LAFAYETTE NATIONAL PARK MUSEUM

BULLETIN I

THE JONES COVE SHELL-HEAP AT WEST GOULDSBORO, MAINE



BY WALTER B. SMITH

> BAR HARBOR 1929

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Bulletin 1

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1929

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Sherman Publishing Co., Bar Harbor, Maine

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Jones Cove is formed by a concave curve in Flanders Bay shore line at West Gouldsboro. Flanders Bay is a part of the much wider Frenchman Bay, and Frenchman Bay is included in the great Gulf of Maine. A small stream enters the head of this cove and is the outlet of a charming little fresh-water lake called Jones Pond. It is not much more than a stone's throw from the pond to the cove. There is a spring of water near the mouth of the stream.

The land is moderately irregular in its considerable rise from the shore, but when the tide ebbs the cove floor is exposed as a large clam flat.

So, with the undoubted abundance of nearby food to be procured in great variety from salt water and from fresh, from the earth and from the air, it is not surprising that our ancient predecessors founded here on the southwesternfacing bank of Jones Cove an industry that endured for centuries—that lasted till the coming of aliens and the end of the Stone Age hereabout.

To speak of Indians as founders of an industry seems far-fetched and stilted. Really it was quite a simple affair, as the shells and bones of their first shore dinners left here on the shelving bank were the beginning of a rather extensive shell-heap, but to build this unpremeditated monument to their memory took much time and industry—also many clams.

Several hundred shell-heaps are known along the coast of Maine. Some of them have been dug out completely and most of the others more or less dug into. They appear much alike, yet there is certainly considerable difference in their ages and in prevalence of objects found. Whether definite tribes were exclusive occupants year after year of certain sites does not seem to have been found out.

But whatever differences may be noted in sizes, ages, and types of implements discovered in different shell-heaps, all are similar in consisting mainly of accumulations of refuse materials discarded by prehistoric people who sought easily procured food at the seashore. In other words, our predecessors left as by-products that which they could not eat. The harder substances only have endured, and these have formed deposits of considerable magnitude in sites long used or occupied by many persons.

Shell-heaps, as the term implies, are made up mostly of shells but with a smaller percentage of animal, bird and fish bones. In addition to these a still smaller proportion of objects represents the patient but handicapped labor of human hands, centuries ago, working with nothing better than stone tools. And these tools and weapons of bone and of stone and potsherds of clay are the looked-for rewards of the hard labor of digging in shellheaps—these relics, and the meager and imperfect stories we read in them of the lives of that people who made and used them and, passing on, left no plainer history. Peace to their ashes!

The locations of certain shell-heaps are sometimes evident at a considerable distance across the water by a white shore bank of wave-eroded shells, but the Jones Cove shellheap was not thus advertised. It had been made higher above water than most deposits of its kind and was well masked by vegetation. Its location had, however, long been known, but as it occupied the shore border of a fertile field, no permission to dig in it had heretofore been obtained.

This season (1928) the dedication of the Lafayette National Park Museum of Stone Age Objects aroused considerable interest in local archaeology, and the present owner, Mr. James A. Hill, kindly allowed the somewhat extensive excavation necessary for its complete exploration.

The work, done for this Museum, was supervised by Dr. Warren K. Moorehead. It occupied over a week, and more than twenty persons helped in the digging: Museum assistants, local collectors, Park rangers, sea captains, and eager amateurs—summer visitors and native inhabitants—all became enthusiastic and grimy volunteer archaeologists for the time being.

Those who dug: Warren K. Moorehead, Charles H. Wood, Fletcher T. Wood, Henry G. Wood, Mrs. J. Cameron Bradley and her two sons, Mme. E. Kurtz, Norwood Eldridge, Ralph C. Douglas, William Campbell, Reginald Dunham, Maurice Cleaves, Ben Hadley, Herbert Grindle, Verne Moore, Byron P. Bunker, Elsie Young, Miss Place, Margaret Ashe, Westley Ashe, S. P. Moorehead, Walter B. Smith.

There were a few others whose names were not learned by the writer; and at times many non-digging but interested onloookers.

Digging was begun at the thin edge of the shells nearest the shore and gradually carried up the slope into deeper material. The numerous diggers were spaced several feet apart, and the pits they dug soon uniting formed a long trench, the dirt being shoveled behind them. Thus a perpendicular face of the shell-heap was always exposed from top to bottom. The material looked rather loose but did not crumble as it was pretty well dovetailed together.

After the trench was started, digging was practically done from the bottom up—understoping, miners would term it. Small trowels and hand garden weeders were used for loosening this ancient debris, particular care being exercised where worked objects showed in the trench face. A tough, heavy sod covered the top of the shells and was broken off in chunks as it became undermined.

Nothing of particular interest was found at first, simply a thin bed of more or less broken clam shells with pieces of bone and an occasional rock chip. As the digging progressed the shells reached a depth of several feet, and many worked objects of stone and of bone were discovered.

