern area, is clear. The Beothuk woman, Shanawdithit, during her few short years of life with white people—she was captured in 1823 and died in 1829—represented the one link of friendly communication between Europeans and her culturally uncontaminated tribe. She is the same who drew the birch-bark utensils featured in the Howley volume, but which, perhaps because they were drawn small, are undecorated in the illustrations. The isolation of the Beothuk, even from contact with other tribes, helps the argument for the probable antiquity of the trait.

The process is known to the Montagnais as *mici'ni·kat'we'win* (LSJ): "design biting." The custom forms an art pastime among all the tribes whose art activities have been described. It is not a strikingly prominent native performance from the point of view of the casual investigator, but rather one of those unformulated traits of ethnology of the families of Indians in this region, who pass most of their life in the bush, where few other diversions are to be found. Around the camp fire or stove, amidst the litter of refuse where birch-bark fragments occur, the children and women may be observed deriving mild entertainment from their skill with the teeth. It is distinctly a feminine avocation, and an art in which old women, who have but a single incisor or canine fang left from nature's dental equipment, excel.

Thin, transparent sheets of bark are folded once or twice on perpendicular planes and compressed between the opposing tooth crowns, the bark being turned according to fancy while the biting progresses until a figure is thought to be complete. The sheet, taken from the mouth, opened and, held up to the light, exhibits the wonderful creations of blind skill to the expectant and delighted eyes of the crowding audience. The performers are usually bashful and, with the customary modesty of the talented, deny any ability to continue. Next, the children try to imitate the more accomplished performances, and before the little party tires of the art, a hundred of the amazing transparencies may have been produced.

Most of them will be lost before many hours, but some find their way into the treasure-troves of little maids who will try to copy them later in the hope of acquiring the control that some of the more talented matrons possess. Some of the transparencies are indeed intricate; mazes of dotted curves, scrolls, lines in diamonds, triangles, even human and animal forms. There are some at Lake St. John who can produce bitten impressions of hunters with snowshoes, paddles, canoes, tents, as well as groups of foliage, shrubs and trees, in fact anything within the bounds of imagination. Here is the school of universal art in the bush. The pupils are all enthusiastic, none is indifferent, the teachers are loved and admired aunts and grandmothers whose eyes twinkle with merriment as they turn and bite the sheets of bark paper soon to be opened up to disclose new and unheard of marvels of invention.

In the history of art anyone who discounts the importance of so trivial a source of culture influence is, to the author's mind, a gallery theorist who sadly needs to live with his people about their hearths. One with bolder courage might even go so far as to link design by biting with the origin of floral decoration in native art of the northeast, and call it the initiation of the design evolution which has resulted in the phytomorphic art decorations at times so curtly dismissed as European imitations.

There is a certain subjective belief in the minds of the Montagnais women in regard to the creation

of bitten transparencies. As one woman said, it is not only hand and eye that creates designs, but the hand and teeth as well. The soul-spirit, it is added in explanation, is the source of talent or ability which enables the individual to produce conceptions of beauty by either means. A more liberal translation of the terms by which these ideas are expressed in the language would be that they are accomplished by the inner man and executed by the tactile organs of the body. It seems, in short, to constitute a real creative art impulse and technique. And of striking importance is the truth that no dimensional limitations exist; straight lines, curves, leaves, flowers, compositions of endless variety all flow naturally and freely from the process. Again, why does not some investigator of the subject ask that we look inward in native culture for plausible sources of invention of design rather than outward across the chasm that separates them from the strange cultures of Europe?

We come now to consider the connection existing between the bitten patterns and the decorative processes in vogue among the people as we know them. It is probable, from various sources of testimony, that at some time in the course of design history in the north the figures produced by biting impressions in the birch-bark tissue have had association with practical art representations in the making of bark vessels. This is not the procedure, however, within the span of recollection among the Montagnais, for,

as we shall see, the actual designs in prevalent use are worked out by means of the cut-out patterns. The bitten representations are, nevertheless, regarded as experimental and source-stages in the progress of decoration; they are looked upon as exercises in art expression and as suggestions which, when tested and approved, are to be worked into cut-out patterns.

None of the bark decorators questioned seems to rely upon the bitten outlines for their major patterns. All know the method and are skilled in biting out figures, but they indulge in this procedure chiefly as a pastime and to discover what chance, or, perhaps, better, what the blind outlets of inspiration may disclose to them. Whether the connection between the biting technique and bark container decoration is early or late we do not know definitely. While the connection is vague, it would be no more so than that between the sketch book and the finished picture or sculpture of the modern artist which embodies the results of quantities of experiments in outline and composition. So while the biting of outlines forms a branch of art expression in itself, the practice is understood to belong somewhere in the series that ultimately ends in the finished ornamentations upon the surfaces of bark utensils. Indeed, if the bitten patterns did no more than to develop the repertoire of the artist they would constitute a phase of the art discipline of these tribes.

One could divine a connection between free-hand sketching, by the negative or scraping-in process, and the bitten patterns, as standing in contrast with the cut-out patterns and the positive or scraping-away process. Upon arguments of technical evolution from simple processes to more mechanical ones, the latter would be the advanced stage, in which Montagnais art finds its place.

CUT-OUT PATTERNS

Design markers cut out of sheets of birch-bark are the patterns directly applied in the decoration of birch-bark receptacles (pls. VI; VII, *e*; IX, *h*, *j*, *k*, *l*; figs. 2, 3). Except for the free-hand incised (negative) designing, most surface ornamentation among the Montagnais is accomplished by these patterns with the scraped-away (positive) technique. The cut-out patterns are called *wuckwi' wələ's'əgən* (LSJ): "birch bark cut out."³² The strip of bark chosen is thin enough to bend over once, or twice, in some instances, so that when the free margins have been cut into an outline they are opened out horizontally to form a doubled and symmetrical figure. This is the predominant method in vogue among the Montagnais. In a few cases the pattern may be folded twice on perpendicular planes, which, when cut on one edge and opened out, produce a quadrupled figure. The single outline figure in stiffer bark is also used by some workers (pl. XII, *a*, *b*) who then

repeat the figure by turning the pattern right or left, or up or down to double the design in those directions. The subject of design building by these methods of composition is treated later. Procedure varies somewhat according to the preference and stylisticism of individuals.

In using the patterns, the cut-out is laid upon the surface to be decorated, the themes being selected according to the space to be filled and the sense of fitness of the design for the vessel to be decorated. The outline of the pattern is then traced by a thin line with the point of a knife. The surface of the dark bark coating, having been moistened to soften it, is next scraped away with the knife down to the light under surface of the bark, leaving the figure of the pattern transferred directly upon the side of the vessel—a process known to the art world as *sgraffito*. This is the method for the single pattern. If the design is to be doubled from a simple cut-out pattern, the outline is scraped in and the pattern turned, as observed previously, upon the bottom axis, up or down, right or left, to make symmetrical, opposed figures, or, carrying the duplication farther, is orientated in fourfold to fill larger, squarish spaces. The quadrupled figures are more suitable for the cover decorations of the containers, and may be seen in the illustrations.

These cut-out figures are now to be discussed from the detailed notes recorded by the author through many visits among the Montagnais, and

from observation of their birch-bark industry over a period of years.

THE SCOPE OF DESIGN MOTIVATION

The overwhelming majority of Montagnais bark containers bear ornamental figures upon their surfaces. Utensils embellished for the sake of beauty, which, of course, with these people has religious significance as well, are designated as *wewecta'u* (LSJ). The term denotes being "dressed up," an equivalent to our conception of the terms "art" or "decoration." The Mistassini also employ the term *acpugwa'deo*: "flowered," which applies to the general decorative work of both people similarly, in view of the conception they entertain that the ornamental figures are so predominantly plant characters—phytoglyphs.

Let us now consider the pattern elements and their composition through various stages of complexity from simple lines and band ornaments to the elaborate curves and intricate clusters of elements which are built up in some figured groups into designs having the appearance of complete trees and plants. No matter what form may be suggested to the European mind by the outlines of symmetrical curves, the Montagnais have the one general classification for all, plant growths. Whatever the original symbolism may have been, if it was ever any different from that of the historic period, the caption

of plant and tree nomenclature has supervened and become, in historic times, the tradition of symbolic interpretation.

In the formation of designs some regard is shown for the natural setting of plant life and for the relationship of its parts. We have, for instance, in the base or pedestal of the upright branched figures the representation of the ground from which vegetation grows. The vertical line in the center of the design represents the trunk or main stem of the growth, to which the branches and leaves, and often the fruit are added—always symmetrically. The trees or plants are occasionally shown in groups of varying size and outline. In such instances they represent the forest. On one specimen illustrated, an ornamental border near the top symbolizes the display of the firmament, pl. XVII, *c*.

The varying degrees of completeness in the representation of features of the natural landscape are shown in the series of drawings. In only a few cases do the Montagnais apply specific names to the types of vegetation outlined. We find certain figures designated as "spruce" or "fir," while occasionally a specific identity may be given some plant pattern, but only, as far as the author has found, by the maker of the pattern. Another woman upon seeing the figure will give it the general identification of plant life, saying that she does not know what the designer had in mind. Individual play of fancy is ever present.

From the simple to the complex patterns the range is wide. The latter are constructed by building up the whole figure through the combination of simple patterns on opposite sides of a center which is either imaginary or marked by a line or base. Ovals, as leaves or stems, are placed here and there in symmetrical balance, until the space to be decorated is filled to the approved taste of the artist; and, then, if the question arises, the whole thing is dismissed with an interpretation of its being a portrayal of a natural scene with vegetation. The details are suggestive, not defined. Some of the workers who have been questioned as to the specific interpretation of the figures appeared perplexed for a moment how to answer. They were not working, evidently, with a definite realistic pattern in view. To them the composition seemed a figure of beauty, not a technical drawing. The impression conveyed by such compositions is that of the familiar horizon, the earth, the forest with, perhaps, a few details attempted, the sky, and frequently some random attempts to outline animals in the general scope.

The indivisible elements, or integrals, forming those out of which the doubled and the complex figures are composed, are shown in pls. X; XI, *a-p*. Among them we recognize some that are so simple as to be of native origin almost anywhere in the world, and some which can be seen at once to be derived from European figures, for instance the *fleur-de-lis* and the heart, not to mention those whose

beginnings appear to have been inspired by the ubiquitous playing-card.

Figures of doubled or quadrupled symmetrical formation are shown in pl. XII, and the details of building up these patterns by laying together and turning the simple elements have been previously



FIG. 4. Colonial "prairie rose" design for patchwork quilt.

treated.³³ The most advanced achievements of Montagnais designers in birch-bark decoration are illustrated in such a full range series that little remains to be said explanatory of them.

The author was struck by the much greater frequency of animal representations among the bark-working groups to the westward—the Ojibwa at

Lake Timagami and the Algonquin of Timiskaming—than among the Montagnais. The bird figure is as frequently seen in the Montagnais bark work as any other life figure. In their pictography this figure is the partridge.³⁴ Aside from the representation of the partridge, the loon comes in for attention in one specimen (pl. xx, *f*), and the other animals of the chase, the moose, the bear, the beaver, and, in one instance, the salmon, are reproduced in pls. vii, *i*; xi, *q-x*.

The percentage of animal reproductions is, however, low among the Montagnais despite it being part of their religious ritual to place the image of the animal upon the bark dish in which the meat is served. Through this custom the blessings of dream revelations are acknowledged, and the spirit is compensated for the animal having given its body to the hunter. The influence of the priests to suppress native votive practices may be accountable for the decline in animal representation on dishes and containers made in recent generations, and for the corresponding stimulation of the more "innocent" plant and nature motives in the growth of art tendencies among the women through this period. As touching this point, it may be observed that the Mistassini, more remote from interference by the clergy, retain with more lively spirit the tradition of votive animal representation.

As regards the use of the human outline in decoration, it should be noted that so far only one specimen

has been observed in the Montagnais collections bearing a motive of this type (pl. XI, *y*). The figure in question portrays two women holding hands engaged in a dance around a table. This parallels Algonkian art in several other areas.³⁵ The Montagnais, so far as questioning has disclosed, apparently have no specific or general code of reasoning to account for the avoidance of human figures in their decorations.

An insight is gained into the conceptualization of the animal figures as likenesses of spiritual entities in the native mind through an analysis of the terms by which these images are denoted. The final element, *-k'an* denotes the spiritual form of a living creature, and designates "likeness, form, image" with the idea that it constitutes a part of the living original. When affixed to the term denoting human being, it signifies "a sculpture, a statue," or, as was explained, "the visible spiritual form of a being." Thus, *pəle'cik'an* (LSJ), *pi'e'cik'an* (M) is "likeness of a partridge," *nəme'ck'an* (LSJ, M): "form or likeness of a fish," and so on. They are virtually zoöglyphs possessing animistic qualities.

PATTERN ELEMENTS AND THEIR COMPOSITION

We now come to consider a few particulars relating to the elementary form-patterns. The category of figures which may be regarded as elements appears to be small in view of the wide variation displayed in the finished compositions. Of the latter there seem

to be scarcely any duplications. Yet from such simple fundamentals as oblongs, triangles, ellipses, and single-curved bars are built up a galaxy of forms. It will be shown in a paragraph or two following, how the Montagnais artist constructs the figures of varied complexity using the fundamental outlines just mentioned as basic material.

A word or two, however, seems called for to explain the absence of other elements that strike the vision as so characteristic of the designs of the northern bands of the so-called true Naskapi, whose medium of expression lies in painting on caribou skin instead of in carving the surface of birch-bark. Among Naskapi painted designs, and the beadwork of all groups of the combined Montagnais-Naskapi divisions as well, the parallel line decoration is a favorite, not only for marginal areas but as major designs. Even in districts where their incidence is not usual—as among the Lake St. John Indians—these figures are known everywhere as decorative symbols, being termed *micinaha'ban* (M): “marking or writing by lines.” The line element in the native term is literal, and is applied to strings of leather or cord as well as to drawn lines that represent them. As such they are likewise vaguely regarded as symbols, but this does not seem to disguise the simple fact that their origin is embraced in the idea of technique.

The importance of the leather line in northern industry is paramount. Its form in parallel positions has furnished this concept of motivation in art,

and this is recognized by the natives. Still another simple motive, the dot, is lacking in the decorations habitually used in birch-bark. This, too, has a general occurrence throughout the area, among the Montagnais and Mistassini being known as *pəle'o meckənu* (LSJ), *pi·ye'o meckənu* (M): "partridge tracks" or "bird tracks"—going as far east, to the author's knowledge, as the Atlantic coast on the Gulf of St. Lawrence. Its non-appearance in birch-bark ornamentation is due, probably, to the difficulty in making dots on the bark by means of the knife. These particulars are mentioned to show that the fundamental properties of decoration occur throughout the Montagnais-Naskapi area, and further to bring out the fact that their absence in any particular technique, as in the case of birch-bark decoration, is due to technical considerations rather than to a limited local distribution of designs.

The elements mentioned above, the rectangle, the bar or block, the triangle, the curve, and the ellipse or oval (pl. x) that are made to integrate into complete figures in Montagnais bark decoration are sufficient, in the natives' esteem, for the purposes desired. The rectangle, which is itself a modification, by broadening, of the simple line, and the triangle are linked in their genesis; while the same affinity holds true of the curved line, curved broadened line or bar, and the ellipse or oval. Nevertheless, for purposes of description these lines and

their derivatives are the pattern elements with which the artists work.

The rectangle or block may stand alone or in a series to form a barred design (pls. x, *a, b*; xi, *b*), or two of them placed at an oblique angle to form a chevron, which in the symbolism of the maker is called an "elbow" (pls. x, *d*; xi, *e, f, g*), or set at right angles in a series to form zig-zags (pls. vii, *j*; x, *e*; xi, *a*). Thence, two opposed rows of zig-zags will ornate a series of diamonds (pls. vii, *e*; x, *f*). The block-rectangle, bar, or narrow line, all being fundamentally the same disregarding thickness, can be recognized as the formative element in a number of figures in which it is not at first so clearly apparent.

The triangle itself is to Montagnais decoration a fundamental pattern whether or not it is a secondary glyph derived from alternately set oblique lines and filled in (pls. x, *g-m*; xi, *c, e, j, k, l*). The angular lines of the triangle seem not to be so frequent in designs of the Montagnais as in those of some others in the north. In the series here illustrated, however, we observe triangles juxtaposed in any position. They are shown in a linear series with points in the same or in opposite directions (pl. x, *m*); two may be juxtaposed point-to-point to form the hour-glass figure (pls. x, *j, l*; xi, *k, l*); or base to base to form the lozenge (pl. x, *k*), or a star (pl. xi, *j*); or four of them may be orientated to compose a cross (pl. x, *c*) of the so-called German type, *tci'pi'ətək^w* (LSJ): "spirit or ghost wood."³⁶ In another varia-

tion, produced by the addition of a crook at one extremity, the triangle assumes the figure of a partridge or, as it may be interpreted, one of the larger game birds, the loon or the goose, the latter having a remarkably wide distribution in the north.

The ellipse or oval is again the basic part of a series of pattern constructions whose relation to the curve is similar to that of the triangle to the oblique line. Developments of the curve and ellipse derivations are also shown on pl. x. This pattern has a definite symbol value to the Montagnais artist, the "leaf," *nipi'c* (LSJ, M). It is also termed *wa'pəg-wun*: "blossom or flower." It typifies, indeed, vegetation in general. Two leaf figures chevroned represent the "shoot" of a plant or tree (pl. x, *p*), three of them triangulated give the trefoil or clover (pl. x, *q*), while four of them orientated constitute a variation of the cross figure (pl. x, *r*). By splitting the ellipse lengthwise and arranging the results into a linear series, we have the basis of a scalloped line with curves either on one side or on opposite sides (pl. x, *u*, *v*, *w*).

Next, the single curve, either with or without the lobe at its extremity, is important (pls. ix, *a-i*; x, *n-t*). Here the symmetrical doubling gives the double-curve motive, about which enough has been said to demonstrate the figure as being a primary fundamental of Algonkian art over an exceedingly wide area in eastern and northern North America. There seems to be, in truth, scarcely a limit to the

possibilities of combination in handling the curve by the processes of doubling, tripling, and orientation. The double curves, as are other forms of bracketed and grouped curves, are called *kawawak^w ctests*: "curve double."

In the group of figures shown reduced in pl. x, the progression has been arranged from simple lines and curves into triangles and ellipses. These are complimentary figures, and the varied positions in lines, repeated, reversed, inverted, tripled, and orientated, are referred to in the preceding discussion. The foregoing is by no means all theoretical, but is derived from many discussions of figure formations with the natives and from explanations and rough sketches supplied by the author's informants.

EVIDENCE OF DISTRIBUTION AND ANTIQUITY

Apart from the argument based on technique, the question of the antiquity and aboriginality of the carved designs on birch-bark can also be considered from the angle of distribution. In glancing over the available decorative material in collections of birch-bark containers and in decorative schemes in other forms of handicraft, such as bead-, quill- and silk-work in the north, there is a tendency on the part of both Indian artists and students of the subject to assign an earlier existence to geometrical-line, angle, and curve patterns than to distinctly floral outlines. This is particularly true of the pseudo-realistic flower and plant representations.

No doubt whatever need be felt as to the recent historic development and European connections of the *latter*. In the author's opinion Barbeau, in his last published discussions, is correct in this surmise. It is this phase of Indian art of the north that has impressed observers with the conviction of recent origin, and which no student of the subject, not even the Indian informants themselves, in most cases, would mistake for the earlier stages of decorative endeavor of people who live in crude economic circumstances amid the Canadian wilderness.

The widespread provenience of the geometric line figures in birch-bark decoration and in the earlier forms of embroidery from the northeastern Algonkian on the Atlantic to the Athapaskan of the northwest, point to their lying in the lowest level of stratification in the historical sequence of design. Close to them in symmetry, and equally prevalent in the east and northeast, are the geometric-curve figures which represent a subsequent step, a second layer of advance both in time and technique. The curve stylicism seems to form an achievement of Algonkian invention, important enough that an attempt be made to give it place in the history of this family of tribes.³⁷

The determination of period seems to rest upon some obvious major considerations:

A. The connection with the prehistoric period through the discovery of decorations on bark in archaeological sites. The finding of such objects in locations

dated to the sixteenth century would settle the question outright in the affirmative as regards geometrical line or curve patterns. But they have not as yet been reported to the satisfaction of students. With this point in mind, however, it must be understood that bark work is extremely perishable when exposed to the elements, and, in most environments, in the soil.

Evidence of the aboriginality of form and structure of birch-bark containers is brought to light in the findings in Newfoundland which have been figured and described by Howley,³⁸ but these bark relics do not bear decorative carving so far as we are informed. They should be given careful scrutiny to settle this point, for, in the course of time, the designs themselves become indistinguishable on specimens that have seen much use. Polishing incidental to human handling and successive films of grease obliterate all save faint traces of the original scratching.

Nevertheless, for contemporary art of the Newfoundland Beothuk, we have the positive evidence of figures carved on bone ornaments so abundantly recovered in the same sites,³⁹ and which to our surprise betray outlines falling within the same category as the line-figures distinguishing the art of the Naskapi areas of the Labrador peninsula, and, north of the Great Lakes, in the bark container decorations of present tribes. This is an observation to be underlined in the study of this moot question.

Reverting to the matter of the preservation of bark utensils, we should not fail to consider the element of transiency of their use in the hands of their nomadic and shiftless owners. The easy manufacture of these vessels and their constant service in the bush causes them to be discarded without thought during the sudden moves necessitated by the endless search for productive hunting and trapping grounds. The summer and winter journeys by canoe and sled are destructive to such wares, and replacement in most cases is easier than preservation when they become dry and brittle or show the effects of camp use. The mischievousness of children is another factor to be considered, for we who seek such objects in the field become weary of hearing from grown-ups how this or that specimen had only shortly before been mutilated by children in their play, or been thrown out alongshore and was last seen in fragments chewed by famished dogs for the grease it had absorbed.

As trivial as such agencies may seem, they are real factors in the economic life-history of the northerners. In addition, it is noted for consideration that even good and serviceable bark receptacles are left, over seasonal migrations from the camp, hanging on poles or nearby trees with the expectation of recovery upon return at a later time. This negligence applies as well to clothing, snowshoes, and tools; and in cases of delay or failure to return over an unexpectedly long lapse of time, these remains

decay and are permanently abandoned. The author has collected desirable specimens himself in such circumstances. Thus, in short, we are looking for archaeological testimony to prove the existence of extremely perishable articles back over a period of three hundred years.

B. Testing the antiquity of decorations by the phenomenon of distribution in related outlines over wide areas where the bark industry has been carried on. This leads to a tentative conclusion that the geometrical line patterns and their development into symmetrical curve patterns may date to a period prior to the dispersion of the populations comprising the Algonkian-speaking family. At the present time the decorations falling within these categories are known to be ingredients of art in birch-bark from the Micmac of Nova Scotia westward across the upper St. Lawrence, and north of the Great Lakes to some point as yet not definitely established by ethnological exploration in the extension of the Ojibwa-Saulteaux group. And, again, we find similar styles, with recognized affinities, occurring southward of this area into regions where Algonkian peoples have migrated, or where their systems of art have supposedly advanced by diffusion.

The question remains to be decided whether this diffusion, in that case, has been due to the influence of traders and colonists, or whether it traveled the native trade channels, either by racial migration, by intertribal barter, or by the captivity of women,

independently of the contacts opened up by the whites. It is feared that this point may be approached by students more through the dictates of opinion than by any other avenue. At any rate it will remain an open one for some time to come. Yet, the impression is created by an observation of designs over a wide range of Algonkian art that the roots of connection go deeply enough to be classified as property traits of the people in question, dating from a time before European forces had become primary factors in the evolution of native domestic economy.

Birch-bark seems to be associated with relatively early and culturally elementary craftsmanship. The bearings of Central Algonkian and New England Algonkian principles of ornamentation and style are strong indications of this explanation, in the author's estimate of the problem. To proceed toward a solution we undoubtedly need more published material and more collections from the tribal groups still artistically unknown. The study of Mohegan-Pequot and neighboring southern New England art by Tantaquidgeon⁴⁰ is in line with what is required, as is, especially, a chronologically systematized review of Central Algonkian and Iroquoian art. Densmore's⁴¹ short analysis of Ojibwa ornamental principles is a step leading to support the assumptions just considered.

To lay down some premises, accordingly, which oppose the too pretentious theorizations of Stolpe,

Barbeau, and others quoted on following pages, all of whom stress the European origin of all developments in the curvilinear art of the Algonkian, the following stages are proposed:

1. Prior to the period of European contact some form of ornamentation is probably nearly as old in the culture of the northern Algonkian as the birch-bark industry itself.

2. The forms of decoration of this early period were inferably geometrical linear patterns, soon evolving in the northeast into curved symmetrical patterns derived from birch-bark cut-out figures or from the habit of folding and biting the material. This, too, could be the development of native genius before or during the period of European intrusion.

3. Birch-bark construction with pattern-decoration was a starting point in technique, design composition, and symbolism from which pseudo-realistic floral compositions of the modern style grow with the acquisition of European materials and stimuli. It usurped the earlier forms in almost all phases of art, and among most of the tribes. This period would date from the sixteenth century, after which progression became so rapid and thorough, in most areas, as to merge the art work in general with that of the European colonial period. This is particularly true, in some cases, of the birch-bark decorations. Native art evolution finally meets its doom in the universal wave of industrialization which introduces manufactured wares with their decora-

tions into native life, resulting in the decline of native art as the native handicrafts disappear.

As the author now interprets the matter, the decorations in birch-bark work of the Montagnais represent the second stage, retaining some attributes of the first, and merging into the third. The bark decorations of the River Desert Algonquin, citing one other case, appear to represent the second merging into the third more completely than is evident with the Montagnais. Through closer contact with the French, the latter have tended to commercialize their art industry in bark, and have, in consequence, more completely assimilated modern conceptions of floral realism.

THE QUESTION OF EUROPEAN INFLUENCE UPON MONTAGNAIS DECORATION

Discussion of the probability of European origin for the exuberant floral motives in eastern North American Indian art has been the focus point in a number of essays whose authors do not seem to hesitate to form conclusions on the question through the face-evidence of the designs. Few of them have voiced a call to examine additional material for more historical information or for consideration of possibilities of evolution in technological processes within the culture itself. There has been general disregard for the possibility that the origin of historic styles in northern art, whether realistically floral or not,

may have evolved out of materials and techniques belonging within the native culture-complex from earliest times.

The problem of design history has been discussed in terms implying that the floral designs—some only floral, indeed, as they appeal to European eyes—can be explained by a single decree of “law in art development.” Should one say, since the floral figures in eastern Indian art of modern times conform unquestionably to European forms, that then the whole system of ornamentation can be defined, without more ado, as being derived from foreign sources conveyed to the New World in colonial times? This is an equivalent in words of the deduction drawn by writers who base their conclusions upon published discussion, and who ignore the conception of inner relationship between techniques of native industry and the developments of creative imagination in ornamentation.

Since the question was first raised by Stolpe in 1894, the suggestion of this scholar that European origin was the only solution of the appearance and spread of phytomorphic patterns in the north and east has been subjected to reconsideration by various authors, but not squarely dealt with until Barbeau's confirmative declaration appeared in 1927. Before venturing to present his own views on the matter, the author would like to quote the opinions of those who have asserted theirs. Quoting Stolpe: ⁴²

“Phytomorphic ornaments are, to be sure, not uncommon throughout the whole of America, but their hybrid origin can be proved in a sufficient number of cases to give cause for thinking the unproved cases, or at least most of them, to be of the same origin. . . .