Friendly rivalry developed in the finding of these ancient man-made things, and good natured arguments were frequent over the identity of fragmentary bones found, and what pieces of tools would be like if they were all there. Once in a while a digger would be thrilled by thinking he had discovered something important when but a little of it showed. It is odd that a relic only partly dug out should seem so much superior to what it is found actually to be when fully uncovered.

The trench became nearly a hundred feet long, and its somewhat wavy and changing face was a good longitudinal section which showed the structure of the shell-heap and the character of its components.

Several interesting features were exhibited. It was plain to be seen that the surface of the ground upon which the shells were piled was uneven and that the hollows, particularly, were pretty well filled with very dark dirt in which could be detected ashes, charcoal, crumbling shells, disintegrating bone fragments, and occasional stone arrowpoints scrapers, and "flint" chips. No bone tools were found in this bottom stratum.

Fire-blackened stones, arranged in a crescent or maybe a circle, told of an oldtime fireplace as old at least as the beginning of the shell-heap which covered it. Several other fireplaces were unearthed during the digging, and evidences of fires—charcoal and calcined bones and shells—were not uncommon in various parts of the heap.

Above the dark colored dirt was a stratum of shells, perhaps six to eight inches thick, in which were found bone objects as well as those made of stone, and some potsherds. Next above this was a well-marked stratum two or three inches thick, of dark brown dirt, apparently an accumulation resulting from decomposed vegetation. This layer extended over only a part of the area of the shell-heap. Above this thin stratum was the main mass of shells from two to three feet thick.

Obviously the thin, brown stratum of soil marks a period of unoccupancy for the length of time it took for its accumulation. Land snails (Helix) had at some time found a home in it as evidenced by fragments of their shells. In the greater part of the thick stratum the shells had been kept fairly level, as though broken and pressed down by having been lived upon, moreover a considerable quantity of dirt and ashes was present. Thus, the trench face shows rather faintly a horizontal stratification, or bedding and crossbedding structure, throughout this part.

Toward the northerly end of the shell-heap a striking contrast is encountered. The shells here are mostly whole valves, are clean looking, and are far from horizontal in general position. They show a sort of shingled structure, as if they had been dumped on the edge of a rather steep bank and had slid into that position, which is probably just what occurred. While, as just stated, the majority of shells are whole, a noticeable number have smallish holes broken in or near the middle of the valve.

Relics were scarcer in this part.

ARTIFACTS FOUND IN THE JONES COVE SHELL-HEAP

All objects of wood or bark, of reeds, feathers, or of leather have completely disappeared, and these, no doubt, formed the bulk of the Lares and Penates (if they had such things) and other possession of our Stone Age campers at Maine shores. For, from such materials were made the entire, or, at least, essential parts of their clothing, their weapons, their canoes and shelters and baskets and ornaments.

Many types of things that have lasted are incomplete as found, in that they lack handles, or shafts, or other attachments—perished parts which they originally possessed. Hence, their purposes and uses are in some cases conjectural and their naming tentative and unsatisfactory.

Stone objects exhibit little appreciable change. Many things made of bone are still sound, others show crumbling and are fragile from age. Pottery was represented only in fragments.

THE JONES COVE SHELL-HEAP

STONE WEAPONS AND TOOLS

These, in order of abundance, are: arrowpoints, scrapers, knives, hammerstones, celts and celt-like tools, whetstones, so-called clam openers, and a few miscellaneous things.

ARROWPOINTS

About seventy entire (or nearly so) arrowpoints were obtained. The majority are of the notched base type. Few are stemmed and few are typical of the triangular, unnotched and stemless war-point type. Figure 1 shows points that are rather better than the average. Two, at the bottom, represent the minimum size; two, directly above, the average; and the middle figure the very largest one. The latter is the nearest approach to a spearhead of any stone blade found here, but it is thin and seems too fragile for such use.

Unlike those from Penobscot River village sites, only a small number of these shell-heap arrowpoints are made of Kineo stone (quartz-porphyry). Many, however, are of a dark-colored, fine-grained eruptive rock, probably a local dyke material, such, as I am told, outcrops in the neighborhood. A few seem to be a quartz breccia. A few are a dark red jasper. A few are quartzite. One is a translucent chalcedony, or possibly a quartzite, somewhat resembling the kind used for the making of spearheads by the Red Paint People. None of flint were found, but possibly some are of chert.

Figure 2 represents types of four small blades which have been included, hesitatingly, with arrowpoints. They may have been used as such (war points), or have served as small knives. The doubly pointed example is rare.

KNIVES

More than a score of chipped blades, much like those in Figure 2, but considerably larger and in general of less symmetrical outlines, almost certainly were used as knives. But the best examples of knives found are shown in Figure 3.



FIG. 1-Arrowpoints. All are full size.



FIG. 2—Unnotched arrowpoints or perhaps small knives.