“I cannot help it, but when I see a phytomorphic ornament in America, I think of the influence of missionaries and especially of the early missionary-work of the Jesuits. I trace it in the leafy vines and the roses on the tomahawk-handles of the Algonquin Indians, especially when they occur, as is not seldom the case, together with a heart of the conventional Old World form (the “cookye-heart”) or with the regular pentagramma. I am heretical enough to believe that the rich plant ornaments on some of the earthen vessels of the Pueblo Indians were first nourished into life by the missionaries, but I need not fear contradiction when I call to mind the plant ornaments on the modern calabashes from Mexico, Central America; and West India, not to speak of the modern maté cups in Argentina, etc.”

With Stolpe’s ideas in mind it is not difficult to see where Barbeau, thirty years after, derives a similar notion, to which he gives valid force as a positive argument by announcing the time and circumstances accountable, in his belief, for the introduction of French *renaissance* art to the Indians of eastern North America. However, before this observation may be quoted in the present report,

which deals only with art representations in birch-bark, it must be granted that his comments apply to the decorations of bark handicraft without his having said so in so many words. Since the bark decorations fall into the classification of motives associated with, if not taken from, the 'plant world, we may assume that Barbeau's apostrophe, in the quotation to follow, is meant to cover this art technique as well as the various forms of quill, bead, and silk embroidery. It should be pointed out, nevertheless, and noted either as an accident in phraseology or as a piece of canny reserve on his part, that in the first sentence the birch-bark decorations are not specifically mentioned:

"Their decorative embroidery either in the form of bead, silk, ribbon, moose hair, and porcupine quill, is a mere corollary of the introduction of the foreign garments with which they still retain their connection. The floral patterns of our northern tribes, which are abundantly represented in our Museum collections, belong one and all to the French *renaissance* and peasant art, and were adapted at an early date by the Indians to suit their fancies. The evolution of this spurious American art can easily be traced through all its stages. Sewing and embroidery, as well as other domestic arts, were taught systematically to Indian girls of Algonkin and Iroquois extraction by the nuns in the ancient colonial missions and schools. Besides, the School of Art founded in 1669 by Mgr. de Laval at Cap Tourmente

for the requirements of education and worship, so firmly established the *renaissance* architectural decoration in the colony that it has continued unimpaired almost to the present day in much of French America, from the Saint Lawrence to Louisiana. The floral art of the Indians, interesting in itself, is merely its collateral development. In such published compilations as Speck's *Double curve motive*, possibly not a single design can be traced back to prehistory. They are derived from rococo figures and ornaments of the Francis I period as transplanted to Canada. . . .

"The Hispano-Mexican decorative patterns, angular or geometric, with diamonds, swastikas and hour-glasses, had followed the trail. They are still typical of many of the plains tribes north and south of the border. At various points they are blended with the floral *appliqués* of the French *renaissance*." ⁴³

It should be borne in mind that in these discussions of design origin, no distinction is drawn between the fields of ornamentation. Decoration of utensils constructed of birch-bark, leather painting, embroidery in quills, hair, and beads, and even ribbon and lace designs are implicitly included in the one category, and one common source of origin is sought.

Krickeberg ⁴⁴ manifests an understanding of the problems of birch-bark construction and ornamentation in his article on northeastern Indian art. He has set a standard for American students to maintain

in his reasonable summarization of the techniques and styles and their possible relationships in art history, equating the probabilities for and against the assumption of European origin for northern art.

Boas⁴⁵ has also dealt briefly with the problem of the distribution of type and decoration of birch-bark vessels in northwestern North America. He accepts the evidence of antiquity of the entire craft as a trait of the circumpolar culture complex.

The fundamentality of so simple, useful, and naturally available a substance as bark in the evolution of industry has been amazingly ignored, however, by contributors to the field of primitive and comparative American technology. One exception is Haberlandt⁴⁶ who describes the industry briefly—giving it a technical designation, *Rindenverarbeitung-Spanarbeit*—among the peoples of Scandinavia and southeastern Europe. Its prehistoric age is acceptably established for Eurasiatic cultural history.

The question of degree of influence carried over from European designs upon the growth of decorative art in the whole northeastern region is not to be passed over lightly. In respect to the art history of the Lake St. John Band there is no documentary evidence concerning the nature of early ornamentation to which we can turn for enlightenment. And, in view of the absence of archaeological testimony, the question of the actual possibility of the decorative motives in existence within the last hundred years being native properties before the coming of

the Europeans, will remain open for some time, if not always, in the minds of many art students.

Relying exclusively on early documentary mention and description, we might find reason, were we inclined to be sceptical, to doubt the very existence of birch-bark receptacles themselves as native inventions for the same period. We fail, indeed, to find distinct reference in the earliest narratives to many devices and many ideas and institutions brought to light in recent research, properties that must have originated with the natives and which did not owe their inception to the genius of the Caucasian immigrants. The equation of antiquity and native originality meets us constantly in surveying the elements of Indian culture everywhere in America, and it may be unfortunate for the process of interpretation of culture in which we are engaged, that a trend of thought has become habitual with us to assume with an easy mien a European origin for the many ideas and inventions, resembling those of the peoples of the Old World, found among the native populations here.

The testimony of the oldest Indians of the Lake St. John Band does not carry force for a period earlier than the beginning of the nineteenth century. According to the statement of old Etienne, whose age by the calculations of the Indians and the Hudson's Bay Company's factor, Mr. Hamilton, was over one hundred years in 1920, his people at Lake St. John were making the same types of bark vessels with

the same forms of ornamentation when he first remembered things as they were at the close of the last century.⁴⁷ Old Napanee, also a centenarian by the same sources of estimate, held a similar opinion when approached on this important question. During the early lives of these men neither the economic nor the spiritual life of the band had been altered by the intrusions of the ubiquitous race.

A question next arises as to whether there may be specimens either in the hands of the Indians or in collections whose date of manufacture may go back to early times. As to the latter, we have no definite dating for specimens older than the period covered by native tradition; and so far as specimens in the hands of the Indians may be taken into account, their age is a matter to be regarded most skeptically. The Montagnais do not preserve their property at all, as has been previously mentioned. It is constantly being lost or worn out through travel. Birch-bark containers, if not broken in three or four years, become brittle; and, after all, there is no place for preserving heirlooms in a tent inhabited by a family of six or eight periodically on the move. Accordingly, confidence is not to be placed in any estimate of age for the birch-bark containers based upon their condition or appearance. As examples of the deceptiveness of the appearances of age, the richly colored specimens shown in pls. XVI, *l-p*; XVII, *a-e*, which any observer might judge to be half a century old, proved to have been made

three or four years before they were collected, by a middle-aged woman, Atan Peta'besh. An allowance of ten years as the maximum of service in the hunters' camps would seem to be almost excessive. The life of the oldest looking specimens in use, browned by smoke, polished by handling, and cracked, must come well within this time period.

Our only material, therefore, to which dating can be assigned rests in museum collections and depends upon the dates of entry in the catalogues. And among these there is nothing from the region in question that antedates the memory of the old Indians just mentioned, going no farther back than to the beginnings of the last century. Estimates of antiquity for this art, then, must rest largely upon deduction.

The author agrees with Barbeau in assuming that Indian artists in North America did graft European decorative patterns upon the development of their art. But he maintains the right to question the surmise, to Barbeau apparently a proof, that the artistic aspirations of women of the birch-bark using tribes in the Canadian forests did not come to realize any principles of decoration for their utensils until they had enjoyed the example of the French nuns. Such an assumption seems to go too far in the right direction. Were we to admit this point of view, we might be asked to assume that the forest tribes even acquired the very idea of construction of the bark containers from Europeans, simply because both

the construction and the decoration of these articles show types resembling those known and used in northern and eastern European countries during the same period.⁴⁸ The solution, it would seem, lies in granting credence to the principle of convergent development which has produced superficially identical objects in the economic growth of peoples in both continental areas where the bark of the birch tree has been provided by nature.

The problem of the origin and evolution of birch-bark vessels and their ornamentation appears to have inter-continental aspects. Even a casual survey of the forms and structure of these manufactures, from Scandinavia eastward across Asia and northern America, shows the wide horizon of the bark industry complex. Such a survey reveals, also, the futility of deciding its place in culture stratification until collections are made from the major ethnic groups inhabiting this wide range of forest, and are studied in historical perspective. The importance of this birch-bark thesis in the comparative study of northern ethnology has for some time been recognized and suggested for research by those who promote and conduct the activities of investigators. Within the range of distribution of the canoe birch there is hardly a people who have not drawn upon it for economic service, employing similar patterns in building with it, and, with few exceptions, grasping the idea of ornamenting the surfaces of bark manufactures consistent with their traditions in art.

The techniques of ornamentation vary more than do those of construction, yet there can still be observed a shadowy similarity of conception and execution of design.

As previously observed, bark receptacles are linked inseparably with the maple sap-gathering occupation of the eastern woodlands, in which industry they are indeed quite indispensable as containers, carriers, and storage vessels. And as regards decoration, with the maple sugar season in mind, is it not more of a wonder that the Indian denizens of the sugar camps should have had to wait until the Europeans suggested the maple-leaf pattern as an occupational emblem, than that they originated the motive themselves?

Nevertheless, sugar making cannot positively be associated with the evolution of bark containers in the Montagnais economic history during the period through which this group has occupied its present range, since the tree does not occur as far north as the latitude in which they hunt. If by any development of theory it should be shown that a connection exists between the sap-gathering industry and the invention of bark receptacles, it would have to be regarded as an extension into the habitat of the Montagnais, or else as an art which was natural to them in a more southerly zone and which accompanied their migration into the cold forests.

Containers made of folded or cut out sections of bark form part of the domestic equipment of un-

civilized peoples in other parts of the world than the circumpolar regions. We observe in collections from the Australian natives of the islands of the Gulf of Carpentaria containers of bark folded as are the Montagnais pails of TYPE IV, and these bear decorative designs applied with pigment. Cylindrical containers of bark are reported here also, as well as from Fuegia; while isolated simple techniques in bark, predominantly of the cylindrical variety, are reported in sections of Africa and the Pacific. While there is, however, less reason to question the continuity of the history of birch-bark constructions among the peoples of northern North America and northern Asia, yet uncertainty is inevitable for some time to come in regard to the growth and diffusion of *primitive* bark processes throughout broader reaches of time and space.⁴⁹

NATIVE ORIGIN LEGEND OF BIRCH-BARK VESSELS

We may now consider the momentous question of the origin of the birch-bark containers as it is accounted for by the Indians themselves. The origin is couched in the terms of a cosmogonic myth, from which testimony of a positive inference of aboriginality for the birch-bark articles and their decorations may be deduced by one not averse to the credulity of such a test. Students of the institutions and inventions of preliterate peoples have schooled themselves to feel that where cultural traits,

under question for their antiquity, are explained in serious tales accounting for the origin of things in the cosmos, a certain modicum of doubt is removed as concerns their archaic position in the history of traits. Test of this assumption seldom fails to bring support as to its validity. On the one hand, truly archaic traits are invariably referred to in the course of mythical recitations as forming the properties of original culture, while, on the other, innovations in culture, especially those due to association with Europeans, seldom find their way into the explanatory tales of a purely native character.

We find the origin theme treated theoretically from many angles in the literature of folk-lore. The corn-complex in eastern North America stands as an illustration of the test, the same being true of tobacco and the range of social and religious customs. The birch-bark complex now falls in line with these. Thus, to find that the explanation of its inception retains a place in the natural system of thought of the people, and means much in the history of native inventions, is most important to the investigator.

The Montagnais tale in which the inception of birch-bark containers and their ornamental designs is explained is that epic of considerable importance in the mythology of the Montagnais-Naskapi which, in a previous collection of legends from the region, the author has called, *How the Summer Birds Were Stolen and Brought North*. As we shall see in the

abstract that follows, the element of interest pertinent to the birch-bark technique and ornamentation lies in the concluding observations made by the narrator on the outcome of events related in the story.⁵⁰

The tale of cosmic explanation opens with the theme of perennial winter reigning in the north country. The Man of the North, or the North Wind, personifying the spirit of winter, agrees to share the year cycle with the Man of the South, who personifies summer and vegetable fertility. By common arrangement, explained in a portion of the epic, they divide the year into two seasons; and a way is to be sought by which the warmth of the South, with its birds, trees, and flowers, is to be brought North to share its alternate season with the cold of winter with its bareness and frigidation. A child is crying itself to death for some unsatisfied longing which, upon persistent inquiry, turns out to be a desire for the Summer Birds. A party, composed of various animals, volunteers to go to the South and bring the desired birds. The company of animal-men embarks on its mission and, after overcoming certain obstacles en route, reaches a land in the South where resides a race of people who hold in their power the warmth of summer and the birds and vegetation which are dependent upon it. The birds are confined in cage-containers of birch-bark. By strategic devices, which do not affect the out-

come of the adventure, the North people succeed in luring the guards away from the treasured birds. They invade the premises and tear open the bark containers thus freeing the birds. The subsequent flight of the invaders and their return to the northern homeland ensues. The Summer Birds, with which we are chiefly concerned, now liberated, fly north, and with them the warmth of the South advances, and vegetation springs up in its track. Thus, simultaneously, the annually recurrent northward migration of birds is originated, warmth and vegetation comes to replace cold and snow, and, of particular emphasis in our present inquiry, the bark containers, patterned, as tradition explains, upon those in which the Summer Birds were confined, are introduced to native culture. *And next, it is explained, the representations in realistic figures of the epoch-making Summer Birds with their associates, the shrubs and plants, both edible and medicinal, became customary as decorative symbols on the bark containers themselves.*

The foregoing abstract gives the substance of the tale and its significance as explained by Joseph Kurtness. The narrative is prominent in the mythology of the area, and is very widely known; but not always is the origin of the physical and cultural properties included in the postlogue. In discussing the explanatory termination of the narrative, the informant pointed out that the sense of the legend was understood generally by the myth-tellers of the

northern Indians to account for the introduction of the bark technique and the decorative devices associated with it, as well as for the seasonal changes from cold to warmth with the cycle of floral and avian advances and retreats.

So much for the evidence bearing upon the antiquity of the technique and its symbolic embellishments. It is hoped that none of the critics of the historical interpretation of the subject, as suggested here, will mistake the purpose in mind in presenting the native reasoning. Its purport is not the elucidation of culture-feature history any more than the solution would suffice for the explanation of climatic history. It has, however, a bearing upon the chronological setting of the birch-bark industry as one of the trait-associations of a complex embracing the varied use of substances derived from vegetable growth and, from them, the development along other lines, such as decoration.

It would seem natural, indeed, had the maize-complex reached north of the St. Lawrence, to find it linked with the legend just referred to, as a corollary to the events related. We would not need to look far away for a version of similar character in which the maize-complex is introduced from the south by a bird-conveyor. Before the significance of this argument can be annulled by the objector, he will have to establish claim to authority by explaining away the archaism of the "theft motive"

in eastern and southeastern mythology as it applies, for instance, to such traits as fire, tobacco, agriculture, summer; etc.

The discussion of plant-culture traits in eastern aboriginal history can not be closed without giving due attention to the history of herbs in medical practice. Lacking definite instances in eastern Indian ethnology of the association of simple band floral designs, either pseudo-morphic or realistic, with the magic of herbal medical practice, it does not insistently follow that such an association could not lie obscurely in the background of the history of these traits. Such a theoretical association, the author ventures to suggest, is almost patent in the data we possess from the Middle Atlantic coast region and southern New England, in the provinces of basket-painting, where the quasi-realistic floral designs prevail on an equal footing with straight-and curve-line geometrical patterns, and where, at the same time, we encounter conspicuous development of medicinal herbology.⁵¹

CONCLUSIONS

The opinions of those who suggest the European origin theory have been quoted and discussed, somewhat sceptically. As a venture in tracing the derivation of birch-bark decoration in the north, beyond the suggestions implied in the text, it is proposed to

arrange the series, on the bases of types of construction and decoration. Viewed through the array of data, both historical and technical, now made accessible, such an arrangement seems highly plausible. Though the following applies to type sequences among the Montagnais, the classifications may be extended to cover phases of progress in adjacent groups of northeastern North America—those of the Province of Quebec, and the Wabanaki divisions:

1. The earliest type-level of bark containers were cooking and food containing vessels. They were folded, not cut, and were fastened at the ends by root stitching or stick skewers. They lacked the rim-hoop and were undecorated. These would be represented by TYPE IV of the text classification, and by the simple folded envelopes of TYPE V.⁵² It is conceivable that these forms would emerge from one of the earliest levels of stratification in circum-polar archaeology.

2. The development into cut and seam-sewn pails and containers, still without rim-hoop—TYPE III—also undecorated.

3. The same forms as the preceding with the acquisition of covers, rim-hoop, and the simplest free-hand decorations in the negative process.

4. (a) Advanced and specialized forms for general domestic uses developed from the preceding types, with rim-hoops and covers. Decorated with bitten, and perhaps later, with cut-out patterns in

band and pseudo-realistic tree and plant figures produced by both the positive and negative processes. TYPES I and II.

(b) No change in form or function from preceding types, but stimulation of quasi-realistic floral representation, imitation, in many cases, through the influence of European art introduced after the middle of the seventeenth century. This is accord with Barbeau's theory based upon the establishment of the *renaissance* art school near Quebec.

5. No change in technique or function, but culmination of the so-called European style of floral designing. Here would be classified the recent forms where departure from earlier style is obvious.

Before the decline of art in birch-bark in the northeast through the supervenience of European goods in native economy, existing collections were made, and the entire series, irregularly distributed among the different groups, has been preserved. Deviations from the earlier proto-historic styles of phytomorphic ornamentation in the direction of French styles are more apparent in the birch-bark craft of the Algonquin than in those of the Montagnais; while in silk and bead embroidery, all groups, from the northeast to the Pacific, have succumbed to European influence.

This is hardly the place to introduce discussions of the associated traits of quill and moose-hair embroidery on birch-bark as they appear in the work

of the Ojibwa, Ottawa, and Micmac, and moose-hair embroidery on birch-bark of the Huron and Algonquin; but as a suggestion of chronology we get the impression that these advanced techniques do belong to a late epoch, which would place them in an historic setting no earlier than the seventeenth century.

NOTES AND REFERENCES

1. Speck, Frank G., Family hunting territories of the Lake St. John Montagnais and neighboring bands. *Anthropos*, xxii, 1927 (pp. 387-403).

2. Reference to specimens in these collections is by initials; MAIHF, AMNH, FMNH, UPM, NMC, NMD. It should be a source of some satisfaction to students of the subject to know that practically all specimens of the birch-bark industry extant from the Lake St. John Montagnais preserved in these collections, have been used and illustrated.

3. Acknowledgment is also due to the Faculty Research Fund, University of Pennsylvania, Grant No. 50, 1932, for financial support for field work.

4. Speck, Frank G., The double curve motive in north-eastern Algonquian art. *Anthropological Series, Geological Survey of Canada*, Memoir 42, 1914.

5. Speck, Frank G., Symbolism in Penobscot art. *Anthropological Papers, American Museum of Natural History*, xxix, pt. II, New York, 1927.

6. Davidson, D. S., Decorative art of the Têtes de Boule of Quebec. *Indian Notes and Monographs, Museum of the American Indian, Heye Foundation*, x, no. 9, New York, 1928; Densmore, Frances, Chippewa customs. *Bulletin 86, Bureau of American Ethnology*, Washington, 1929; Densmore, Frances, Uses of plants by the Chippewa Indians. *44th Annual Report, Bureau of American Ethnology*, Washington, 1928.

7. Gookin, Daniel, Historical collections of the Indians in New England. *Collections of the Massachusetts Historical Society*, I (reprint 1859) p. 151. See also: Willoughby, C. C., Antiquities of the New England Indians, *The Peabody Museum of American Archaeology and Ethnology, Harvard University*, Cambridge, 1935, (p. 250).

8. For discussion of the location, history, and boundaries of the various bands of the region see: Speck, Frank G., Montagnais-Naskapi bands and early Eskimo

distribution in the Labrador peninsula. *American Anthropologist*, n.s., 33, no. 4, Chart 2, 1931.

9. Speck, Frank G., Huron moose hair embroidery. *American Anthropologist*, n.s., 13, no. 1, 1911.

10. Orchard, William C., The technique of porcupine-quill decoration among the North American Indians. *Contributions from the Museum of the American Indian, Heye Foundation*, iv, no. 1, New York, 1916.

11. The sugar maple (*Acer saccharum*) is indigenous to the hardwood forest zone in eastern Canada below Latitude 47°, beyond which lie many of the hunting territories of the Montagnais. Before the great fire of 1870, it was more common south of Lake St. John. No tree is now known in the language by this word, but it may refer to the canoe birch called *wuckwi'*, the sap of which is sweet, and when collected and boiled down, furnishes a syrup that the Montagnais enjoy in the spring.

12. Waugh questions the Indian origin of the maple sugar process, Morgan considers it to be uncertain, while Chamberlain affirms its Indian origin. Waugh, F. W., Iroquois foods and food preparation. *Anthropological Series, Geological Survey of Canada*, no. 12 (Memoir 86), Ottawa, 1916 (pp. 140-3); Morgan, Lewis H. in *3rd Annual Report, Regents of the University of the State of New York* (for 1849), Albany, 1850 (p. 72); Chamberlain, A. F., The maple amongst the Algonkian tribes. *American Anthropologist*, o.s., 4, 1891 (pp. 39-43). Refer also to: Henshaw, H. W., Indian origin of maple sugar. *American Anthropologist*, o.s., 3, 1890 (pp. 341-51); summary in *Bulletin 30, Bureau of American Ethnology*, pt. 1, Washington, 1907 (p. 803). If, as Charlevoix believed, the Indians did not know how to make maple sugar before European contacts, it does not imply that they were ignorant of methods of securing the sap for drink and food. Charlevoix, P. F. X. de, *A voyage to North America*, 1, Dublin, 1766 (p. 83). For details of the industry among the Central Algonkian tribes see: Densmore, Frances, *Bulletin 86* referred to in Note 6 (pp. 123-4), and *44th Annual Report* referred to in same Note (pp. 308-13); Hoffman, W. J., The Menomoni Indians. *14th Annual Report, Bureau of American Ethnology*, pt. 1, Washington, 1896; Skinner, Alanson B.,

Material culture of the Menomini. *Indian Notes and Monographs, Museum of the American Indian, Heye Foundation, Miscellaneous* 20, New York, 1921 (pp. 164-172).

13. Birch-bark containers are in general use for collecting sap and holding the sap and sugar among all peoples about the Great Lakes except the Iroquois, who employ elm-bark pails and wooden troughs. See Waugh and Morgan references in Note 12.

14. The Algonquin proper of the Ottawa river system, neighbors of the Montagnais, made an abundance of sap and sugar.

15. Le Jeune, Paul, Relation of what occurred in New France in the year 1634. *The Jesuit Relations and Allied Documents*, Reuben Gold Thwaites edition, 6, Cleveland, 1897 (p. 273).

16. Spier, Leslie, An analysis of Plains Indian parfleche decoration. *Anthropology, University of Washington*, 1, no. 3, 1925; Plains Indian parfleche designs. *Ibid.*, 4, no. 3, 1931.

17. Speck, Frank G., Naskapi, savage hunters of the Labrador peninsula, University of Oklahoma Press, Norman, 1935.

18. Three specimens from the Escoumains Band are shown in pl. XIX, *d, e, f*.

19. Wooden bottoms and covers occur in specimens from the Central Algonkian (Ottawa, Ojibwa) and from the Wabanaki divisions (Micmac, Penobscot).

20. A still more primitive construction of the cylindrical container, which might be thought of in connection with the evolution of this type of bark vessel, is that which is made by sectioning a tree. The latter must be of a variety from which the bark may be removed in the form of a cylinder by pounding the surface until the woody interior section can be slipped out. This process was known to the southern New England tribes (Mohegan, Nehantic) the hickory being so utilized. The cylindrical section may be provided with a bottom by inserting and plugging a section or disk of wood in one end of its opening. We may also bear in mind the use of hollowed sections of elm trees by the Indians of the east (Iroquois, New England

Algonkian) to form "barrels" for the storage of grain and for lining springs.

21. Testicles of the beaver killed in the breeding season and preserved by being soaked in brandy.

22. This decorative effect is present in most containers from the Têtes de Boule and Waswanipi. Davidson reference in Note 6.

23. One specimen from the Escoumains Band (pl. XIX, *c*) has a foundation of beach grass for the rim. Another, from the Lake St. John Band, in the National Museum of Canada, has a rim foundation of moose hair bound with twine instead of spruce roots. Irregularities, in both cases.

24. In the McCord National Museum, McGill University, Montreal, is a round birch-bark box decorated on the sides with a mosaic of porcupine-quills, suggestive of Micmac art. As this is the only specimen of its kind alleged to be of Montagnais make, inquiry as to its provenience was made to the curator, Miss M. D. Muir. Her information is that it was collected many years ago by a lady from the Tadousac district, without data (correspondence June 16, 1927). This statement removes it from consideration as a Montagnais creation.

25. Kohl, J. G., *Kitchi-gami*, etc. London, 1860 (pp. 412-13).

26. Densmore, Frances, *Bulletin* 86 referred to in Note 6.

27. Spier, Leslie, in review of Speck's *Double curve motive*. *American Anthropologist*, n.s., 17, 1917 (p. 344).

28. *The Jesuit Relations and Allied Documents*. Thwaites Edition, 63, 1667-87 (p. 291).

29. Howley, J. P., *The Beothuks or red Indians*. Cambridge, 1915 (p. 175).

30. Howley, J. P., *op. cit.* (pp. 175-6).

31. Howley, J. P., *op. cit.* (p. 181).

32. The Montagnais employ scissors for their task but formerly the knife edge was used, the cutting being done on a flat slab of wood.

33. In fairness to the question of resemblance of so many of the Indian compositions of this class to European figures, attention is directed to fig. 4, a pattern for colonial

patchwork designing in colored cloth. It would require keen art-form perception to distinguish the variant genius characteristic of the European and Indian pattern creations. It is, nevertheless, there. The figure here shown is an admirable illustration of the whole thesis.

34. It is worth noting that the Naskapi of the northern regions of the Labrador peninsula employ the same decorative emblem but give it the name of "goose." The relative abundance of the two birds in these respective areas determines the identity of the conventional figure. The author regards it as an extremely ancient one from the fact of its wide distribution within the culture group.

35. Notably among the Delaware, who believe that human representations become animated and develop into malevolent spirit forces.

36. This idea is based upon the concept of the Christian cross as being suggestive of spiritual force. It has to do with the Holy Ghost, and the Montagnais generally have come to regard the figure as a miraculous Christian symbol.

37. A still bolder endeavor along more aggressive lines than those here proposed might lead to the inclusion, within the broader category of double-curve art, of figures appearing in the relics of "mound builder" cultures in the Cumberland-Ohio region. See, for example, Shetrone, H. C., *The mound builders*. New York, 1931 (pp. 127-38, fig. 70).

38. Howley, J. P., *op. cit.*, pl. 34.

39. Howley, J. P., *op. cit.*, pls. 25-29.

40. Tantaquidgeon, Gladys, unpublished ms. in the possession of the Bureau of American Ethnology.

41. Densmore, Frances, *Bulletin* 86 referred to in Note 6.

42. Stolpe, H., *Studies in American ornamental art. Compte Rendu Congrès International des Américanistes, 10^{me} Session*, Stockholm, 1894 (pp. 80-1).

43. Barbeau, C. M., *The native races of Canada. Transactions of the Royal Society of Canada*, 3rd series, XXI, section II, 1927 (pp. 49-50); *The origin of floral and other designs among the Canadian and neighboring Indians. Proceedings XXIIIrd International Congress of Americanists*, New York, 1928 (p. 512).

44. Krickeberg, W., *Geschichte des Kunstgewerbes aller Zeiter und Völker*, von H. Th. Bossert, Berlin, 1929, II, s. 168 (pp. 178-80).

45. Teit, James, *The Shuswap. Memoirs of The American Museum of Natural History, Jesup North Pacific Expedition*, II, pt. VI, New York, 1906. Discussion of basketry by Franz Boas (pp. 477-88).

46. Haberlandt, Arthur, *Rindenverarbeitung-Spanarbeit. Illustrierte Völkerkunde*, von George Buschan, III, Stuttgart, 1926 (pp. 497-500).

47. Even though the old man could converse only in Indian, he cracked the age-old saw that when he was young the Montagnais women made more bark containers and decorated them better than they did in later years. If we continue to hear the theme of "things not being as good as they used to be" from the unsophisticated, we may have to believe it.

48. Oval boxes of thin wood and birch-bark, of cut and construction precisely like the round or oval birch-bark boxes of the northern Indians and the Siberians, are commonly found in France and northern Europe. The top and bottom, however, are of wood. It is hardly necessary to mention here the abundant material in museums showing the use of birch-bark throughout Scandinavia in forms similar to several types in North America.

49. Boas, Franz, *Migrations of Asiatic races and cultures to North America. Scientific Monthly*, XXVIII, February, 1929 (pp. 110-17); *Primitive art*. Oslo, 1927 (pp. 55-7). Boas voices the common opinion of authorities in technology that birch-bark vessel manufacture originated early in the circumpolar culture and migrated with race to its frontiers.

50. Speck, Frank G., *Montagnais-Naskapi tales from the Labrador peninsula. Journal of the American Folklore*, 38, no. 147, 1925 (pp. 6-8). Working under the Faculty Research Grant of the University of Pennsylvania, the author was fortunate to obtain a more comprehensive version of the legend than had been possible before. This explanatory section is set in italics. The narrative was recorded in the native text, Mistassini. It was recited by a prominent informant, Chief Joseph Kurtness, in response

to an inquiry about the origin of floral designs in the birch-bark decoration of the Laurentian tribes.

51. Miss Tantaquidgeon's unpublished study of Mohegan decoration (see reference in Note 40) is one case that may be cited as a demonstration.

52. Comparable to parfleche construction in the Plains area.

The author desires to express a real obligation to Professor Loren C. Eiseley for his suggestions of the several references cited in the discussion of bitten patterns, and to Mr. Claude E. Schaeffer, University of Pennsylvania, for his aid in the completion of the manuscript.

PLATES

Unless otherwise noted all the specimens, designs and patterns illustrated in the plates are from the collections of the Museum of the American Indian, Heye Foundation. Wherever possible, the catalogue numbers have been given.

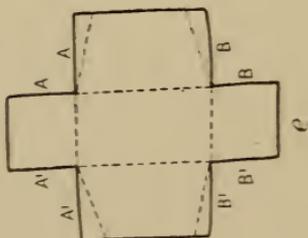
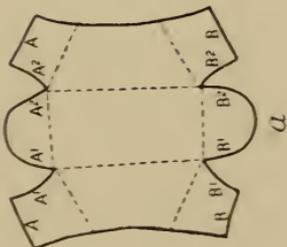
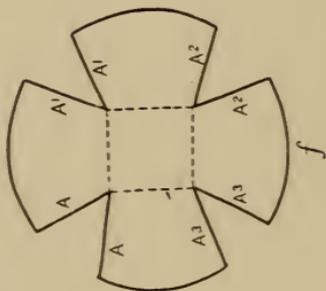
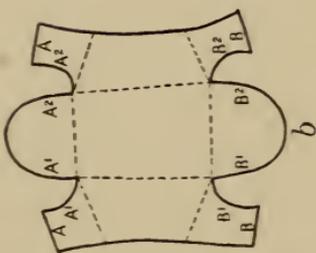
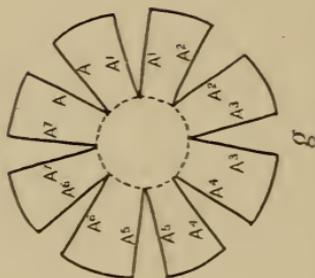
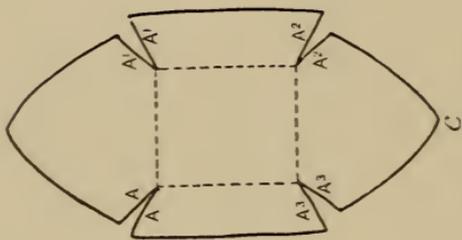
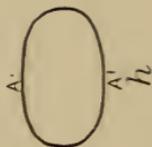
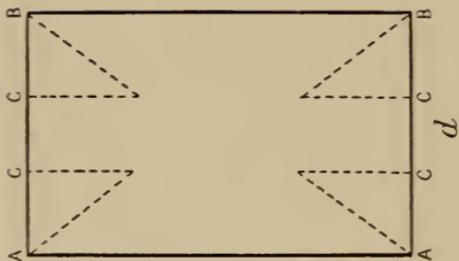


PLATE I

PATTERNS FOR CONSTRUCTION OF
BIRCH-BARK CONTAINERS

- a.* For deep container shown in pls. XV, XVI, XVII, XIX
 - b.* Same with higher arched curve edge on short ends, occasionally squared
 - c.* Mistassini variation of pattern *f*, Type II, with upcurved (toboggan) ends
 - d.* For seamless or folded container, Type IV. Fold down at *a-b*, up at *c*, then lap *a* over *b* and fasten by sewing or with skewers
 - e.* For containers shown in pls. XV, XVI, XVII, XVIII, XIX
 - f.* For bark dish or pan, Type II, shown in pls. XVI, XIX, XX, XXI
 - g.* For dish or pan, Type II, variation of *f*, shown in pl. XX, *a*
 - h.* For oval or cylindrical box, side and bottom, Type III, shown in pls. XVI, XX, XXI
- a, b, c, e, f, g* to be bent on dotted lines, toward center, and sewed with spruce roots on corresponding lettering

PLATE II
DOUBLE CURVE DESIGNS



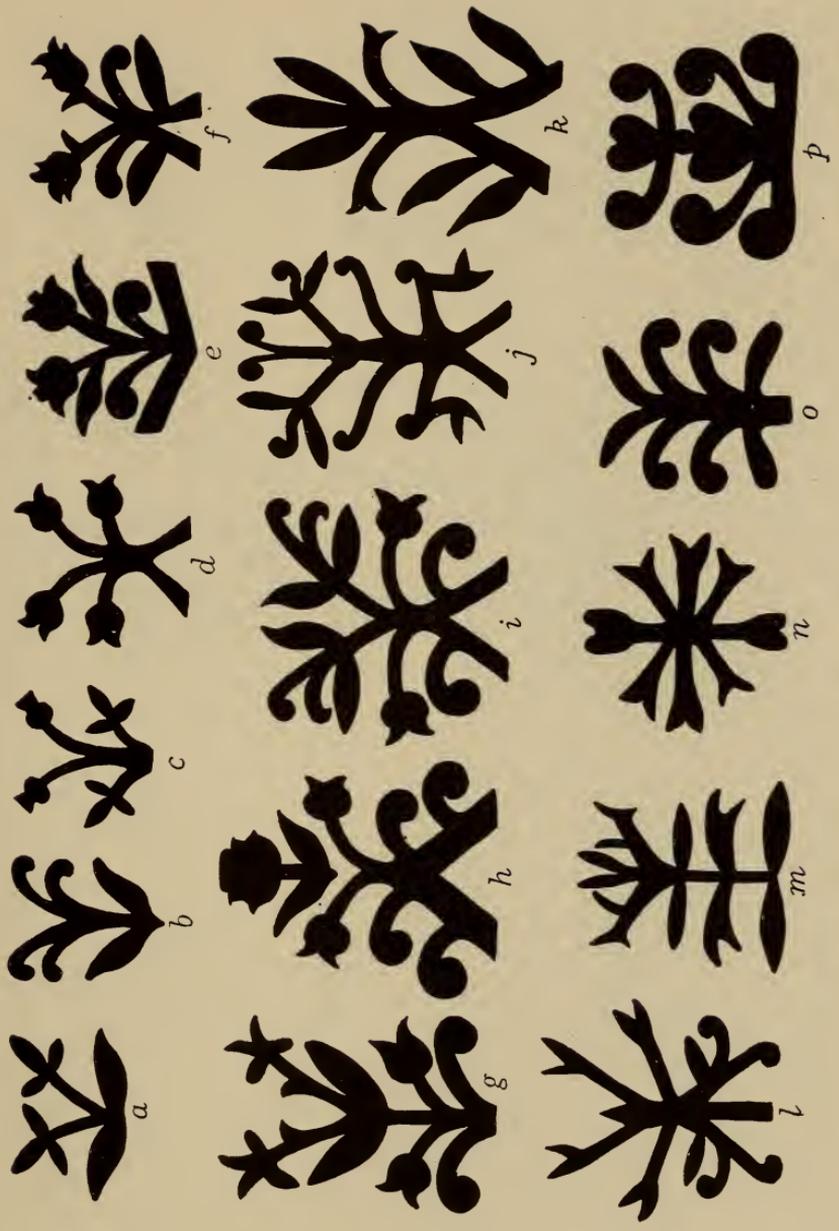


PLATE III

DESIGNS SHOWING COMBINATIONS OF
VARIOUS CURVE UNITS

PLATE IV

DESIGNS SHOWING VARIOUS FLORAL PATTERNS





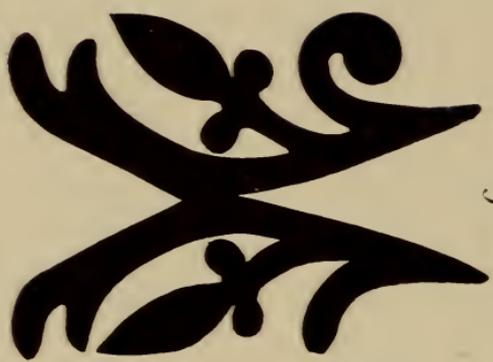
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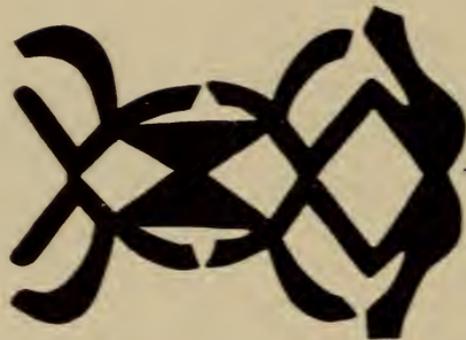
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c



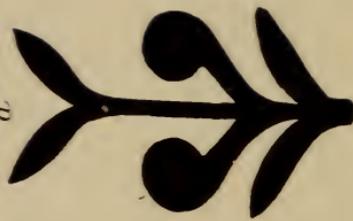
d



e



f



g

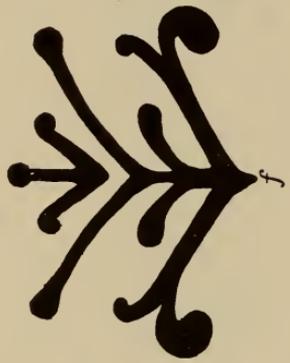
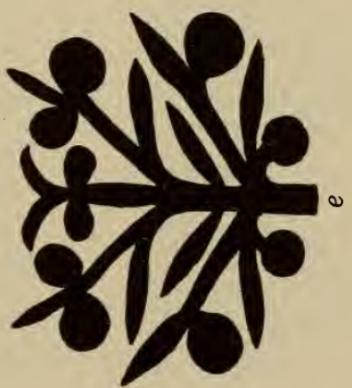
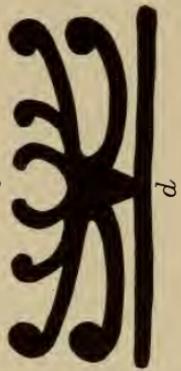
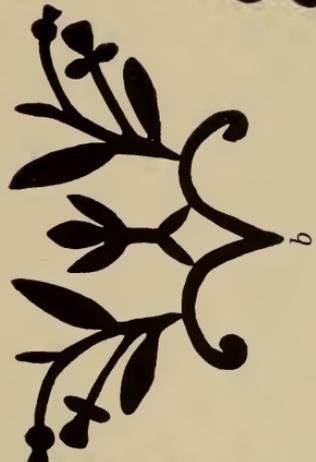
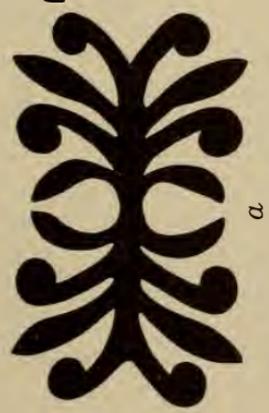
PLATE V

DESIGNS SHOWING NATURAL AND CONVENTIONALIZED
FLORAL PATTERNS

PLATE VI

FLORAL DESIGNS FOR BARK CONTAINERS

e, g. Designs for container ends



SPECK—MONTAGNAIS BIRCH-BARK



PLATE VII

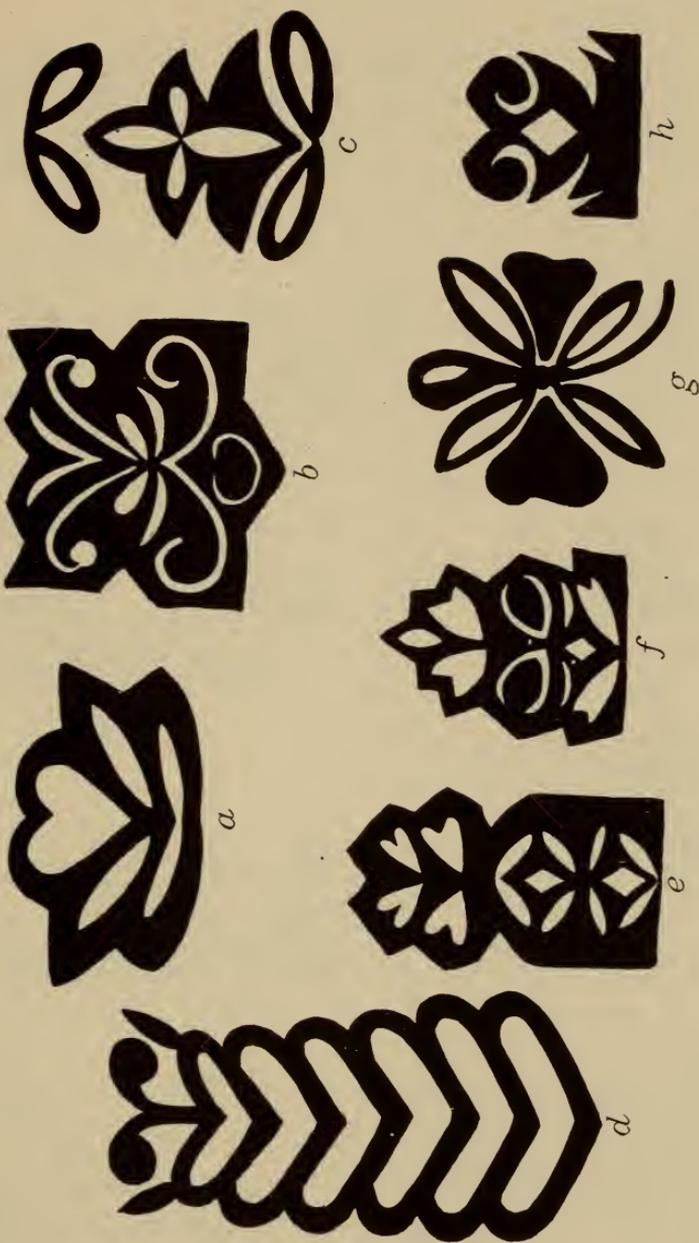
DESIGNS FROM BIRCH-BARK CONTAINERS

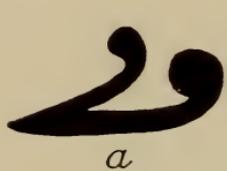
- b, c.* Hubbell Collection, Waterbury, Ct.
- d.* NMC, III c-448
- i.* Partridge pattern

PLATE VIII

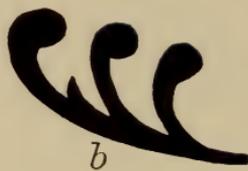
DESIGNS FROM BARK CONTAINERS COMBINING
POSITIVE AND NEGATIVE TECHNIQUES

- a.* Speck collection, see pl. XVI, *k*
- b.* 10/1494, see pl. XVI, *a*
- c, g.* AMNH, 50.2/1694, see pl. XVII, *g, l*
- e, f.* 14/6918, see pl. XV, *c*
- h.* Hubbell Collection





a



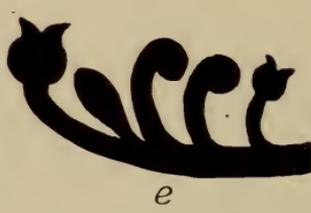
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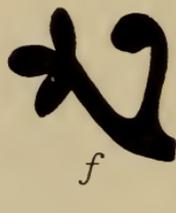
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d



e



f



g



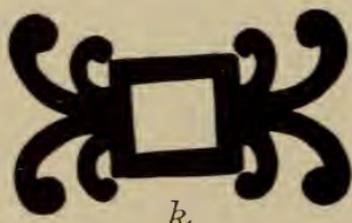
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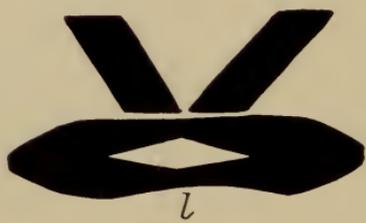
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j



k



l

PLATE IX

DESIGNS FROM BIRCH-BARK OBJECTS

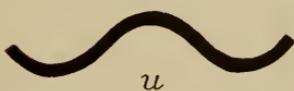
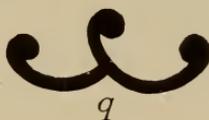
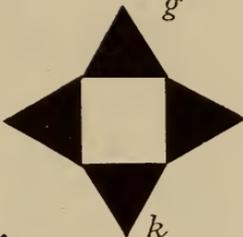
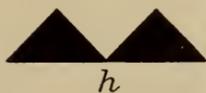
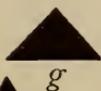
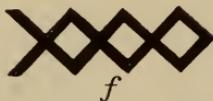
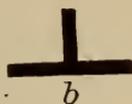
- a-g, i.* Elements used singly or doubled as space permits
h, j-l. Cut-out pattern designs

PLATE X

DESIGN ELEMENTS

Figures from the single bar and the simple curve showing progression in pattern formation by doubling, tripling, orientating, aligning, reversing, and filling solid the design elements. Practically all of the above figures, as primary forms, are found in actual use as decorations on bark containers illustrated in other plates.

- c. Bar element orientated to form a quarter-pierced cross design; cover round bark box, Hubbell Collection



SPECK—MONTAGNAIS BIRCH-BARK



PLATE XI

DESIGN ELEMENTS AND FIGURES

a-p. Free hand figures of an elementary character used in composition or as single filling designs

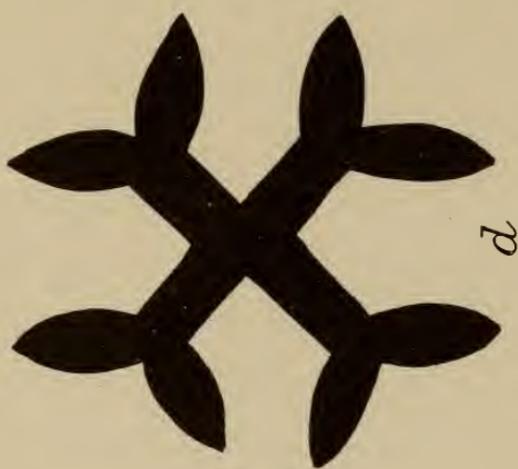
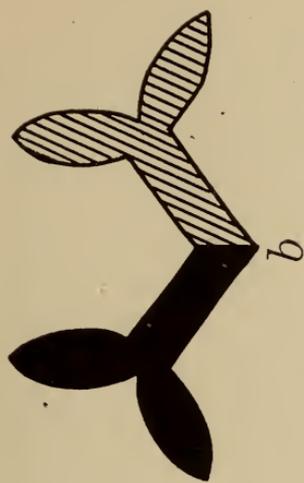
Animal figures from birch-bark objects (LSJ); *q*, beaver, see pl. xx, *h*; *r*, bear, see pl. xxi, *Group C*; *s*, moose, see same pl.; *t*, partridge, see pl. xx, *f*; *u*, *v*, geese; *w*, loon; *x*, salmon.

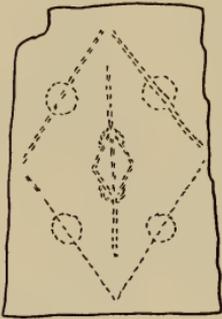
y. From birch-bark container showing two women in dance around a central table

PLATE XII

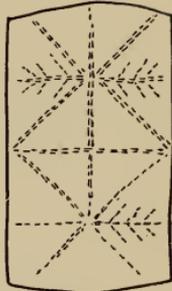
EXAMPLES OF MULTIPLIED DESIGN

- a.* Curve element shown doubled in shaded outline repeated three times, side surface, round bark box, Type III ($3\frac{3}{4} \times 6$ in.) Hubbell Collection; *c*, same element orientated to form decoration on cover of this specimen.
- b.* Elementary pattern form composed of two ellipses and a bar, shown doubled in shaded outline, on sides of two boxes (5×7 in. and $5\frac{1}{2} \times 3\frac{1}{2}$ in.) Hubbell Collection; *d*, same element quadrupled and orientated to furnish decoration for the covers of these boxes

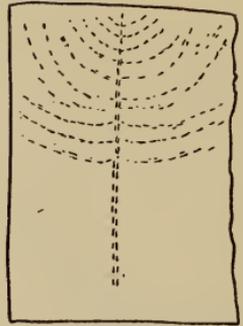




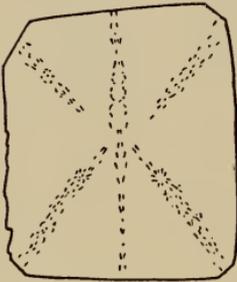
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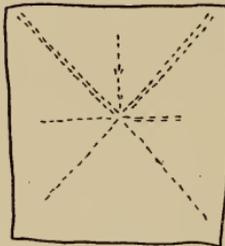
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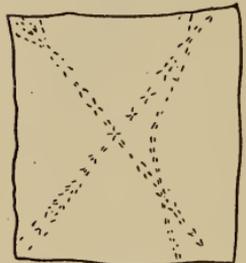
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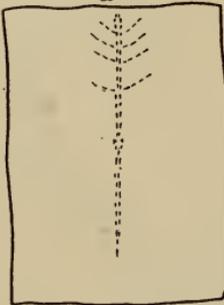
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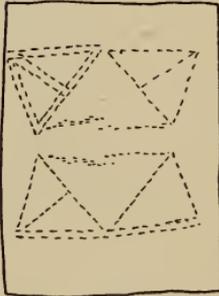
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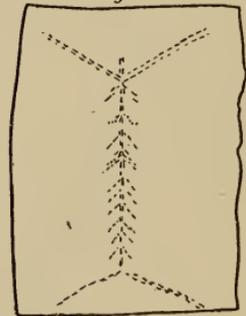
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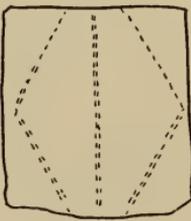
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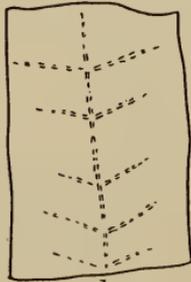
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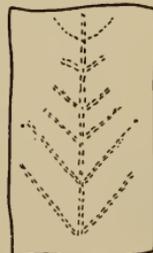
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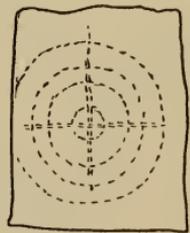
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k



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m

PLATE XIII

BITTEN PATTERNS, LAKE ST. JOHN BAND

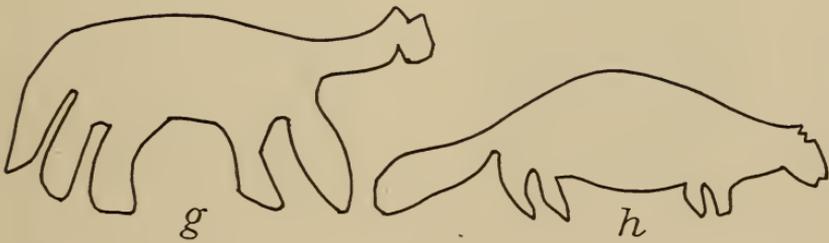
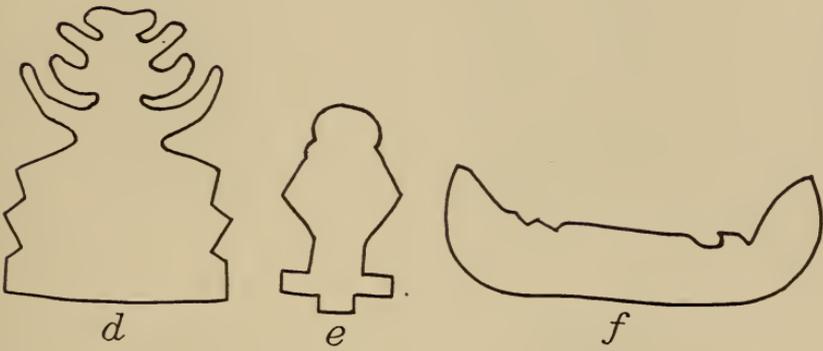
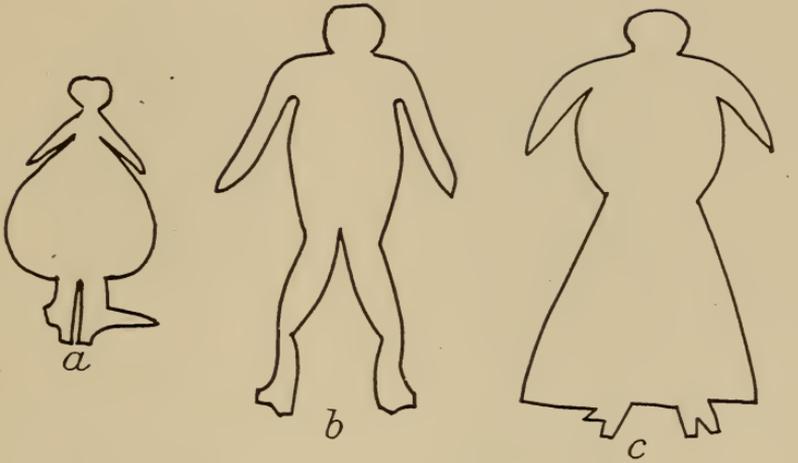
Produced by folding thin sheets of bark and compressing them between the teeth. They serve as suggestions for decorations on birch-bark containers, or as designs for bead and silk embroidery.

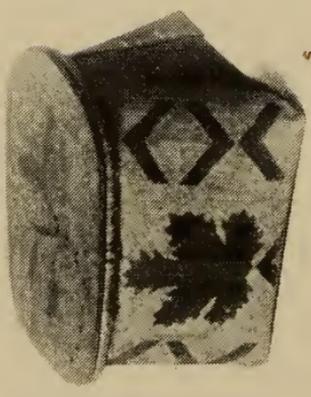
- a.* 19/5763, started to make trees, but trails came out
- b.* 19/5764, trees and trails
- c.* 19/5765, tree
- d.* 19/5767, trees and trails
- e.* 19/5774, hunter's trails
- f.* 19/5768, crossing trails
- g.* 19/5773, tree
- h.* 19/5775, trails, but completing a star
- i.* 19/5766, tents and connecting trail
- j.* 19/5769, hunter's trails
- k.* 19/5776, tree
- l.* 19/5771, tree
- m.* 19/5770, moon

PLATE XIV

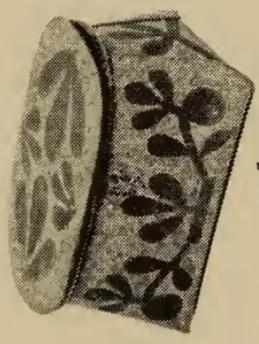
CUT-OUT PATTERNS USED IN ORNAMENTS
BIRCH-BARK CONTAINERS (LSJ)

- a.* 19/5755, woman
- b.* 19/5756, man
- c.* 19/5757, woman
- d.* 19/5760, tree
- e.* 19/5761, no name
- f.* 19/5762, canoe
- g.* 19/5759, wolf
- h.* 19/5758, beaver

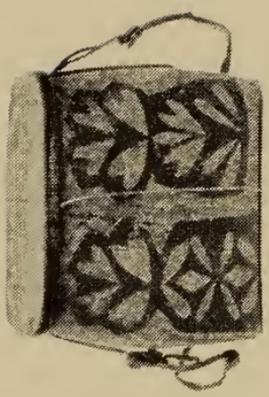




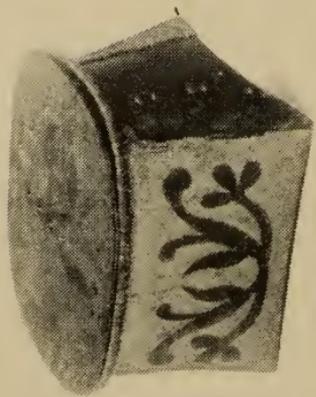
a



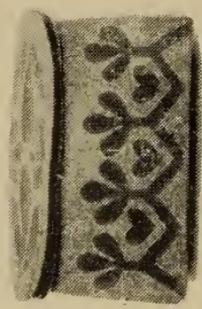
b



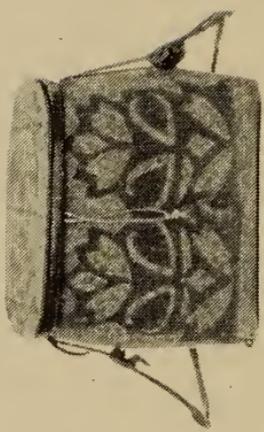
c



a



b



c

PLATE XV

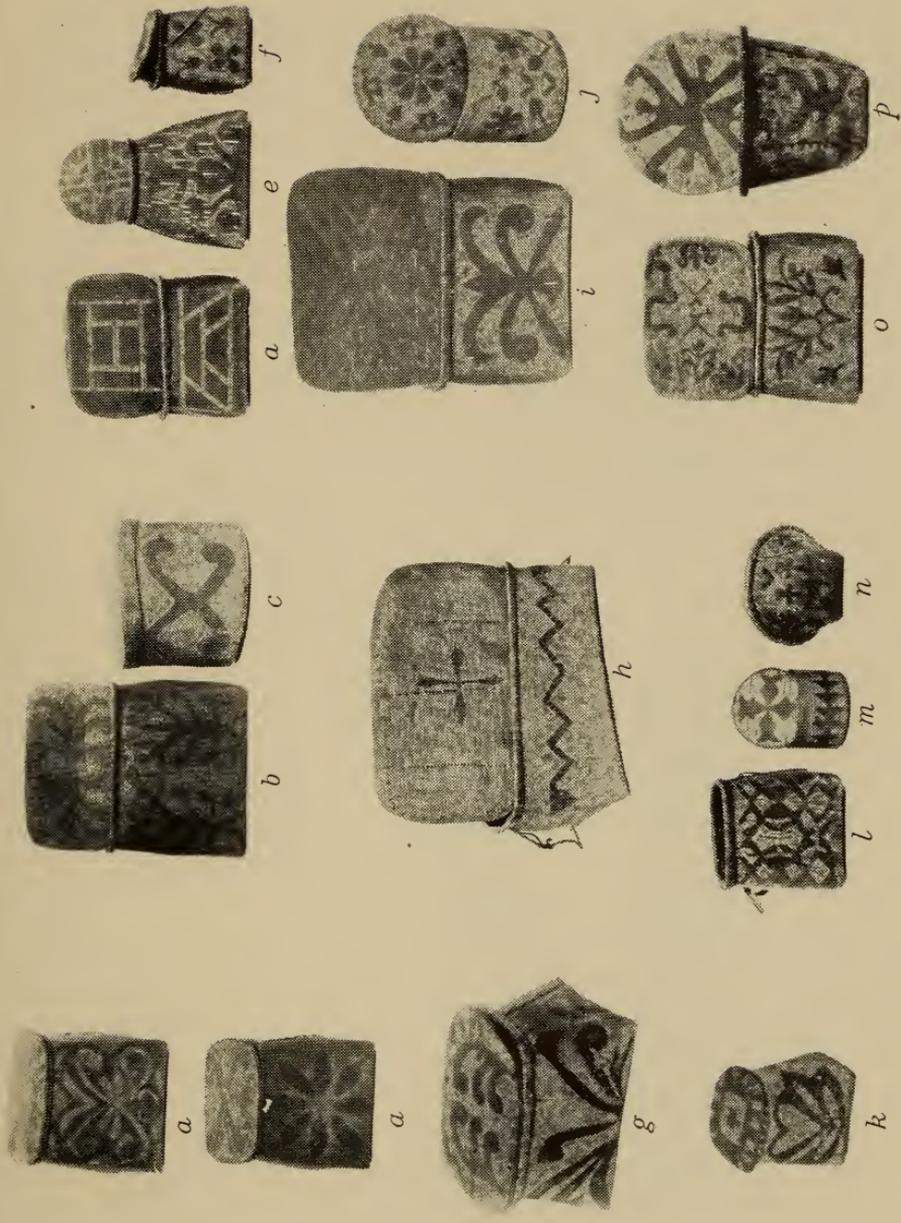
BIRCH-BARK CONTAINERS (LSJ)

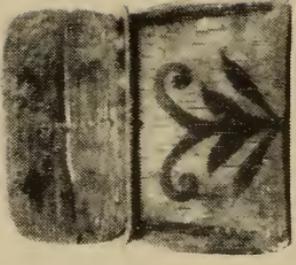
- a.* both sides; design (upper) leaf and elbows, (lower) flower or tree;
length $7\frac{1}{2}$ in. height $5\frac{1}{2}$ in.; FMNH
- b.* both sides; 14/6918
- c.* both sides; 10/1502

PLATE XVI

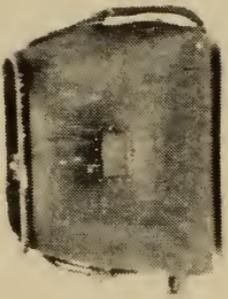
BIRCH-BARK CONTAINERS OF VARIOUS FORMS (LSJ)

- a.* both sides, 10/1494
- b.* 2/8819
- c.* 2/8821
- d.* 2/8832, length 8 in.
- e.* 2/8830, height $6\frac{7}{8}$ in.
- f.* 2/8834, height $5\frac{1}{4}$ in.
- g.* flower or tree design, length 6 in., height 4 in. (Speck Collection)
- h.* 10/1510, length 22 in.
- i.* 2/8833
- j.* 10/1490
- k.* flower or tree design, length and height $1\frac{1}{4}$ in. (Speck Collection)
- l.* 2/8836
- m.* 2/8838
- n.* 10/1487
- o.* 10/1496
- p.* meat pail, 2/8858





e



d

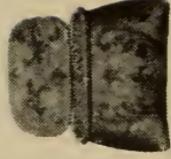


c



b

a



j



i



l



k



h



g



f

PLATE XVII

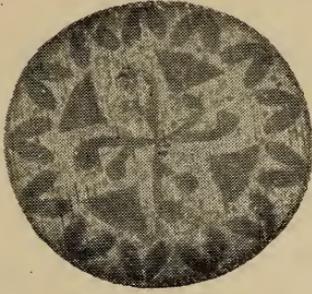
BIRCH-BARK CONTAINERS WITH LIDS

- a.* AMNH, 50.2/2189, both sides (LSJ)
- b.* AMNH, 50.2/2767, both sides (Seven Islands)
- c.* AMNH, 50.2/2196, both sides (upper) pine tree with two fir trees
(lower) clover designs, the angular border representing the
firmament (LSJ)
- d.* 2/8824 (LSJ), used by travelling family to transport pet porcupine
- e.* 10/1495 (LSJ)
- f.* AMNH, 50.2/2190 (LSJ)
- g.* AMNH, 50.2/1694, see *l* (LSJ)
- h.* AMNH, 50.2/2062, see *k* (M)
- i.* AMNH, 50.2/2191 (LSJ)
- j.* AMNH, 50.2/1693 (LSJ)
- k.* reverse of *h*
- l.* reverse of *g*

PLATE XVIII

VARIOUS TYPES OF BIRCH-BARK CONTAINERS

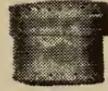
- a-c.* Boxes, top and side views, Type III, NMC, III c-162, III c-176,
III c-23
- d.* Food container or berry pail, height $9\frac{3}{4}$ in., length at base $11\frac{3}{4}$ in.
15/3307
- e-g.* Containers, NMC, III c-158, III c-163, III c-211



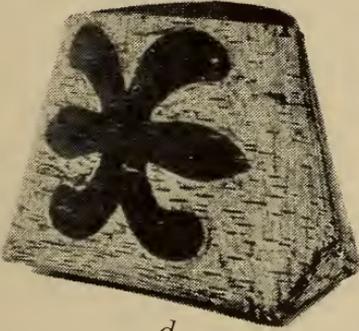
a



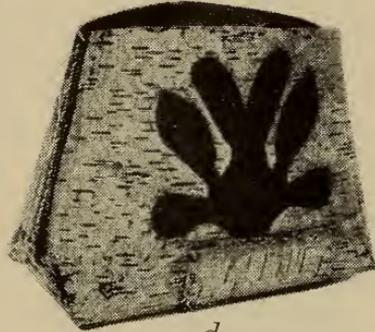
b



c



d



d



e



f



g



a



b



c



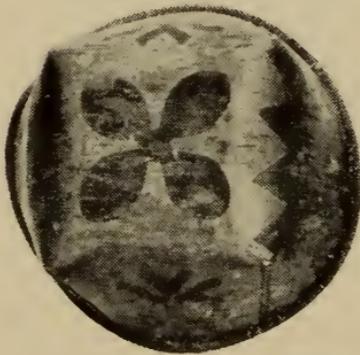
d



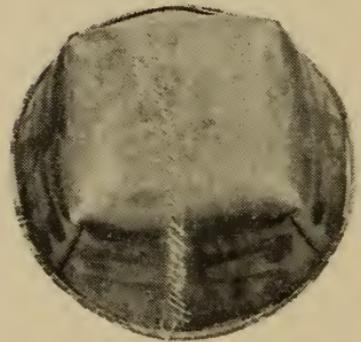
e



f



g



h

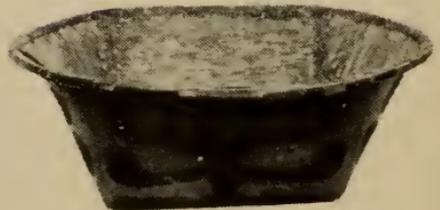


PLATE XIX

BIRCH-BARK BOWLS AND DISHES

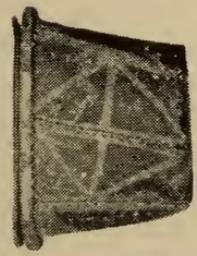
- a, b.* Bowls, 2/8857, 10/1487 (LSJ)
- c.* Dish, diam. $7\frac{3}{4}$ in., 2/8845 (Escoumains)
- d.* Dish, diam. $11\frac{3}{4}$ in., 10/1370 (Escoumains)
- e.* Dish, diam. $13\frac{1}{2}$ in., 10/1371 (Escoumains)
- f.* Dish, diam. $10\frac{1}{4}$ in., 10/1371 (Escoumains)
- g.* Dish, bottom and side, diam. 18 in., 2/8855 (LSJ)
- h.* Dish, bottom and side, diam., 23 in., 2/8856 (LSJ)

PLATE XX

BIRCH-BARK CONTAINERS OF VARIOUS TYPES

All LSJ unless otherwise noted

- a.* Meat pail with cover, NMC, III c-168
- b.* Box and cover, height $3\frac{1}{4}$ in., length $7\frac{1}{2}$ in., Type III, 15/3284 (M)
- c.* Food tray, side and bottom, used by hunter when eating game, especially beaver, killed after receiving a dream admonition, length $23\frac{1}{2}$ in., 15/3283 (M)
- d.* Box, NMC, III c-17
- e.* Food dish, diam. 11 in., 15/3296 (Chicoutimi)
- f, g.* Comb cases, NMC, III c-15, III c-107
- h.* Drinking cup, NMC, III c-22
- i.* Vessel, NMC, III c-159
- j.* Berry pail, Type iv, length 22 in., Peabody Museum, Yale University. This type is also used for cooking.



a



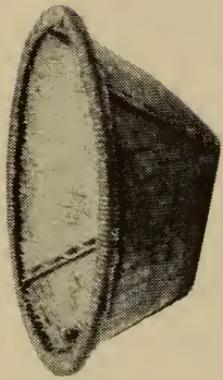
b



c



d



e



c



f



g



h



i



j

SPECK—MONTAGNAIS BIRCH-BARK

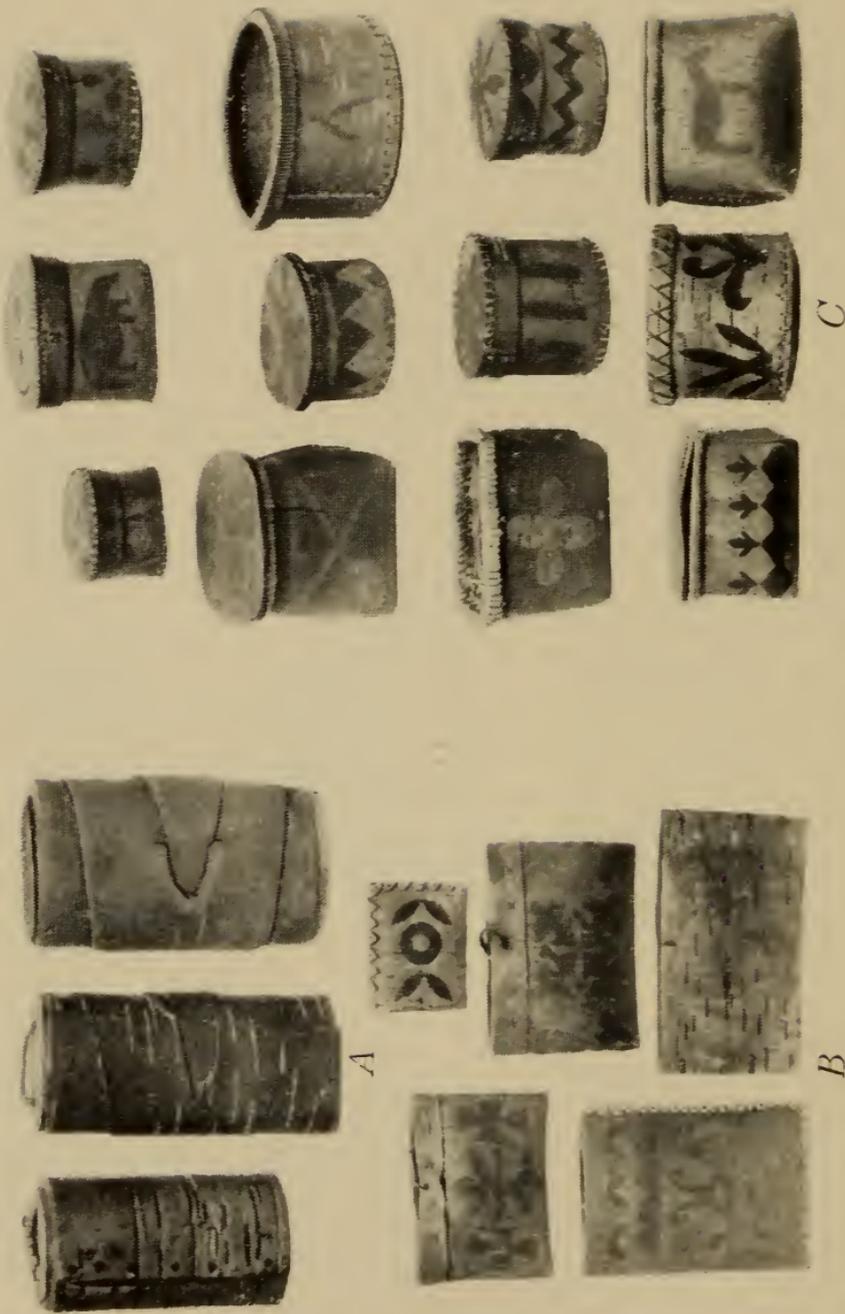


PLATE XXI

BIRCH-BARK CONTAINERS OF VARIOUS TYPES

All LSJ unless otherwise noted

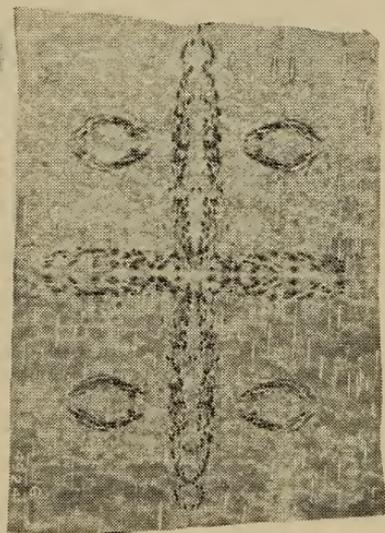
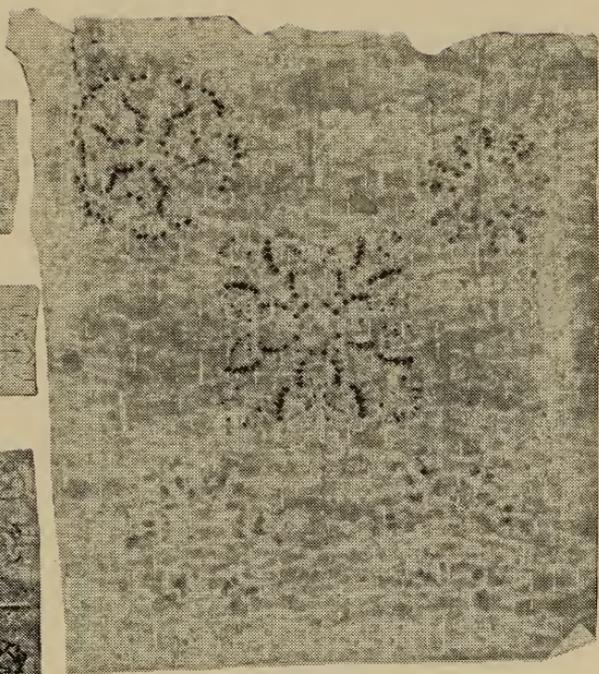
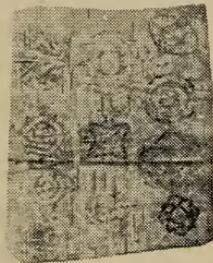
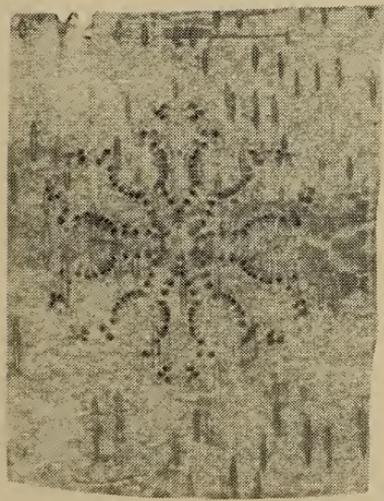
- Group A.* Scent, match and needle boxes; l. to r. 10/1484, 10/1483, 10/1486
- Group B.* Comb cases; l. top, 11/8108, bottom, 10/1481; r. top to bottom, 10/1482, 11/8107, 10/1480
- Group C.* Oblong and round containers; l. to r. by rows, 2/8842, 2/8841, 10/1491; 10/1493, 2/8840, 10/1489; 13/3008 (Naskapi), 2/8835, 2/8837; 10/1492, 10/1488, 10/1497

PLATE XXII

BITTEN PATTERNS IN BIRCH-BARK (LSJ)

Three large patterns all 16/4924

Four smaller patterns, l. to r. 14/6112, 14/6112, 2/8905, 14/6112



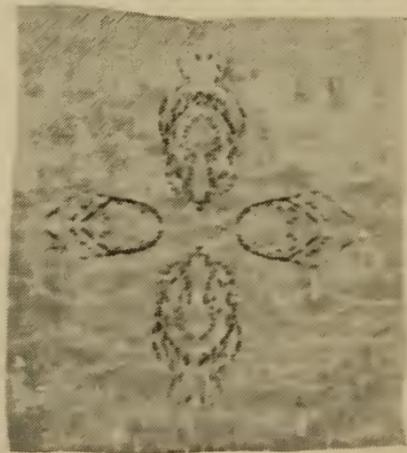
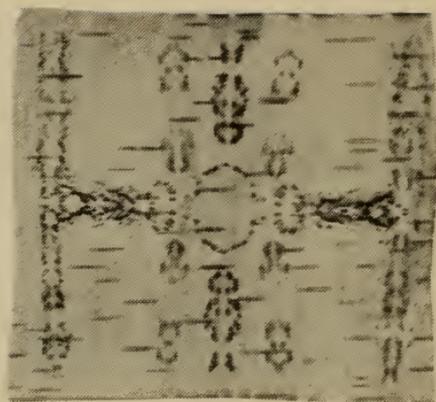
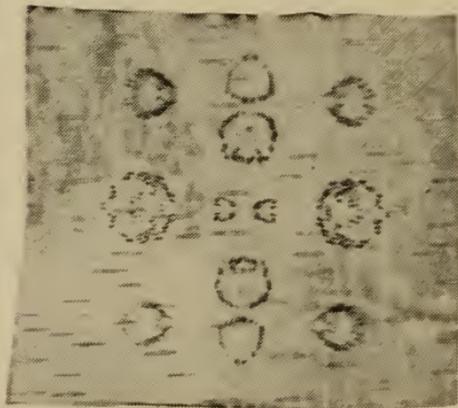
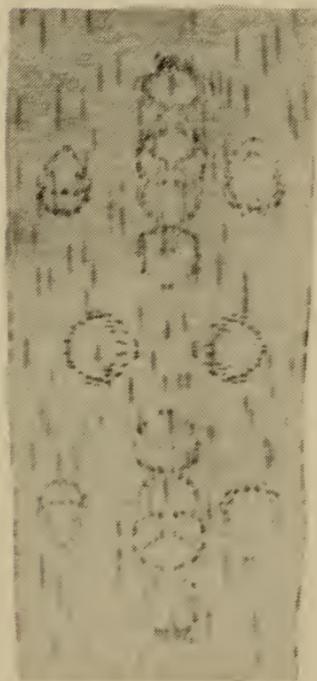


PLATE XXIII

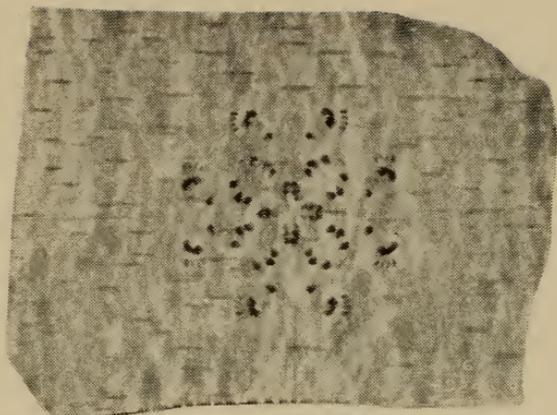
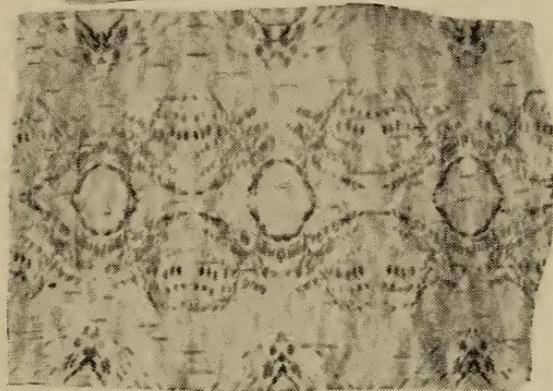
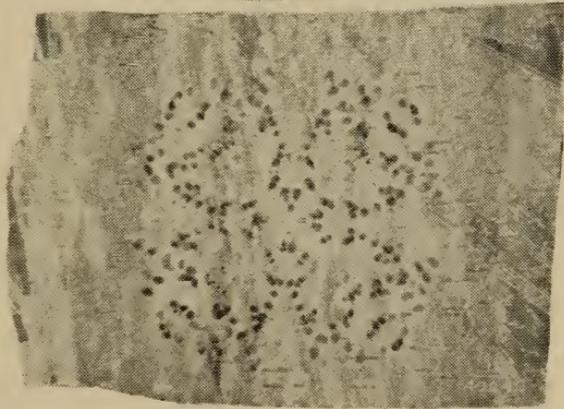
BITTEN PATTERNS IN BIRCH-BARK (LSJ)

All 16/4924

PLATE XXIV

BITTEN PATTERNS IN BIRCH-BARK (LSJ)

All 16/4924



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INDIAN NOTES AND MONOGRAPHS

Vol. XI



No. 3

A SERIES OF PUBLICA-
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AMERICAN ABORIGINES

A COLLECTION OF SPECIMENS
FROM THE
TETON SIOUX

BY

FRANCES DENSMORE

NEW YORK
MUSEUM OF THE AMERICAN INDIAN
HEYE FOUNDATION

1948

THIS series of INDIAN NOTES AND MONOGRAPHS is devoted to the publication of the results of studies by members of the staff and by collaborators of the Museum of the American Indian, Heye Foundation, and is uniform with HISPANIC NOTES AND MONOGRAPHS, published by the Hispanic Society of America, with which organization this Museum is in cordial coöperation.

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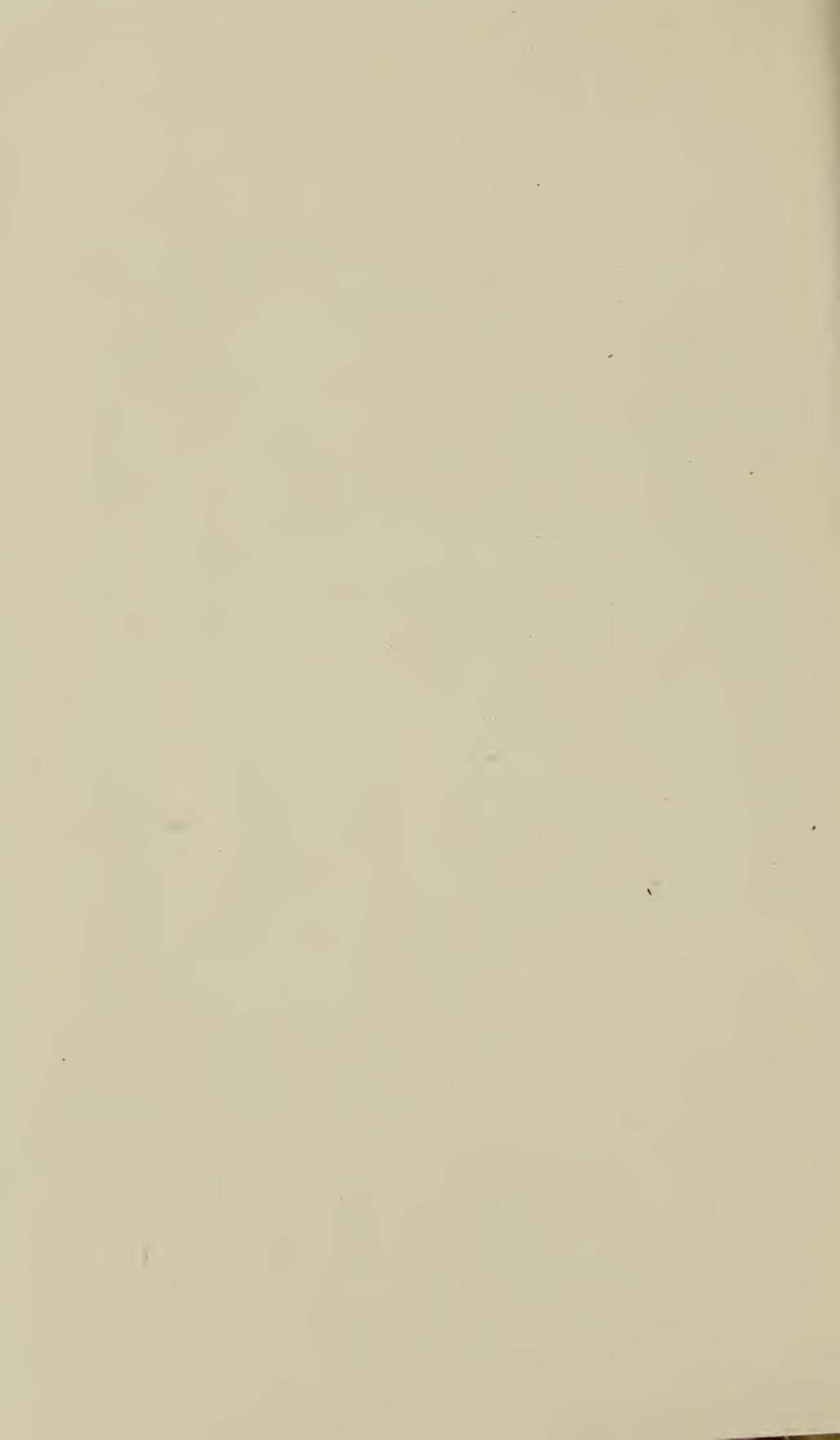
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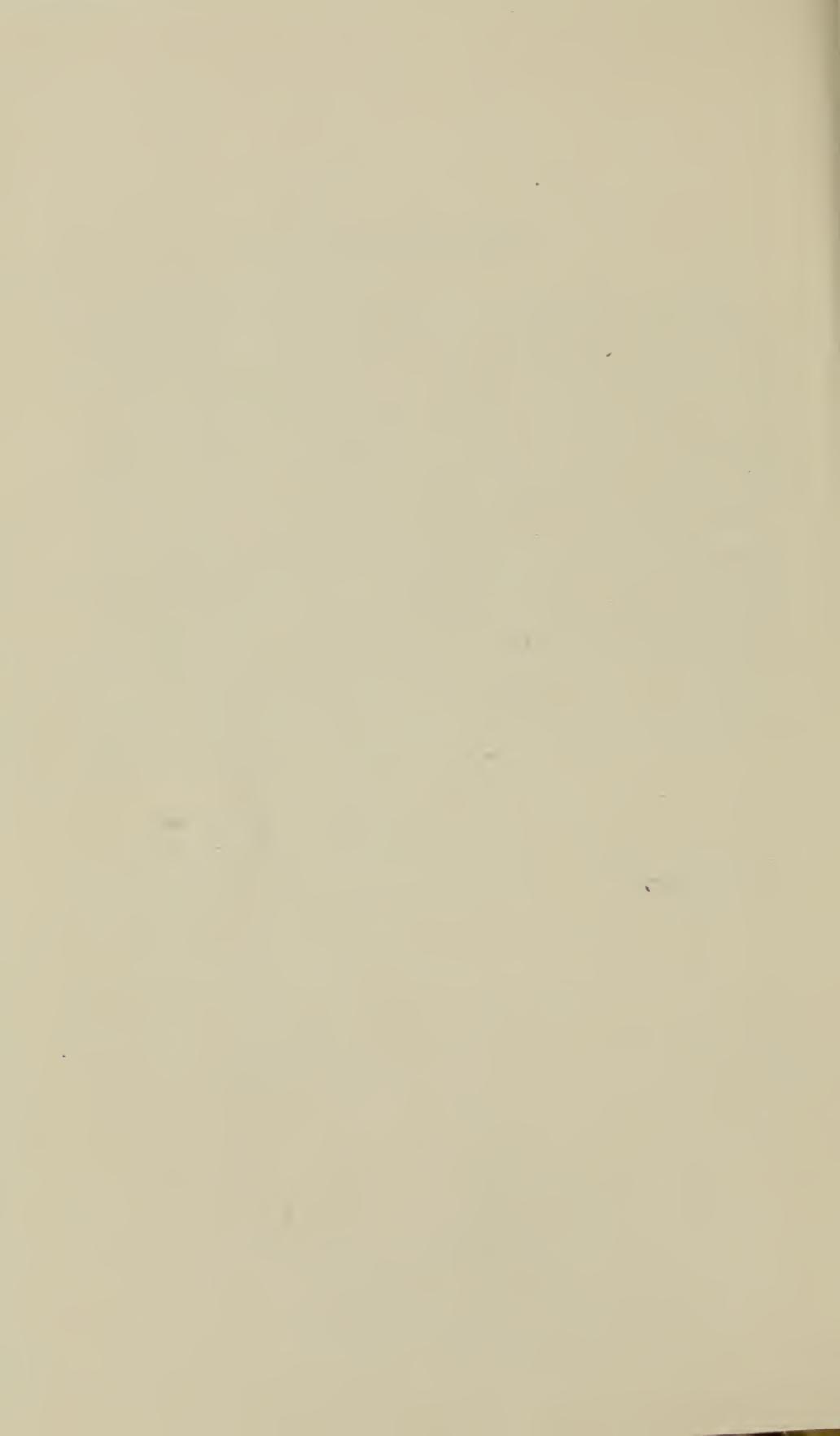
FOREWORD

Although a number of the specimens in this Teton Sioux collection made through several years by Miss Frances Densmore are illustrated in her study of Teton Sioux music, it was felt that a record of the collection in its entirety would be important to students of the Plains cultures.

The Bureau of American Ethnology, which published Miss Densmore's study in 1918 as Bulletin 61, has graciously permitted the use of such material from this Bulletin as was felt necessary. We are indebted to the Bureau for this courtesy and for its kindness in supplying the portrait of Eagle Shield which appears as the Frontispiece of this monograph.

GEORGE G. HEYE,
Chairman and Director.

January 1948



A COLLECTION OF SPECIMENS FROM THE TETON SIOUX

FRANCES DENSMORE

INTRODUCTION

EVERY collection of Indian specimens has a story behind it. Some of the specimens may be heirlooms that the Indians have treasured for many years. A promise that the articles will be preserved is often an inducement to part with them. The Indians feel that their own desire is to be carried out by the transfer of the articles. Or the Indians may be made to feel that they are cooperating in a plan for a better understanding of old Indian ways. Thus they become interested in explaining the uses of various articles, making duplicates of articles they remember but which are no longer in existence. In some instances they can be encouraged to make synoptic series by which the stages of certain processes can be shown.

The specimens in this collection were obtained by the author from Indians belonging to the Teton division of the Dakota (Sioux) tribe, living on the Standing Rock Reservation in North and South Dakota. The collecting was incidental to her study of Sioux music for the Bureau of American Ethnology, Smithsonian Institution, 1911-1914, and

many specimens are described and illustrated in her book *Teton Sioux Music*, Bulletin 61, to which frequent reference is made in this paper.

A peculiar circumstance contributed to the obtaining of these specimens. When the author was studying the Sun Dance, at Fort Yates, North Dakota, in 1911, a prominent chief named Red Fox announced to an assembly of chiefs and leaders that he intended to adopt her as his daughter. Everyone knew that he had the right to adopt someone in place of a beloved daughter who died many years before, and that he had not availed himself of the privilege. His intention met with their approval, though it came as a surprise to the author. The name of his deceased daughter was Ptesaŋ'noŋ'pawin,¹ meaning Two White Buffalo Woman (Ptesaŋ': *white buffalo*; noŋ'pa: *two*; win: *feminine termination*), and the author received this name. Red Fox explained that she need never hesitate to use it, wherever she might be, as he had a right to give it to his daughter, having twice been selected to kill a white buffalo when the tribe was on the hunt. Such an albino animal was occasionally seen in a herd and it was an honor to be chosen to kill it. The adoption was ratified by Red Fox's band at a gathering of about 1000 Indians at Grand River, South Dakota, on July 4, 1912, the

¹ The vowels *a*, *e*, *o*, and *u* have the Continental values, and *i* is pronounced as in English. Consonants are generally pronounced as in English except *ŋ* which has the sound of *n* in drink, and *č* which is pronounced as *ch* in chin. The letter *ɕ* is pronounced as in azure.

author being present. Songs in her honor were sung at that time. Her name was inserted in old praise songs and some new songs had been composed containing her name.²

To this circumstance may be attributed the personal element that is seen throughout the descriptions of the specimens. The Indians were interested in the preservation of their tribal songs by means of phonographic recordings and also in the preservation of a knowledge of the old customs by means of specimens. They vied with one another in offering small articles that they had brought to the gathering in their packs, lacking safe storage for these heirlooms in their homes. They told the history of each article and, whenever possible, the name of the person who made or formerly owned it. As stated, if specimens of some special sort were lacking, the old men or women offered to make duplicates from memory and many such articles were brought to the author during the months that she remained on the reservation. The care with which the Indians had kept the old articles was an indication of the value placed upon them.

ARTICLES CONNECTED WITH THE HUNT AND PREPARATION OF HIDE

The buffalo may be said to have been the essential element in the life of the Plains Indians as it supplied

² "Songs in honor of an individual" (1: pp. 497-509).

them with material for tents, clothing, food and household articles, with tools for their handicraft and even with fuel for their fires. A buffalo hunt was therefore an event of great importance and among the Teton Sioux it usually took place in the fall, when the buffalo came down from the north.

White Hawk, a Sioux from the Cheyenne River Reservation, said that his great grandfather used arrow points of chipped flint in hunting buffalo. He had seen them when a boy but never used them. When the killing of buffalo was finished the carcasses were cut up for transportation to the camp. White Hawk and Looking Elk were said to have been especially skilful in this work and described it in detail.³ They said that in old times a clamshell was used as a skinning knife. Such an implement, obtained from Eagle Shield's mother, together with a hide case for the implement to be fastened to the owner's belt are in the collection (cat. 6/7920, a, b) but are not illustrated. Both were very old and had been in long use by the owner. The shell is 6 in. x 3½ in. in size.

A knife made from a buffalo scapula and used for butchering the buffalo is also in the collection (cat. 6/7967). It is 10 inches in length and is a very old specimen which belonged to Eagle Shield. A knife for cutting meat (pl. I, f) was bought of a man who said it belonged to his father's grandfather whose name was Sa'wala. A whetstone of catlinite accom-

³ (1: pp. 443-444).

panying this knife, with a thong for attachment to the owner's belt, is illustrated (pl. I, *e*).

As soon as possible after the hide was stripped from the carcass, while it was still soft and moist, the first step in its preparation was begun. The hide was staked down on the ground with the flesh side uppermost and, in the old days, two women worked together, scraping off the adherent flesh and fat. The tool used in this process was known as a flesher and was a sort of gouge with serrated edge and an attached loop that was passed over the wrist of the worker. Formerly this tool was made of the leg bone of a large animal. That illustrated (pl. I, *i*) was obtained from Eagle Shield. In later years the flesher was often made from a section of a gun barrel (pl. I, *j*). This implement is 13 in. long and was bought from Ptesaj'wastewin, who made it. A woman in the camp at Grand River staked out a small hide and posed for the two pictures comprising pl. II. The lower photograph shows clearly the manner in which the hide loop around the wrist gives added leverage to the fleshing process.

Unless the hide were to be used for a robe, the next step in its preparation was the removal of the hair and for this purpose the hide was turned and restaked with the hair surface uppermost. The tool then used was a sort of adz with a blade of stone or iron set at a right angle to the handle. Such an implement of elk horn with an iron blade (pl. I, *h*) was obtained from Ptesaj'wastewin who said it was

given her by her grandmother. The handle is about 13 in. long and the blade is bound in place by a strip of hide. Blades of this type were sharpened by means of a small oval whetstone (pl. I, *b*). Two pictures connected with this process were posed by another woman in the camp at Grand River (pl. III). She said that before beginning the work she lowered her shawl, which was held around her waist by a belt. This gave freedom to her arms. In *a* she is sharpening the blade of her tool on the small whetstone. In *b* she is seen in the typical stooping posture, the manner of holding the tool being clearly shown.

Another type of scraper, for removing the hair from deer hide (pl. I, *m*), was bought from Jaw. This consists of a knife blade set in a shaped wooden frame and measures 19 in. in over all length.

A thin iron blade bent over wood (pl. I, *k*) was bought of Ptesañ'wastewĩn who said it was used to press the water out of a hide after it had been soaked. A similar blade, but without the wood, is shown as *l* on the same plate. After the moisture had been removed from a hide it was softened and made pliable by drawing it back and forth across a rawhide rope stretched between two trees, two women accomplishing this part of the work. Such a rope, about 3 ft. in length, was also procured from Ptesañ'wastewĩn (cat. 6/7938).

In some tribes the hide was stretched tightly in a frame and, when partly dry, was "grained" by rubbing with a globular piece of bone. Three im-

plements in the present collection may have been used for this purpose. One is very old and bought of Weasel Bear's mother (cat. 6/7964); another is marked "one finger hold" (cat. 6/7965); and the third is marked "all fingers hold" (cat. 6/8022).

ARTICLES CONNECTED WITH PREPARATION AND STORAGE OF MEAT

Soon after a hunting party returned to their camp the women finished cutting up the meat, the long strips for drying being cut with the grain of the meat. These were hung in the open air and when thoroughly dry they were pounded and mixed with buffalo fat or dried wild cherries. Meat prepared in this way could be kept a long time and was a staple article of food among the Sioux.

For pounding meat a hollow was dug in the ground and lined with the hide of a cow's head, the hollow being made the right size for its lining. Sometimes a flat stone (cat. 6/8031) was placed inside the cow-hide "bowl" and the meat or dried cherries placed upon it for pounding. This stone, broken at one edge, was bought of a niece of the original owner.

To break up buffalo bones before boiling them to extract the grease, a hammer (pl. IV, *a*) was employed. The handle of this specimen is covered with a strip of buffalo hide with the hair still on it which also covers the hafting and a portion of the stone head. Similar stone hammers, but much smaller, were used as cherry pounders, as were similarly

shaped stone heads without handles. One such specimen is in the collection (cat. 6/8032).

The meat, thus prepared, was kept in a variety of containers made of the hide or visceral parts of an animal. A bag made of cowskin with the hair on, has a top of tanned hide (pl. IV, *c*). This was acquired from Tasun kalawin and is about 9 x 13 inches in size. Although it could be used for meat, it contained maple sugar when purchased. Another bag was made from the hide of a buffalo calf's head (pl. IV, *b*). A bag made of the entire hide of a buffalo foetus (pl. V, *c*) is extremely old and worn and is decorated with a circular medallion design worked in dark and light blue and red beads. A meat container made of a buffalo bladder (pl. V, *a*) has a top of beaded buckskin and a beaded base with long pendant hide fringe. The bead colors are dark and light blue, yellow, amber and green. It is unlined. A small bag made of the skin of a buffalo heart, probably used for a child, was also acquired, but is not found in the present collection.

ARTICLES CONNECTED WITH TREATMENT OF THE SICK

Those who treated the sick among Indians are commonly called medicine men. They were men and women with a sincere desire to help their people and believed they received power from a supernatural source to carry on their work. This source of power appeared to them in a dream, usually

taking the form of some animal or bird that promised its aid and taught a song to be used in the treatment of the sick.

Eagle Shield, a prominent medicine man (FRONTIS-PIECE), said that a bear told him of the herbs he used in treating adults and a badger revealed the remedies he employed for sick children. Those who dreamed of the bear were believed to be specially favored, as the bear is such a healthy animal and has good claws for digging herbs. The hide of a mink (pl. VI, *d*) was used by Eagle Shield as a container for his principal remedies. He said that he killed this animal 44 years previously, when hunting antelope near the present site of Fort Keogh, Montana, and had used it as a medicine pouch ever since. The matted fur around the neck shows the manner in which it was carried. In this pouch, when obtained, were four small packets of herbal medicine similar to those shown with another medicine outfit (pl. VI, *e*), the packet containing the principal medicine being edged with beads. The pouch also contained a small spoon without a handle, for administering medicine to a child. A specimen of the plant that Eagle Shield considered his principal remedy was obtained and identified as yarrow (*Achillea lanulosa* NUTT.). The three other remedies were for loss of appetite, headache, and for those "suffering from heart trouble or pain in the stomach."⁴ Like other medicine men,

⁴Preparation of the medicines and methods of their administration are discussed by the author in 1: pp. 253-267.

he kept a large supply of herbs at his home and carried only a small quantity on his visits to patients.

Eagle Shield was particularly successful in the treatment of fractures, in which he employed a splint of parfleche. This specimen (pl. VI, *c*) is 8 inches in length, the size he used for a broken wrist.

Bear-With-White-Paw, like Eagle Shield, received his knowledge of healing herbs from a bear. He said that when summoned to treat a sick person he put on a necklace consisting of a strip of hide to which were attached two small bags of medicine, one edged with blue, the other with pink and white beads, and a bear's claw (pl. VI, *b*). In explanation of the latter he said that he pressed the claw into the flesh of the patient in order that the medicine might enter more readily and be more effective.

A Sioux medicine man named Sitting Eagle died many years ago and his medicine pouch, with its contents, passed into the possession of his niece, Earth-Medicine-Woman, from whom it was obtained by the collector. It is made of four antelope ears and has a buckskin top, the whole being decorated with wrapped quill bands and beads in typical Sioux colors and patterns (pl. VI, *e*). Earth-Medicine-Woman, on receiving the pouch, emptied the herbal contents of seven small packets that were in it but kept the containers. The entire foot of an eagle and a small piece of elk horn that were in the pouch were also preserved. On the inner edge of each empty container is a small mark by which Sitting Eagle

identified its contents. He used the eagle claw in treating scrofulous sores, especially on the neck. In this treatment he scraped the surface of the claw, mixed a small quantity of the scrapings with hot water and applied the mixture to the skin. The piece of elk horn was said to be an effective remedy for broken bones but the manner of its use is not known.

Songs were sung during the treatment of the sick. The type of rattle used with these songs depended upon the preference of the medicine man. It is said that one named Carry-the-Kettle, who lived many years ago, used the gourd rattle illustrated on pl. VII, *a*. The gourd has a diameter of $6\frac{1}{2}$ in. and the wooden handle is wrapped in deerskin. Two other articles that belonged to Carry-the-Kettle were also obtained, these being a dish and spoon that he carried to feasts (pl. VII, *b*). The dish is hand-made from a soft maple burl and has a hole at one end, through which a cord was passed to suspend it from his belt. Carry-the-Kettle "doctored under the tutelage of the frog" and his spoon has a frog carved on the handle. He is remembered as a particularly successful medicine man.

A medicine bag made of badger's paws (pl. VIII) is well preserved but its history is not known. The specimen is ornamented with upper bands of bead-work and with metal danglers and red dyed feathers pendant from each claw on porcupine quill wrapped hide strips.

Old Buffalo, a warrior of early days, said that a niece was once very ill and he went to a lonely place to fast and pray for her recovery. He believed that she recovered because of this action on his part. In a drawing on muslin he depicted this vigil (pl. IX). A buffalo skull is seen beside him as he offers a pipe to the sun with one hand and lifts the other hand in supplication. In describing the vigil he said, "All day I follow the sun with the stem of the pipe. The second night I stand up all night, until daylight appears. Then I put my pipe against the buffalo skull and lie down with my head near it. When the sun is fully risen I stand up again and cry. . . . On the third day I put a piece of red cloth at each of the four directions."⁵ Two such pieces of cloth are shown in the drawing.

ARTICLES USED IN WAR

A Sioux warrior, when on the warpath, carried his own flint and steel for fire-making and his dish for food, as well as his weapons. Of equal importance was his "medicine," a term that included some simple remedy and a charm, the history of which was known only to himself. The principal informant on this subject was Jaw,⁶ who had fought many battles against the Crow Indians. Jaw said that he always

⁵ This is taken from 1: p. 274, where Old Buffalo's vigil is more fully recorded.

⁶ (1: pp. 387-393).

carried two little bags containing the same medicine, one for his horse and one for himself. These bags, attached to Jaw's war whistle, are illustrated (pl. xvii, *e*). The medicine was curative and also had power as a charm. He said, "If the horse had a headache I might chew a little of the herb and put it in his mouth." Before going into a battle he tied one little bag to the horse's bridle. Jaw was skilled in stealing horses from the enemy and he often chewed this "medicine" and went to windward of the horses, at which they "pricked up their ears," being attracted by it. A drawing by Jaw on muslin depicts one of these expeditions (pl. x). The upper portion shows the warriors approaching the camp of the enemy; the lower portion, a scene in the enemy's camp. As in many primitive drawings, two actions by the same individuals are shown in one picture. At the left we see horses tied close to the tents of the enemy while at the right, Jaw is seen driving them away. This drawing is done in colored crayons.

The fire-making set carried by Jaw on the warpath comprises flint and steel and pieces of decayed wood (pl. I, *a, c, d*). This set is wrapped in cloth, with a bit of wool for extinguishing the spark. Jaw's war equipment included additionally a wooden dish with thong to suspend it from his belt. The dish, 5 in. x $4\frac{1}{4}$ in. in size and $2\frac{1}{4}$ in. deep (cat. 6/7959), is not illustrated.

An iron spear point (pl. I, *g*) was also bought from Jaw who said that his father had killed three Indians

with it. An old whetstone in a beaded case (pl. XI, *g*) was said to be of the size and type carried by men on the warpath. The design is in red, blue, green and yellow on a white bead background.

The scalp illustrated (pl. XII, *c*) was obtained from Mrs. James McLaughlin, whose collection of Sioux articles included many rare items. Mrs. McLaughlin was the widow of Major James McLaughlin, who for many years was connected with the United States Indian Service as agent at Standing Rock and inspector. She was of great assistance to the author in her work among the Sioux.

Four old warriors beside Jaw contributed to the present collection, these being One Feather, Eagle Shield, Old Buffalo and Swift Dog. One Feather began his career as a warrior when only 18 years of age. A war party of 22 Sioux were going against the Crows and he joined them, traveling as far as the Rocky Mountains. He was one of the scouts sent in advance and he killed a man close to the Crow camp. On the warpath he wore a head-dress made of the skin of a wolf (pl. XII, *b*). The feathers attached to the head, which, because of the passage of years are no longer upright, were said to resemble the ears of the animal. One Feather told the author that a man lying in the grass on a rise of ground could lift his head to spy the enemy, and the feathers would look like the ears of a prowling wolf. The quills are very light and the feathers would tremble with every motion of the wearer.

A prominent military society of the Sioux was called by a name meaning Crow-owners and its insignia was a necklace made of the skin of a crow (see FRONTISPIECE). When asked why the crow was honored by the society, Eagle Shield said, "We want our arrows to fly as swift and straight as the crow."⁷ Each member of the society carried his crowskin necklace in a rawhide case. The specimen shown (pl. VI, *a*) belonged to Eagle Shield, who said that feathers for head decoration were carried in it, as well. Before putting on this necklace he passed it over the smoke of burning sweet grass. He explained that before entering a fight the warriors always put on their finest regalia so that, if killed, they would die in a manner worthy of their position.

Old Buffalo and Swift Dog came to McLaughlin, South Dakota, in August 1913, to confer with the author and regarded the conference very seriously. Old Buffalo said, "We come to you as from the dead. The things about which you ask us have been dead to us for many years. In bringing them to our minds we are calling them from the dead, and when we have told you about them they will go back to the dead to remain forever."⁸ Old Buffalo, who was 68 years old at the time of this conference, said that he led a war party against the Crows forty years before. On this expedition he and his comrades were entirely

⁷ (1: p. 319).

⁸ (1: p. 412).

surrounded by Crows, and he depicted the event in a drawing (pl. XIII, *b*).

One purpose of a Sioux war party was to steal horses from the enemy and a few members of an expedition might go by themselves on such a foray. Old Buffalo said that, on one expedition, five men left the party and brought back 30 horses. Old Buffalo and two others were encouraged by this success and Old Buffalo said to his friends, "We will start without telling anyone and travel in the creek so they will not know how we went." They came so near the Crow camp that they could see the cooking fires, but the Crows attacked them, wounding his horse so severely that it fell down and died. He also recorded this event (pl. XIII, *a*).

Several of Swift Dog's war exploits are shown in his drawing (pl. XIV). He described each event, their chronology starting with the figures at the upper left end of the sheet and continuing counter clock-wise around to the place of beginning. The first group shows Swift Dog's first encounter in the country of the Assiniboines, in which he killed a man. He was then 24 years old. The Assiniboine is shown on foot while Swift Dog is on horseback. Next he is seen stealing a saddled white horse. Several incidents are depicted along the lower margin, and the animals that he killed in the hunt are represented along the right end of the muslin.

At the upper right corner, Swift Dog is seen driving horses stolen from the Crows. Concerning this

latter expedition he said, "It was very cold but the river had not yet frozen over. We drove all the Crow horses into the river and made them swim across. The splash of the water was like great falls when we swam across." The final group shows Swift Dog bringing home a horse which he gave to his sister. This horse was captured on another expedition concerning which he said, "When the railroad first passed through the Black Hills we went on the warpath as far as the end of the road." He recorded the song that he sang when he gave the horse to his sister.⁹

ARTICLES USED IN CEREMONY OF SPIRIT-KEEPING

In the old days a Sioux, filled with grief at the death of a near relative, might prolong his period of mourning by "keeping the spirit" for several months or a year, and then "letting it go" by means of a certain ceremony.¹⁰ He announced his intention and assumed certain obligations with that in view. These included the making of a "bundle" to be used in the ceremony. If the dead relative were a little girl, the central article in the bundle might be a lock of her hair or some ornaments that she had worn in her hair, all wrapped in red cloth. Afterward a decorated case was made in which the packet was placed, together with sweet grass and the shed hair of the buffalo. Weasel Bear explained the latter by

⁹ (1: pp. 402-411).

¹⁰ (1: pp. 77-84).

saying the ceremony came to the Sioux from the White Buffalo Maiden.

A "spirit bundle" wrapping (pl. xv) was obtained from Mrs. James McLaughlin in 1913, who said she purchased it 30 years before from Black Moon's mother, who told her it was then about 80 years old and had been used in keeping the spirits of her grandfather, her mother, and other relatives. Beads being unknown when the White Buffalo Maiden brought this ceremony to the Sioux, the specimen is decorated with porcupine quills, dyed with native dyes, a few metal danglers remaining of what had been a complete fringe at one end.

At the time of a ceremony, each spirit to be released was represented by a post, which had been made in the Spirit Lodge in keeping with strict requirements. The height of the post varied with the age of the person for whom the ceremony was held. Weasel Bear made such a post for the author (pl. xvi, *f*). It is $34\frac{1}{2}$ in. in height and represents the one used when the spirit of his little girl was released. The top of the post is covered with buckskin on which the eyes and mouth of a face are worked in red and white beads. The balance of the face is represented in paint, the lines arranged as those used for a girl who had been through the *Huŋ'ka* ceremony. The attached white feather shows traces of red paint. When used in the ceremony this post was arrayed in garments that had been worn by the person for whom the ceremony was performed.

These had been kept in a decorated case made of soft-tanned hide, together with pipes and other gifts for the man who had charge of the final ceremony.

Certain articles were used in a lodge where a spirit was being kept. Among these was a stick (pl. xvi, *h*) used for lifting the glowing coal from which a pipe was lit. This specimen, 40 in. long, shows considerable use. It is decorated with yellow, brown and green ribbons. A more ornate stick was held under a pipe when it was lighted so that ashes would not fall on the ground (pl. xvi, *g*). The handle of this specimen is wrapped with braided porcupine quills, dyed red, white and blue, and green and brown ribbons. The receptacle end is 3 in. wide.

MUSICAL INSTRUMENTS

The four types of musical instruments used by the American Indians are drums, rattles, whistles and flutes. The last named were not found among the Teton Sioux but the other types are well represented in this collection.

A hand drum, not illustrated (cat. 6/7970), has a single undecorated head of rawhide and is 25 inches in diameter. The drumstick obtained with this specimen (pl. xvii, *a*) is 28 inches long. It is elaborately decorated with a wrapping of plaited porcupine quills dyed red, white, blue and yellow. The quill-wrapped pendants are tipped with metal danglers and feathers, the latter dyed red. Such a drumstick was used with a hand drum or might be carried

to a gathering by a man who expected to join the drummers and singers seated around the large drum. Four types of rattles are in the collection. The gourd rattle (pl. VII, *a*), used by Carry-the-Kettle when treating the sick, is described in the section on that subject. A certain variety of rattle was used only in dances of the Strong Heart Society (pl. XI, *a*). It is made of rawhide which has been incised to represent the carapace of a turtle and is bordered with fur. The handle is of wood and is wrapped with red strouding. The Strong Heart was an important society of warriors, said to have been organized by Sitting Bull, Gall and Crow King, who were prominent chiefs practically in command of all the warriors.

Another important military society of the Teton Sioux was called Miwa'tani, the meaning of which is not fully explained. The society is said to have been originated long ago by a man who had dreamed of an owl, in consequence of which its members used only owl feathers on their arrows. At meetings of this society each member carried a rattle that was made by boiling the hoofs of the deer and cutting the hard, outer part into pieces of a desired shape and size. These were attached to a deer skin and bead wrapped stick. In the specimen illustrated (pl. XVII, *c*), the pieces of hoof are dyed red and a beaded pendant, with long buckskin fringe, is attached to the handle. The bead colors are mauve, green, dark blue and red.

A rattle made of dew claws of the deer fastened to

a beaded stick was used in many Sioux dances (pl. xvii, *d*). The dew claws are natural color and narrow strips of buckskin in the center of each give the appearance of a little flower. The bead colors are dark and light blue, yellow, red and white. The metal danglers have tufts of horse hair dyed yellow attached. Each rattle has a loop on the handle for attachment to the dancer's wrist.

Two interesting whistles made of eagle bone were obtained from Jaw. One has already been mentioned (pl. xvii, *e*). The other is a whistle that he carried in the Sun Dance (pl. xvii, *f*). This has a downy eagle feather, with traces of red paint on it, attached to the end. When a man was dancing, this whistle was put in his mouth by an attendant, as he was not allowed to touch any object during that period. As he blew the whistle his breath moved the feather.

The Grass Dance is common to many tribes of the northern Plains and is known also as the Omaha Dance. It is a social dance and one of its customs is that a lost article must be redeemed with a gift. Thus if a feather falls to the ground the whole party dance around it and one of the men goes forward, strikes it and gives a present to some old man who is not expected to make any return. Sometimes four men do this, each giving a present to the old man, after which the feather is returned to its owner. The instrument used in connection with this dance is a long whistle, the open end usually being carved to

represent the head of a bird. It has the usual whistle mouthpiece near one end and furnishes the series of harmonics obtained from a bugle or trumpet. These whistles were made from the small, straight branches of a tree having a large pith that could easily be removed, ash or box elder being often used for the purpose. The specimen in the collection (pl. XVI, *c*) is painted yellow and has burnt decoration. The eyes are represented by brass tacks. It had been in the possession of Mrs. McLaughlin about 30 years when obtained by the author in 1913. This whistle could not be played, but a similar instrument, in perfect condition, was obtained among the Hidatsa on the Fort Berthold Reservation in North Dakota in 1915 and a performance on the instrument was recorded by phonograph and transcribed in musical notation.¹¹

ARTICLES USED IN GAMES

The games played by American Indians are of two general classes, games of chance and games of dexterity. Implements of both categories are in the present collection. To the first class belong the various forms of dice games, played with small objects which are tossed upward and fall in a bowl, on the earth, or on a hide or blanket. The two sides of the small objects are differently marked, usually by burning, and the score is based upon the marks on

¹¹ (2: pl. 10 and p. 10).

the surfaces that are uppermost after each play. The wild plum grew plentifully in the northern plains and plumstones were widely used in this game, six stones generally constituting a set among the Sioux (pl. XVIII, *d*). The plumstone game is ancient among the Sioux and is played usually by elderly women, although men and women of all ages enjoy it.

Another group in the games of chance are guessing tests of various sorts. A set of 15 sticks was collected but is not in the present collection. The informant stated that one portion of the sticks was held in each of a player's hands, the opponent guessing whether the number were odd or even. This is a form of the stick games played by Indians from the Atlantic to the Pacific. According to Culin the sticks were "originally shaftments of arrows."¹²

Games of dexterity are represented by two specimens. The first is a form of the cup-and-pin game and the implement consists of the phalangeal bones of the deer strung on a narrow strip of hide with a long needle at one end (pl. XVIII, *e*). Often a wooden pin is substituted for the metal needle. The manner of play is as follows: "the needle is held horizontally between the thumb and fingers; the bones hanging down are steadied for an instant, then thrown forward and upward, and as they come down opposite the point of the needle a rapid thrust is made. If the player be skillful the point of the needle will catch in some of the loops or perforations of the

¹² (4: p. 44).

bones.”¹³ The method of counting is complicated and apart from present interest.

Another game of dexterity is a form of the hoop-and-pole game in which a hoop or ring covered with network is rolled along the ground while arrows or darts of various kinds are shot or thrown at it. The specimen shown (pl. XVIII, *c*) is $10\frac{1}{4}$ inches in diameter and laced with strips of hide. With it was collected a notched feather 18 inches long to be thrown into the hoop as it rolled. This game, like the dice game, was played throughout the entire continent north of Mexico. As this specimen was collected in South Dakota, it is interesting to note the statement by Culin that the Indians in Mancos Canyon, Colorado, use darts with a long feather attached while the Hopi and Thompson Indians have feather darts.¹⁴

A set of gaming implements in the collection consists of two small stone balls (pl. XVIII, *a*) and two cylindrical pieces of wood $1\frac{1}{2} \times 1\frac{1}{4}$ in. in size (pl. XVIII, *b*) said to be used in the game with the balls. Only one ball is shown in the illustration. It was said this game was played by women and girls on the ice but no description of play was obtained. The balls are very old and were bought of the original owner but the wooden cylinders were made for the collector, to complete the set. According to Culin “The ball race appears confined to the Southwestern tribes, extending into Mexico and westward into

¹³ (4: p. 533).

¹⁴ (4: p. 421).

California, although it was found by the writer among the Shoshonean Bannock in Idaho." ¹⁵ Small balls of wood or stone were used in kicked ball races by the Papago and Pima in southern Arizona.¹⁶

ARTICLES USED BY WOMEN

During the author's visits to Standing Rock several old women offered articles they had kept for many years. Among such was a hair-brush made of a porcupine-tail put around a stick (pl. XVIII, *f*). It was bought of an aged woman who said she had used it ever since she was a girl. A stick, five inches long, to which is attached a small buckskin bag containing red paint mixed with grease (pl. XVIII, *g*), was obtained from Kan'tatowin. This outfit was used to color the hair-part, a common custom. A rawhide case for such an outfit (pl. XVIII, *h*) was obtained from Maka'pezu'tawin whose mother made it. Faded traces of a painted geometric design remain in evidence.

A common ornament among Sioux women was a beaded turtle (pl. XIX, *d*) worn as a "fertility charm." The writer has seen women with many of these turtles attached at intervals to their belts.

An important industry of the women was the making of moccasins of buffalo hide and in this work they used patterns made of hide. Such a pattern for the moccasin upper (pl. XIX, *e*) was obtained from

¹⁵ (4: pp. 665-697).

¹⁶ (3: pp. 200, 202).

Mrs. Lawrence, a Sioux, whose grandmother gave it to her mother when she was married at the age of fifteen. It has seen much use. A pattern for the sole of a moccasin was bought of Maka'cezutwĭn, an elderly woman who received it as a gift when she was married and had used it ever since, in making her husband's moccasins. It is of stiff buffalo hide (pl. XIX, *g*).

A woman was seen making a pair of moccasins that were obtained for the collection (pl. XIX, *f*). One of the pair is finished, and the other is half turned, a process accomplished by pressing it over a stick, the end of which rested on the ground.

These moccasins are sewn with sinew and in this, as in all work with leather, the Sioux women used an awl. Three awls are in the present collection. One consists of a metal point set in a wooden handle and was bought of Wowickawĭn (pl. XI, *c*). An awl made of a metal point set in a handle of buffalo sinew was bought of Wahuawapĭn (pl. XI, *d*). The two large cords of the buffalo's neck were used for such a handle, the metal point being inserted in the green sinew which dried and formed the firm hand-piece. Less primitive awls are made of a knife ground to a sharp point with a handle of commercial leather.

A woman might have a case for an awl attached to her belt. Such a case was made by Eagle Shield who said it was in the style used by women before they had beads. The outfit consists of a rawhide

belt fastened with thongs and has a rawhide case attached. It is not illustrated (cat. 6/7903). An old case for carrying awls, porcupine quills and similar articles and made of the hide of a buffalo's leg was procured from Eagle Shield's mother but is not found in the present collection. A smaller case for carrying awls and similar articles is made of buffalo hide, decorated, and is about 5 x 7 inches in size. It is very old and was bought of the original owner (cat. 6/7921). Women also carried flint and steel for fire-making.

Porcupine quills were used in decorating moccasins and many other articles before beads were obtained. A holder containing quills is made of a bladder with beaded decoration, in light and dark blue, cherry and amber colors, at either end (pl. v, b).

Native pigments were used in decorating robes and rawhide cases and two graving tools used in that process are in the collection (pl. xi, b). One is of elk horn and has been used for red paint, the other is of buffalo and has been used for yellow. A clam shell used by women for mixing paints and bought of the owner, Maka'pezu'tawin, is in the collection (cat. 6/7924).

ARTICLES USED BY CHILDREN AND IN HUŋ'KA CEREMONY

The position of a child in the Indian home was little different from that in any household. The child was watched with pleasure, its little ways ad-

mired and it received a great deal of attention. The affection of a mother for her baby son is shown in a little packet obtained from Jaw, the old Sioux warrior. This packet (pl. xx) contains relics of his infancy and childhood that were kept by his mother, then by his sister, and later given to him. The articles comprise one of his little moccasins (*a*); a bit of wool similar to that used in dressing a child's navel (*b*); a lock of his hair, cut when he was very small (*c*); and some sweet-smelling herb encased in red cotton (*d*). The whole is wrapped in red flannel (*e*).

Toys represented in the collection include a small rag-doll in a miniature baby-carrier $3\frac{3}{4}$ in. in length, decorated with beadwork (pl. XIX, *b*), and a similar carrier without a doll and decorated with both beadwork and porcupine quill embroidery (pl. XIX, *c*). This type of baby-carrier was seen in common use among the Sioux when this collection was made.

A small spoon of light colored horn (cat. 6/8025) used in giving medicine to a little child and a child's knife-case (cat. 6/8020) are not illustrated.

An interesting toy buffalo is made of buffalo skin and has eagle claws for horns (pl. xx, *f*). The lines and proportions of the animal are excellent. Mrs. One Bull offered it to the collector, and the little girl for whom it was made consented to its transfer.

Two dolls, male and female, in Sioux costume are shown (pl. XXI, *c*, *d*). The female has a blue blouse and a black skirt with ribbon applique decoration.

The male doll has a muslin shirt, a deer skin vest and a black velvet apron with a floral design worked in green, red and white beads and small metal discs.

Two dolls entirely different in style and costume are also illustrated (pl. XXI, *a*, *b*). The male wears skin leggings and a long coat with a breech-cloth of black ribbed woolen stuff. This doll was bought of an old woman named Blows Away who said that she made it, although she was totally blind. The woman doll wears an elaborate buckskin dress with typical decoration of light and dark blue, red and yellow beadwork and long earrings terminating in flat metal ornaments. The heads are disproportionate in size to the bodies but offer an interesting feature. The faces are of deer skin but the rear halves of both heads are made from human scalps with traces of the hair still remaining.

Among the Teton Sioux a certain ceremony is called Alo'wanpi, which means "to sing for someone."¹⁷ It is also known as the HuŃ'ka, a term applied to the child for whom the ceremony is given. This ceremony was common to many tribes of the Plains, but has been in disuse among the Sioux for many years. The keynote, or central idea, of the ceremony was the affection of a father for the child and his desire that only good should come to it. The present collection contains a robe of decorated calfskin (pl. XXII), the design indicating that it is to be worn by a child for whom the HuŃ'ka ceremony has

¹⁷ (1: pp. 68-77).

been performed and whose father has been successful in war. It was bought of Sunka'wanbli, the wife of Dog Eagle. It is a new specimen made in an old design which was explained in detail by the owner. The panel in the center represents the "warriors' path" and there are symbols indicating a war expedition with eight camps. The phases of the moon during the expedition are also shown. Red, blue and yellow are the colors used and it was explained that red represents blood; blue, a "blue cloud"—indicating success; and yellow, the color of the sky at morning. The stripes on the head of the calfskin are red and represent the face-painting on the child who is the principal in the ceremony.

The Hun'ka ceremony was described by Weasel Bear for whose daughter it had been performed. He said the leader of the ceremony, holding a rattle and decorated wand, approached the girl who held in her hand a decorated ear of corn. A certain song was sung at this time. The scene is shown in a drawing by Jaw, made on white cloth with colored crayons (pl. XXIII).

ORNAMENTS

Two interesting ornaments worn in the Grass Dance are in the present collection. Jaw, who is represented by many specimens, contributed a wig which he wore in this dance because his own hair was cut short. It is made of a black horse-tail, parted and braided, to which are fastened two war-honor, and several smaller feathers (pl. XXIV, *a*).

Another Grass Dance ornament is a horse-tail which was attached to the back of the dancer's belt (pl. XXIV, *c*). The tail is white, with dyed stripes of red which show that the horse was wounded in battle. It was obtained from Bear-With-White-Paw and is decorated with a feather which shows that the owner killed an enemy.

Two hair ornaments are also in the collection. One is a pointed stick, 8 inches long, decorated with porcupine quill wrapping and feathered pendants, which was worn in the hair by men taking part in the Sun Dance (pl. XVI, *b*). It was also used for scratching the body as the dancers were forbidden to touch themselves with their hands. This was made for the collector by Weasel Bear. Another ornament was worn by men who had dreamed of an elk. This consists of a hoop decorated with porcupine quills, in which is hung a downy eagle feather (pl. XIX, *a*). A dream of an elk was highly esteemed by the Sioux and often carried some requirement. Thus Brave Buffalo noticed that every elk seen in his dream had a downy white eagle feather tied on its right horn to indicate that it could run as fast as the eagle flies.¹⁸ He was told to wear a similar feather on his head, and at the time of conferring with the writer he had a downy eagle plume fastened on the right side of his felt hat. The story connected with the specimen was not obtained but may have been similar to that related by Brave Buffalo.

¹⁸ (1: p. 178).

Shells were a favorite ornament of the Sioux and two examples are in the collection but not illustrated. One is a conical type, some 2 in. long, called "the whirligig" because of its supposed resemblance to the little eddies of dust that rise on the prairie (cat. 6/8026); the other is a flat white shell called panke'ska, highly prized as an ornament. It is 2 in. in diameter and has two perforations for suspension (cat. 6/7979).

An unusual specimen, also not illustrated, is a string of very small stones, pierced like beads and worn as a necklace (cat. 6/7978). These stones were gathered on ant hills by the Sioux and worn in this manner before they obtained beads in quantities from traders.

PIPES AND PIPE CLEANERS

A particularly fine pipe, duplicating that used in the Sun Dance, is illustrated (pl. XVI, *e*). Concerning this pipe it was said "The Sun Dance pipe, furnished by the leader of the dancers, was decorated at his request by one of the most skillful women of the tribe. It was considered a great honor to decorate this pipe, which was prepared some time before the ceremony. There was no prescribed pattern, but the decoration consisted of porcupine-quill work and did not cover the entire stem."¹⁹ This specimen was bought of an old warrior named Antelope.

¹⁹ (1: p. 102).

The colors are cherry, purple, and yellow quills with variegated feathers and red, white and blue ribbons. The bowl is of catlinite.

A very small pipe (pl. xvi, *d*) was bought of the grand-daughter of the original owner who said that in old times the Sioux found it difficult to get red pipe stone and therefore used small pipes.

A cleaner for a pipe bowl consisted of a pointed stick about 9 in. long (pl. xvi, *a*). This is said to be made of a peculiar wood found only in Montana of such heavy fiber that it would not float in water. The reason for using this wood was not given. A long, stiff wire was used to clean the stem.

MISCELLANEOUS ARTICLES

This section includes articles used at dances and those pertaining to the everyday life of the Indians.

Men who had dreamed of a buffalo were united in the Buffalo Society and often enacted their dreams in the Buffalo Dance. They wore headdresses adorned with buffalo horns and imitated the actions of that animal. Such a dance was witnessed by the author at Bull Head, South Dakota, in 1913. A shield carried in the Buffalo dance is of flour sacking painted yellow with a painted buffalo head in black within a red and black lined frame (pl. xxiv, *d*). It has pendant feathers, tipped with fluffs dyed red, and horse hair, dyed yellow.

Buffalo Society dancers decorated their bodies with red paint to represent the trickling of blood.

A small hide bag containing the pigment mixed with grease (cat. 6/7982) is very old and was bought of Jaw.

Men who took part in the Sun Dance made certain offerings, among them being little packets, each holding about a pipeful of tobacco, fastened to a stick (pl. xvii, *b*). Formerly the dried bladder of a buffalo was used in making such a packet. A dancer might give away as many as 100 of these offering sticks, although ten was the usual number. The sticks bearing the packets were placed upright in the ground or left in any available place. These, like other gifts of the dancers, were taken by the poor of the tribe.

Begging for food might occur at any large gathering, the request, among the Sioux, being made of successful warriors and of men who had been wounded in battle. Notice of such a request was given by placing a special stick upright in front of the man's tent. One such stick was collected but is not in the present collection. A similar stick with different marking (cat. 6/7989) was left at the tent of a family in which a death had occurred during the year. Both these sticks were procured immediately after their use at the gathering at Bull Head.

An eagle wing fan (pl. xxiv, *b*), 20 in. in length, has a braid of sweet grass tied to it by a strip of hide. The sweet grass gave a pleasant fragrance when the fan was used.

A specimen said to have belonged to Sitting Bull

was bought of Bear-With-White-Paw. This consists of steel tweezers for removing hair from the face (pl. XII, *a*). The broad strip of hide, for suspension, has a considerable residue of red paint.

A bag used to store red willow for smoking was made of the foetus of a domestic calf, and is not dissimilar to the meat bag shown on pl. V, *c*.

A hoe made of the shoulder blade of a large animal, fastened to a stick, is in the collection (cat. 6/7999) but not illustrated. This specimen was made for the author by Ptesan'wastewin, who used an old, discolored bone found on the prairie. The blade is 10 in. long and is fastened by thongs to a 24 in. handle. A glue stick was also made in imitation of an article formerly used by the Sioux (pl. XI, *e*). This is 10 in. in length, and the glue was softened by being held near a fire. A stout knife has a blade of bone (pl. XI, *f*).

Two spoons of buffalo horn are in the collection, but are not illustrated. One is small, 7 in. long, and is sharply curved (cat. 6/8017). The other is 11 in. in length and has the handle decorated with ribbons and porcupine quills (cat. 6/8015). An unfinished specimen (cat. 6/7977) shows the process of making the article.

Two saddles were procured by the author. One is an interesting old example which was bought of the original owner. The frame is of wood covered with rawhide and the pommels are of curved elk-horn (cat. 6/8001). The small beaded pendants on the

stirrups and pommels are more recent additions. The cinching straps of rawhide are intact.

A pack saddle (cat. 6/8002) is a wooden frame covered with hide and has rawhide cinching straps but no stirrups. In place of pommels there are arches back and front to which various packs could be tied. This is an old specimen and was bought of Sunka wanbli.

A pair of rawhide covered wooden stirrups (cat. 6/7985) was procured from Jaw.

Two quirts are also in the collection. One is made from an animal bone and is $11\frac{1}{4}$ in. in length (cat. 6/7963). It has a beaded strap for the wrist decorated with feathers and metal danglers. The other has a wooden handle and the lash is decorated with beadwork. The loop for the wrist is decorated with metal danglers and horse hair. The handle is $16\frac{3}{4}$ in. in length (cat. 6/7993).

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3. ———. Papago music. Washington, Bureau of American Ethnology, Bulletin 90, 1929.
4. Culin, Stewart. Games of the North American Indians. Washington, Bureau of American Ethnology, 24th Annual Report, 1907.

PLATES

PLATE I

- a.* 6/7972 Punk for fire-making
- b.* 6/8028 Oval whetstone
- c.* 6/7968 Steel for fire-making
- d.* 6/7980 Flints
- e.* 6/7925 Whetstone of catlinite with thong for suspension from belt
- f.* 6/7974 Hunting knife
- g.* 6/8018 Iron spear head (l. $12\frac{1}{4}$ in.)
- h.* 6/7916 Elkhorn implement with iron blade for removing hair from hide
- i.* 6/7923 Bone flesher with buckskin cover and strap
- j.* 6/7995 Flesher made from section of gun barrel with buckskin wrist strap
- k.* 6/7975 Iron knife used in skinning
- l.* 6/8019 Iron knife used in skinning
- m.* 6/7994 Scraper for removing hair from deer hid (l. 1 ft. 7 in.)

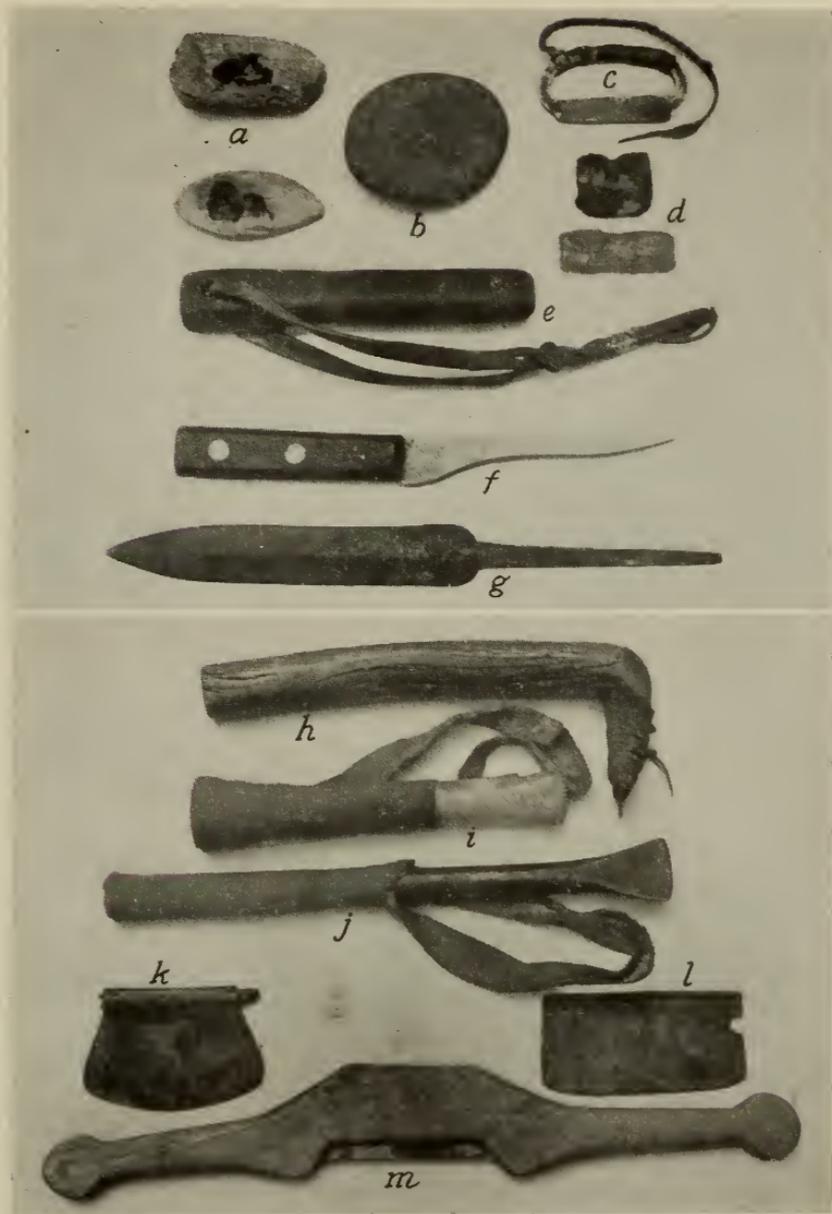


PLATE II

- a.* Woman staking down hide
- b.* Woman removing flesh from hide



a



b

PLATE III

- a.* Woman preparing to remove hair from hide
- b.* Woman removing hair from hide



a



b

PLATE IV

- a.* 6/7915 Stone pounder with rawhide covered handle (l. 1 ft.)
- b.* 6/7902 Bag made from hide of buffalo calf's head (l. $12\frac{3}{4}$ in.)
- c.* 6/8010 Bag of cowskin with buckskin top



PLATE V

- a. 6/7922 Bladder bag with buckskin top; beaded decoration (overall
1. 1 ft. $11\frac{1}{4}$ in.)
- b. 6/8030 Bladder case for porcupine quills; beaded ends
- c. 6/7910 Bag made of entire buffalo foetus; beaded decoration
(1. 2 ft.)

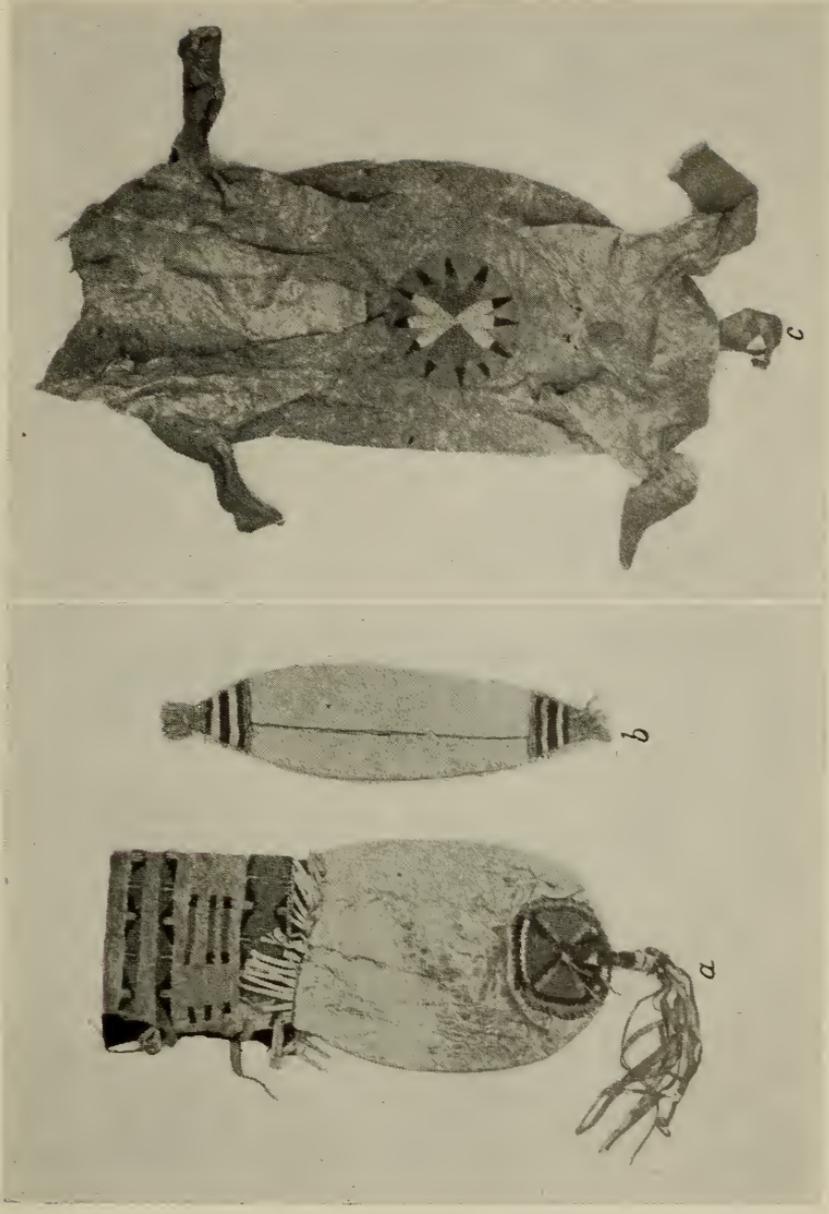


PLATE VI

- a.* 6/8007 Parfleche case for crow skin necklace
b. 6/7945 Bear claw necklace, with beaded medicine bags attached
worn by Bear-With-White-Paw when treating the sick
c. 6/8003 Splint used by Eagle Shield in treating fractures
d. 6/8003 Mink skin medicine bag (l. 1 ft. 3¼ in.)
e. 6/7971 Medicine bag of antelope ears, with contents (l. of bag 1 ft.)

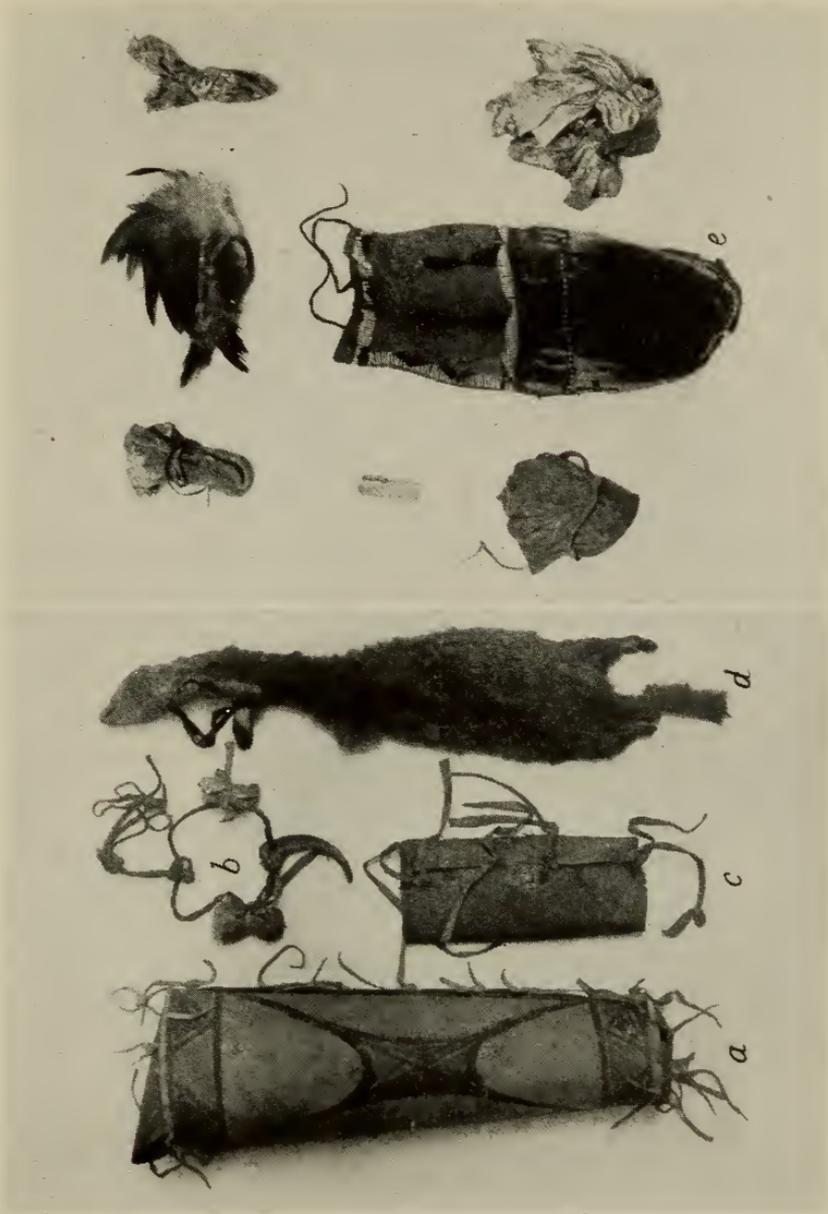


PLATE VII

- a.* 6/7904 Gourd rattle used by Carry-the-Kettle when treating the sick (l. $10\frac{1}{2}$ in.)
- b.* 6/7961 Wooden bowl and spoon with frog carved on handle (6/7939) (long diam. $12\frac{3}{4}$ in.)



a



b

PLATE VIII

6/7919 Medicine bag made of badger paws; beaded and quilled decoration (height of bag proper $6\frac{1}{2}$ in.)

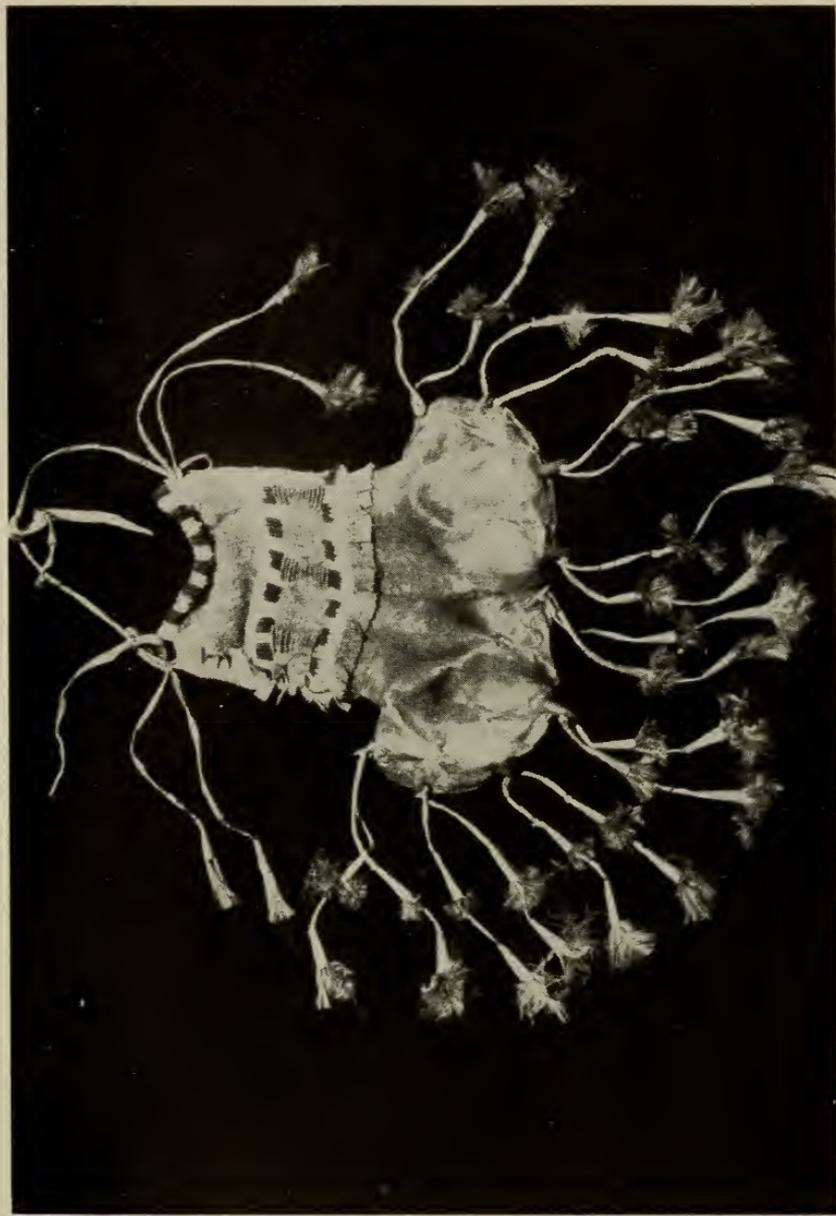


PLATE IX

6/7935 Fasting vigil. Drawing by Old Buffalo (l. of entire sheet 4 ft. 8 in.). See pl. XIII for other section



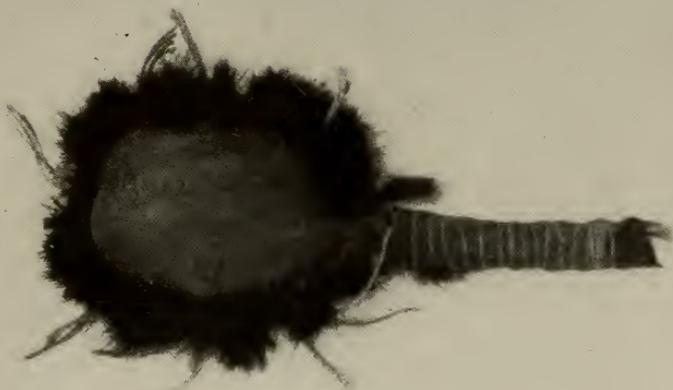
PLATE X

6/7932 Incident in life of Jaw. Drawing by himself (1.6 ft. $3\frac{1}{2}$ in.)

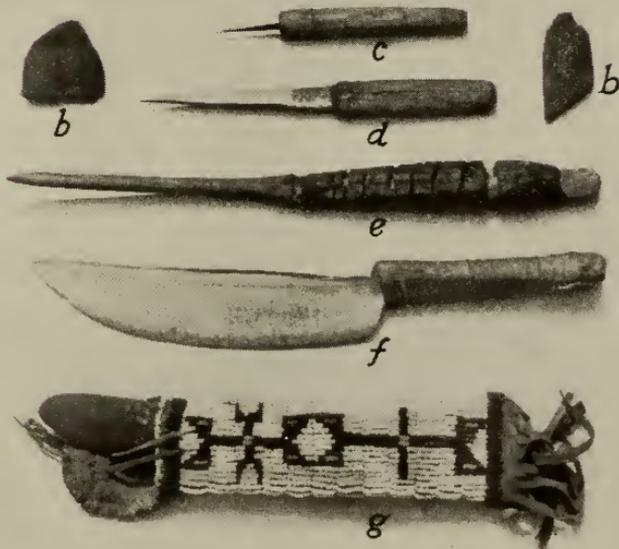


PLATE XI

- a.* 6/7937 Strong Heart Society rattle (l. $7\frac{1}{4}$ in.)
- b.* 6/7986 Buffalo bones used as graving tools
- c.* 6/7957 Metal awl with wooden handle
- d.* 6/7958 Metal awl with handle of buffalo sinew
- e.* 6/7951 Glue stick (l. $10\frac{1}{4}$ in.)
- f.* 6/7967 Knife with bone blade
- g.* 6/7948 Old whetstone with beaded case



a



b

c

b

d

e

f

g

PLATE XII

- a. 6/7912 Steel tweezers
- b. 6/7917 Headdress of wolf hide (l. 4 ft.)
- c. 6/8005 Scalp; painted red at base (l. 1 ft. 8 in.)

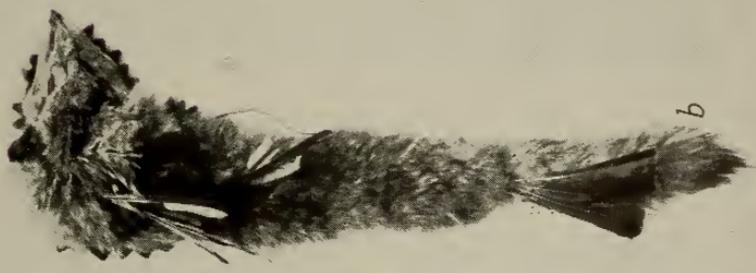


PLATE XIII

6/7935 Incident in life of Old Buffalo. Drawing by himself (l. of whole sheet 4 ft. 8 in.). See pl. IX for other section



PLATE XIV

6/7934 Incident in life of Swift Dog. Drawings by himself (1.4 ft.
4 in.)

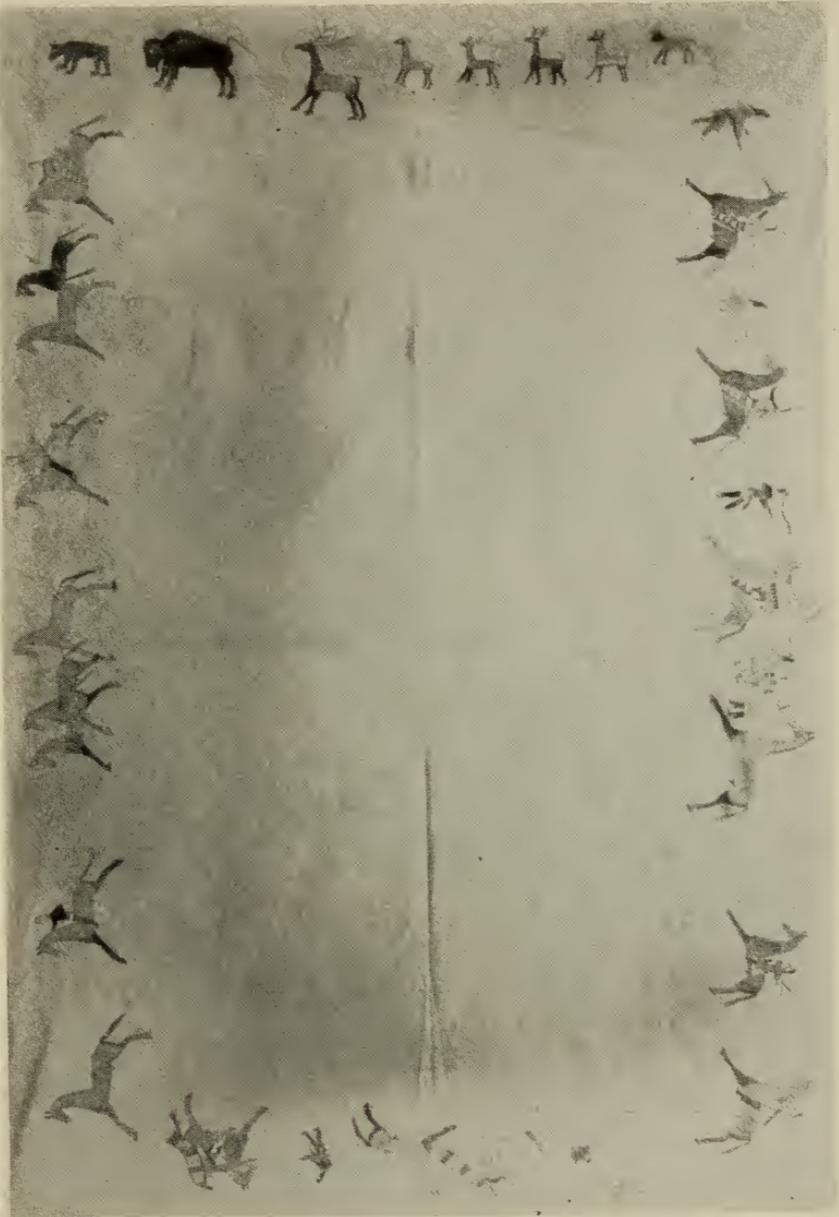


PLATE XV

6/7900 Quilled buckskin used as wrapping for spirit bundle (l. 2 ft.
5 $\frac{1}{4}$ in.)

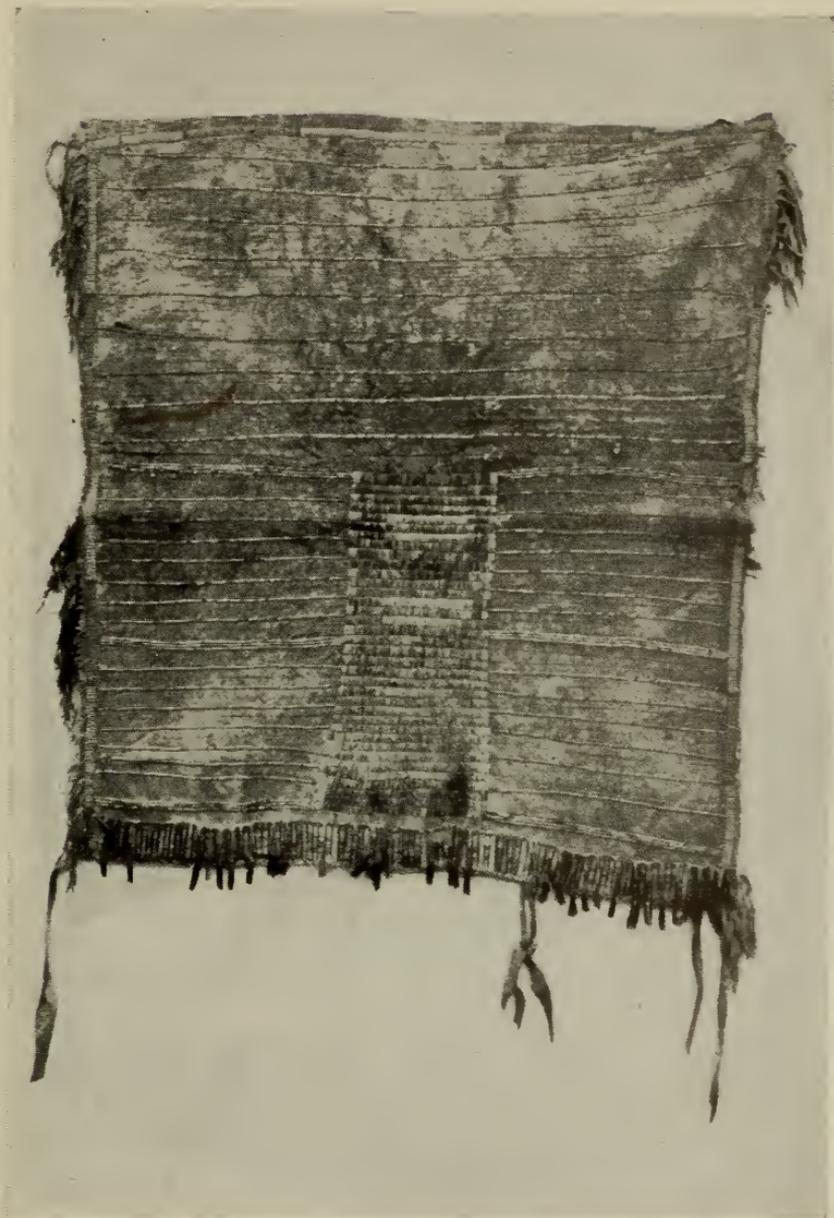


PLATE XVI

- a.* 6/7956 Wooden pipe cleaner
- b.* 6/7941 Decorated stick worn in Sun Dance
- c.* 6/7944 Grass Dance whistle (l. 2 ft. 1 in.)
- d.* 6/7991 Small catlinite pipe with wooden stem
- e.* 6/7992 Catlinite pipe with decorated wooden stem
- f.* 6/7996 Spirit post (l. 2 ft. 10½ in.)
- g.* 6/7990 Implement used for handling coals in spirit lodge
- h.* 6/7987 Implement used for handling coals in spirit lodge

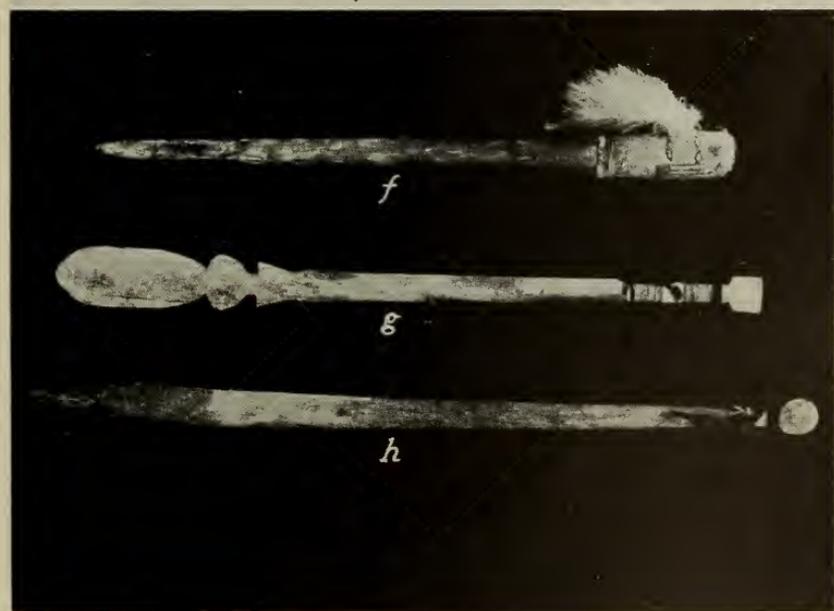
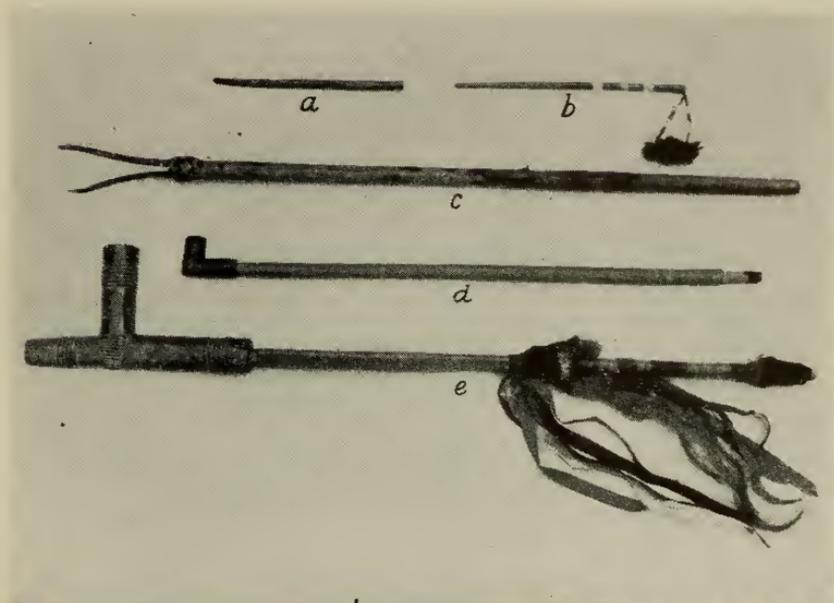


PLATE XVII

- | | | |
|-----------|--------|---|
| <i>a.</i> | 6/7908 | Decorated drum stick (1. 2 ft. 4 in.) |
| <i>b.</i> | 6/7988 | Offering stick with gift tobacco |
| <i>c.</i> | 6/8024 | Miwa'tani dance rattle |
| <i>d.</i> | 6/7997 | Dance rattle |
| <i>e.</i> | 6/7928 | Jaw's war whistle with medicine bags attached |
| <i>f.</i> | 6/7947 | Sun Dance whistle |

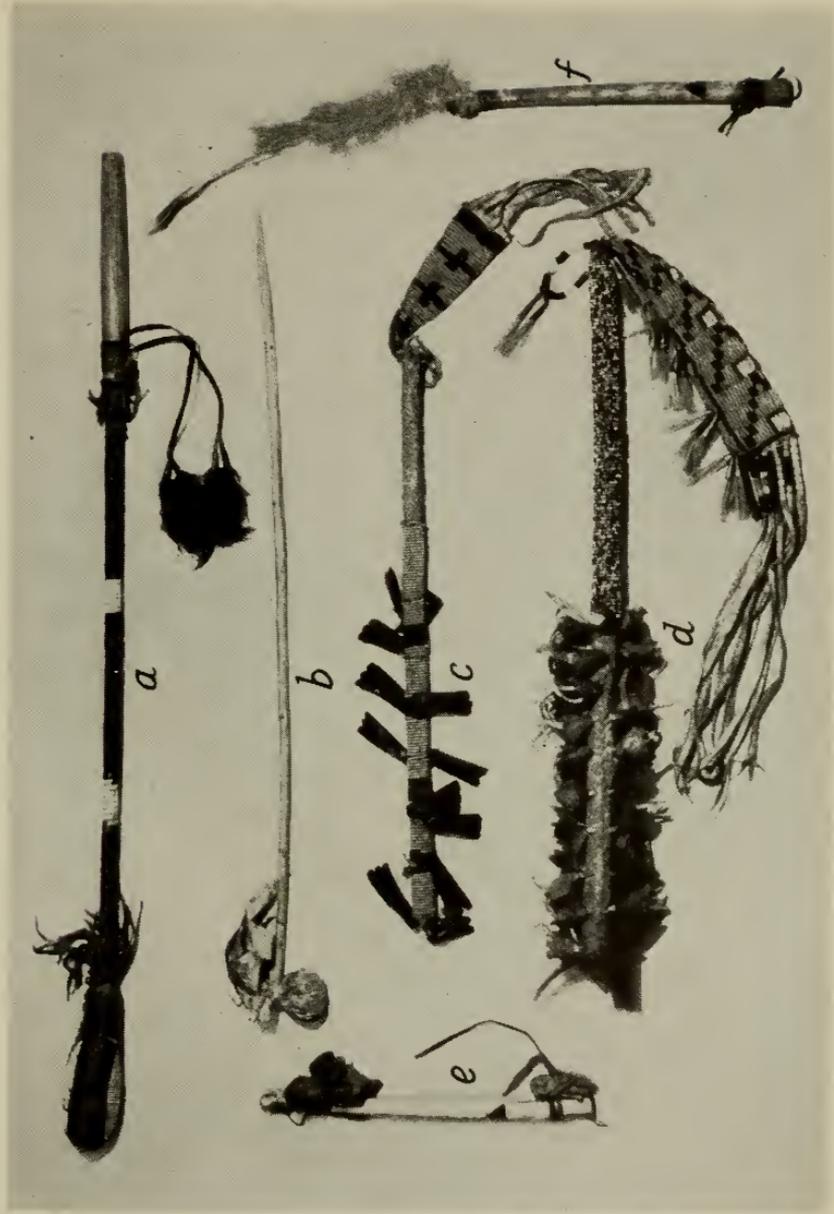


PLATE XVIII

- a.* 6/7929 Stone game ball used by women for game on ice
- b.* 6/7930 Wooden cylinders used by women for game on ice
- c.* 6/7927 Game hoop (diam. $10\frac{1}{4}$ in.)
- d.* 6/7973 Set of six plum stone dice
- e.* 6/7969 Deer bone game
- f.* 6/7945 Hair brush made from porcupine tail
- g.* 6/7955 Stick with skin bag containing red paint for painting
"part" in the hair
- h.* 6/8023 Small parfleche bag, container for paint outfit (l. 9 in.)

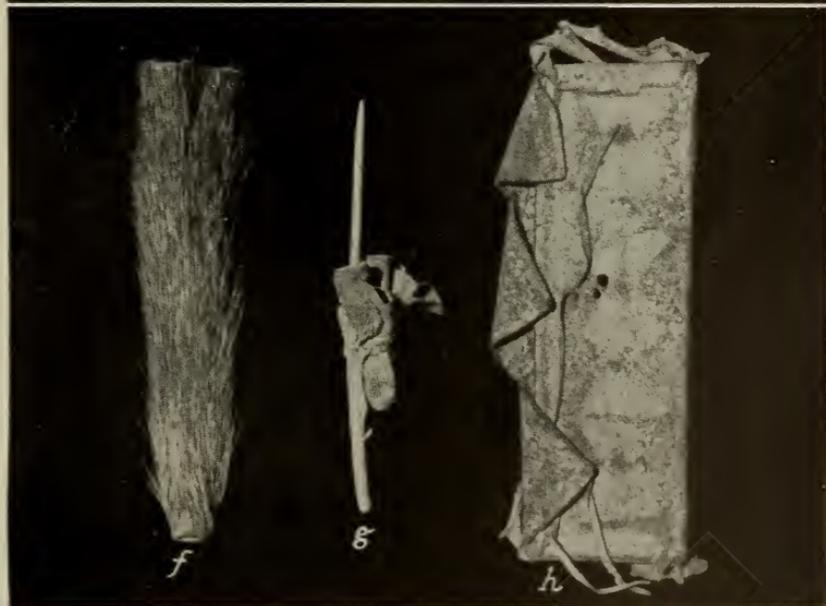
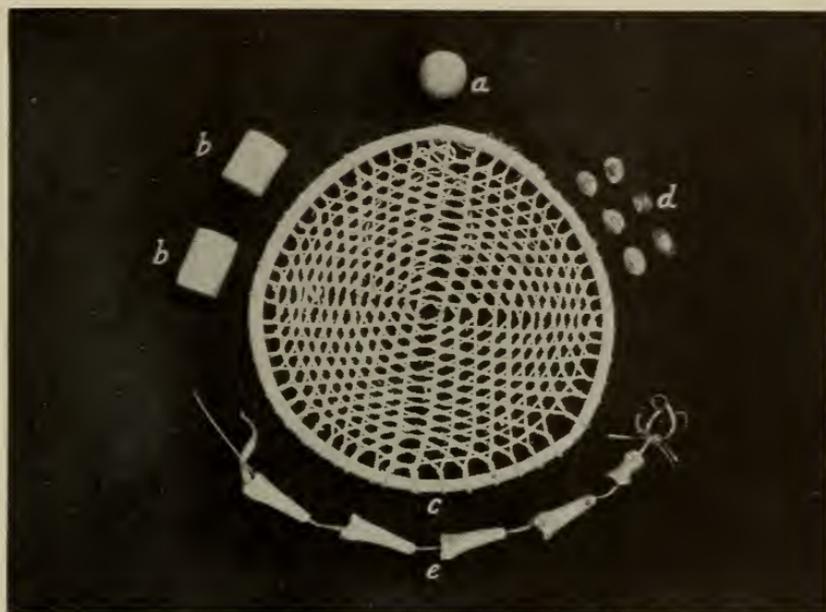


PLATE XIX

- a.* 6/7984 Hair ornament worn by elk dreamer
- b.* 6/7953 Toy doll in beaded carrier (height $3\frac{1}{4}$ in.)
- c.* 6/7952 Toy doll carrier decorated with quill and bead work
- d.* 6/7931 Beaded turtle charm worn by women
- e.* 6/8012 Buffalo hide pattern for moccasin upper
- f.* 6/7907 Pair partly completed moccasins; one is half turned
- g.* 6/8011 Buffalo hide pattern for moccasin sole (l. $10\frac{1}{4}$ in.)

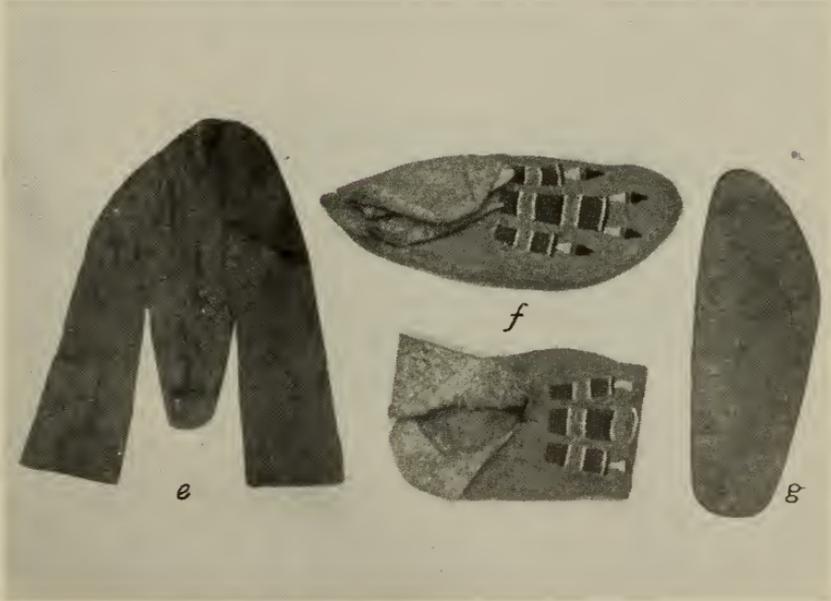
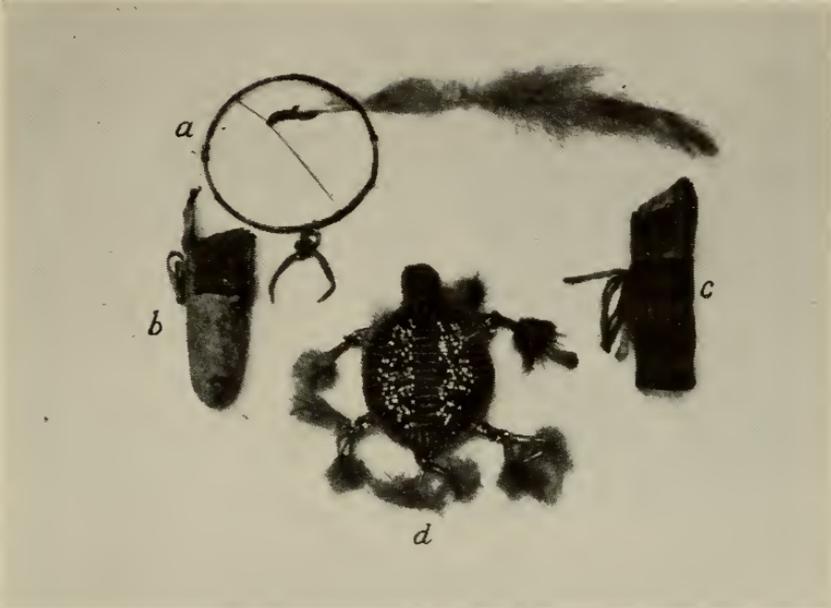


PLATE XX

- 6/8004 Mementos of Jaw's infancy. *a*, moccasin; *b*, wool for dressing a child's navel; *c*, lock of hair; *d*, packet of medicine; *e*, outer wrapping of packet
- 6/7936 Toy buffalo made from buffalo hide (l. 1 ft. 2 in.)

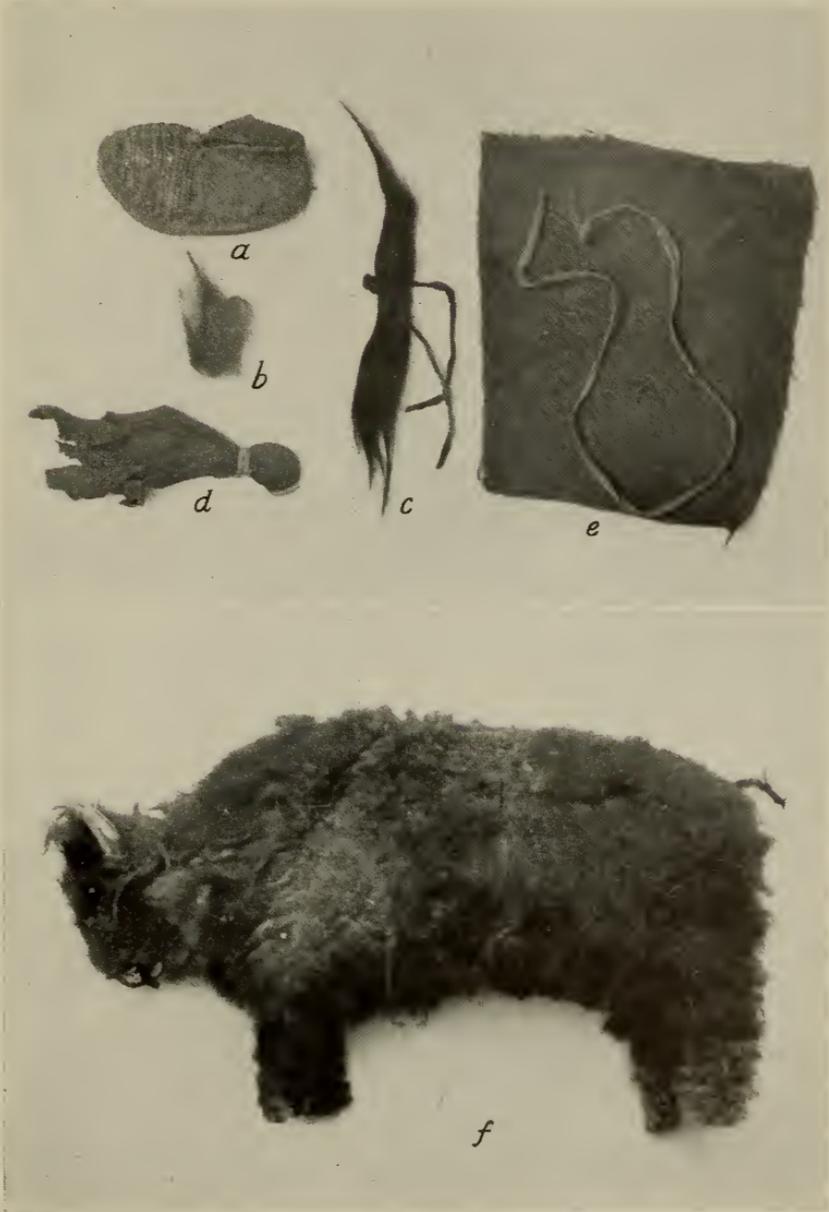


PLATE XXI

- a.* 6/7943 Doll representing a man; garments of hide
- b.* 6/7926 Doll representing a woman; garments of hide (l. 1 ft.)
- c.* 6/7918 Doll representing a woman; garments of cloth
- d.* 6/7905 Doll representing a man; garments of cloth (l. 1 ft. 2 in.)

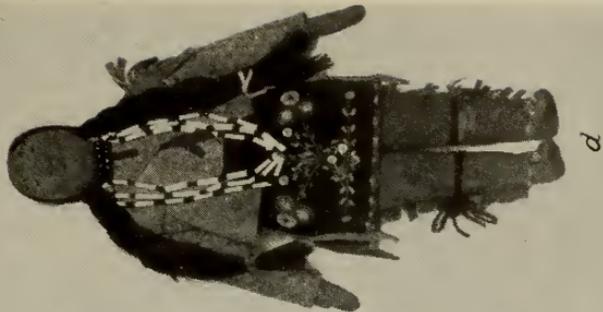
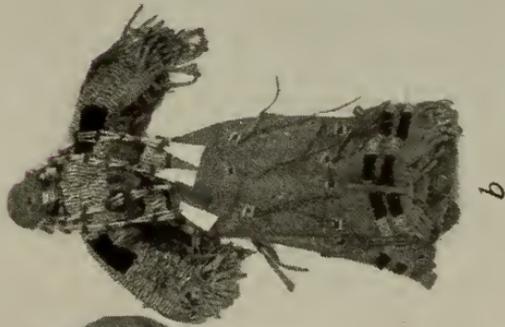


PLATE XXII

6/8009 Decorated robe for Huñ'ka ceremony (l. 3 ft. 9½ in.)

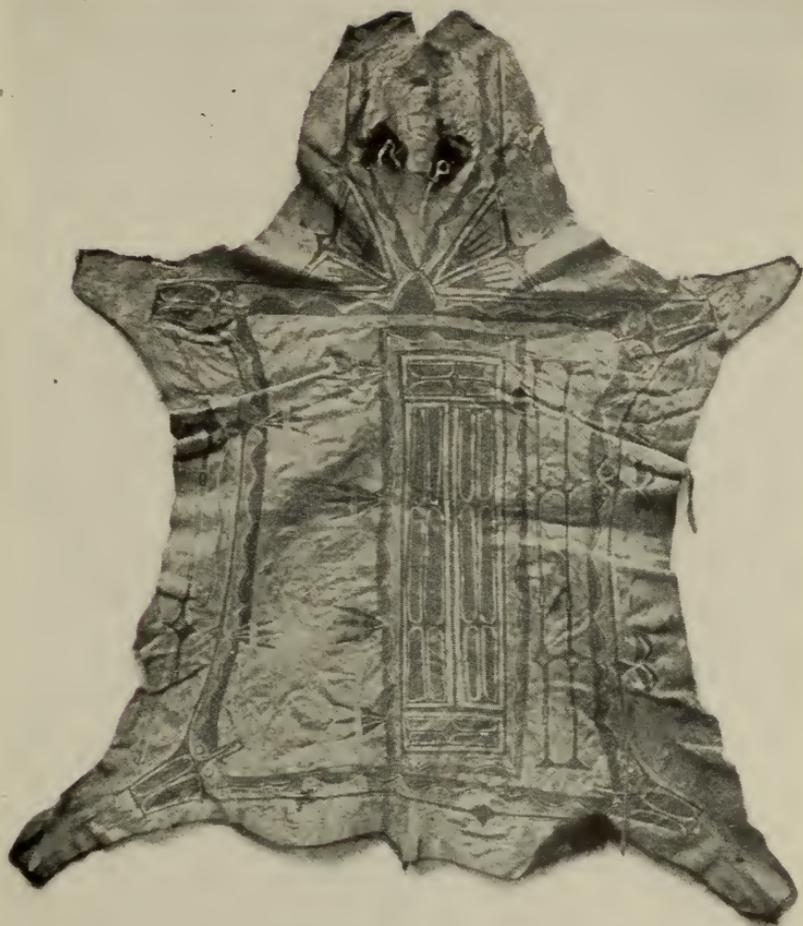


PLATE XXIII

6/7933 Part of Huj'ka ceremony. Native drawing (l. of whole sheet
2 ft. 11 $\frac{1}{2}$ in.)



PLATE XXIV

- a. 6/8006 Wig made of black horse tail, worn in dance
- b. 6/7906 Eagle wing fan
- c. 6/7909 Dance ornament of white horse tail (l. 4 ft.)
- d. 6/7911 Buffalo Dance shield (diam. 1 ft. 6½ in.)



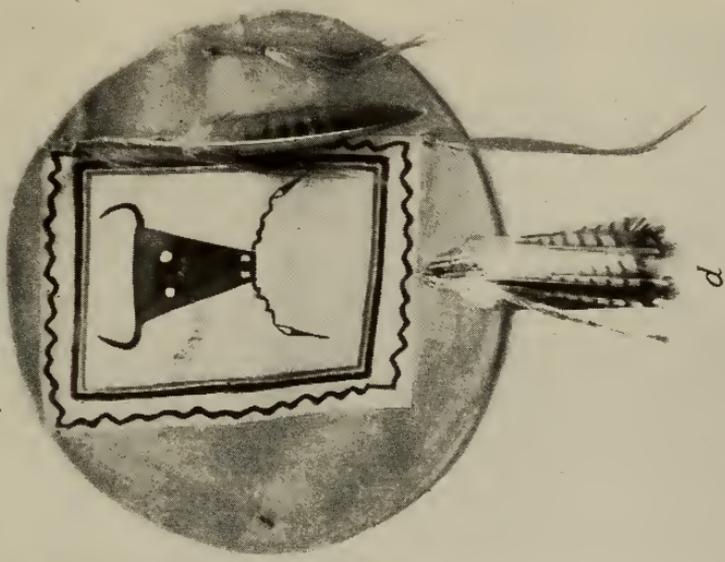
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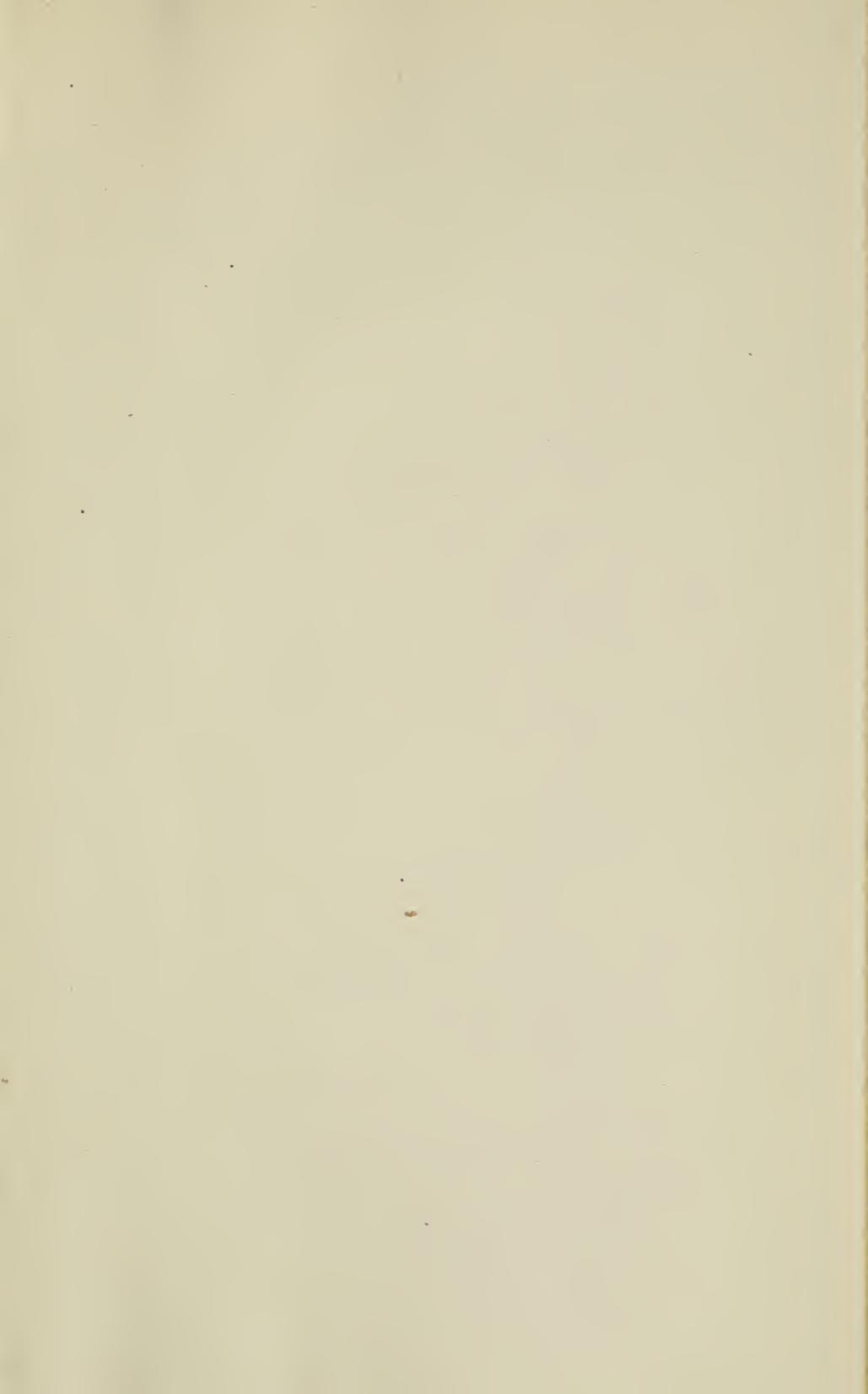
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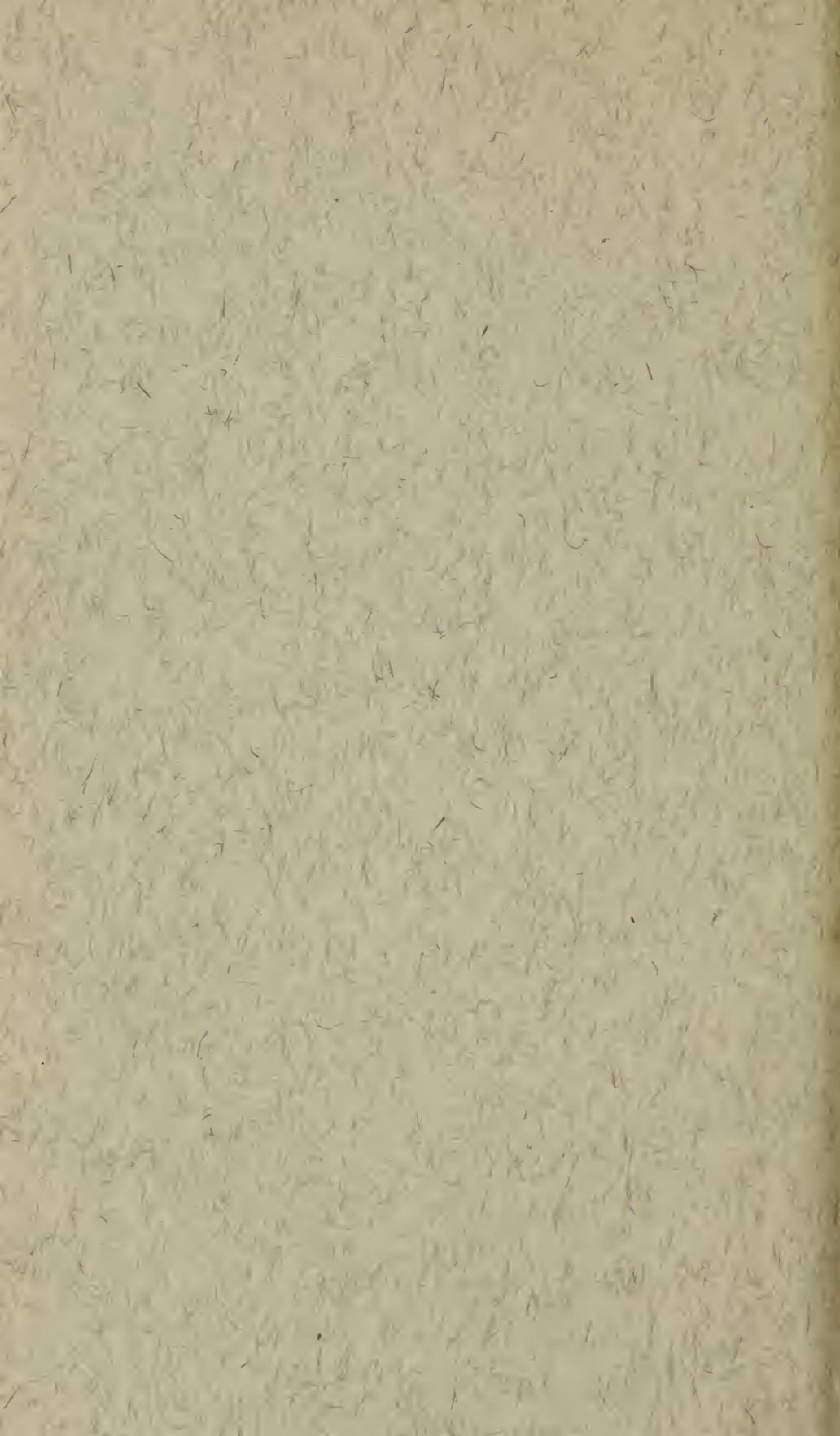


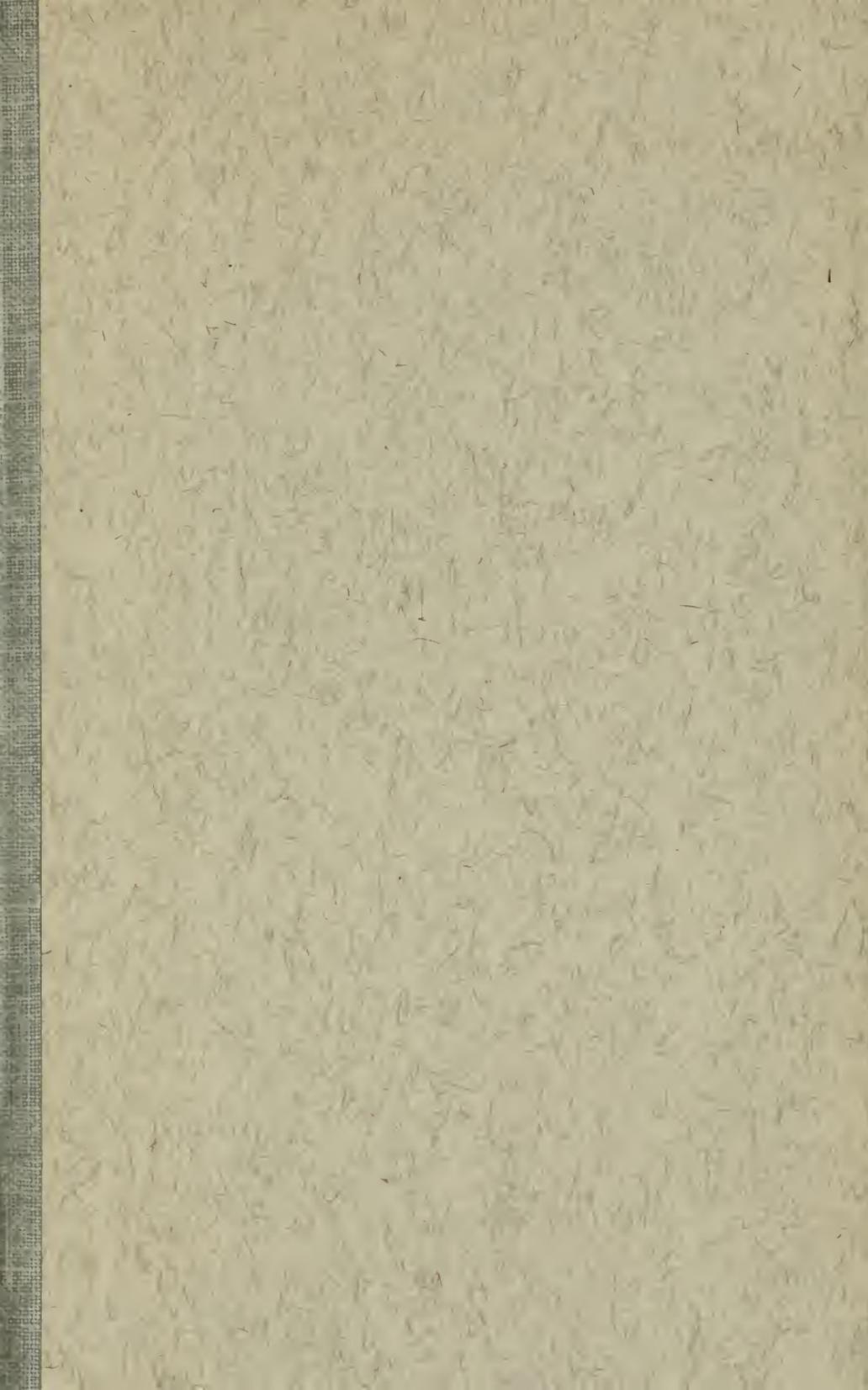
c



d







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