FIG 3—The best examples of chipped knives. Reduced about one-fourth. All other illustrations are full size.



FIG. 4—All scrapers are of very hard stone.

The first one—left top—is very thin, well made, dark brown in color, shows veining, and is made of a rock of probable metamorphic origin. The lower left is of a rich chocolate color and exhibits beautiful diagonal bands of light brown and of black. It, too, is very thin and is probably made of highly metamorphosed material.

Another thin knife, of rather unusual form, is shown in upper right hand corner. The material is dark gray in color and appears to be a variety of some eruptive rock.

The lower, left figure, is of a knife made of fine gray quartzite. In thickness (about five-eights of an inch) and in shape it comes nearer than the others to the type of Stone Age knife most often found in this region.

SCRAPERS

These small tools were found to be nearly as numerous as arrowpoints. All obtained here are made of the hardest materials used by these Indians, that is, of the hardest kinds which break with a conchoidal fracture. They are mainly of quartz. Some are of milky quartz, some are of dark red jasper; a few are of dark bluish quartzite; others perhaps should be called chert, and one only appears to be flint all varieties of the one mineral, quartz. In addition a few may represent certain hard eruptive and metamorphic rocks whose chief components are also quartz.

Figure 4 shows the convex sides, or backs, of these scrapers of somewhat larger size than the majority. The one which seems to have a handle is unusual in this feature. The opposite sides, or faces, are either nearly flat or somewhat concave. They were formed from spalls or chips, but their only shaping has been the removal of small flakes to produce a sharp scraping edge more or less semi-circular in outline. Chipping and shaping may have resulted from use rather than from intent.

That these tools were of importance in the daily work of those who made shell-heaps is attested by their prevalence, but that they were not peculiarly for use in connection with the sea-food industry is indicated by their proportional abundance at interior village sites far removed from the sea shore.

Their general probable uses are suggested in the name by which they are called. An acquaintance, a fishermanfarmer whose friendship and whose opinions (as a fisherman) the writer values, says: "Them's jest stone fingernails, made to scratch with."

Their resemblance to gunflints perhaps suggested the idea that they were used in connection with hammerstones for producing fire.

HAMMERSTONES

Very hard, rounded rocks of a size readily grasped in the hand are easily recognized by bruised spots as primitive hammerstones such as were universally used by all Stone Age peoples.

They were rather common in this shell-heap. Some show little bruising; others, much. One had become manipulated into the form of a roughly perfect sphere through much use. It showed no part of its original surface as a pebble, so was less conspicuous, as a relic except for its symmetry, than those only partly hammered.

It is odd that the more highly specialized a hammerstone has become, the less it may resemble an artifact shaped by man. But such examples are not often found. The majority are of more irregular shapes and generally have flattish or slightly concave areas on opposite sides which served for thumb and finger grasps. None of the thin, often circular type (watch case hammerstones) were found here, nor were tools which required in part their use in the making, such as for forming grooves around stone axes, hollowing out narrow gouges, etc.

Many of the spalls and larger chips of stone scattered throughout this shell-heap were probably knocked off by hammerstones in making various types of the chipped implements heretofore described in these notes. They were used, too, in a somewhat different way for hammering or pecking into shape the group of tools which were finally ground or rubbed to smooth cutting edges instead of jaggedly chipped ones.

Several dense and hard kinds of rocks are represented by these hammerstones, but only one or two are of the Mount Kineo quartz-porphyry which forms perhaps ninety per cent of all those found along the Penobscot River.

INCIDENTAL IMPLEMENTS

This term as used here includes pieces of unwrought stone of natural or accidental shapes which may have been picked up and used, particularly for temporary needs. Spallknives that obviously have been resharpened are not included, nor are hammerstones, whetstones, etc., which have become specialized through use. However, amid the plentiful chips and spalls struck off from flint-like rocks are many pieces unsuitable for making into arrowpoints, but which might have served in many ways as tools. (Chips, flakes of any size; spalls, generally the larger chips which have one or more feather-edges.)

Thus, quite a number of so-called **clam openers** were found here. These are simply spalls with a thin edge two or three inches long. Of course a few clams may have been opened with them, but there is no more proof of it than there is that certain other keen-edged spalls called **scalping knives** were used for the purpose suggested.

A few spalls show by their dulled and worn edges and angles that they have had considerable work of some kind, perhaps as saws for dividing bones into desired length and strips, and as knives.

PECKED AND GROUND STONE IMPLEMENTS

The score or more of tools thus grouped for convenience were, no doubt, designed mainly for working wood, peeling bark and for skinning animals. Some are entire but many are broken and incomplete. The majority may be classed as **Celts.** Several of these are small and exhibit little work of shaping, except that necessary to bring one end of an elongate pebble to a fairly sharp, wedge-shaped edge. Others are larger and have been hammered into shape and ground or rubbed to fine, broad cutting edges—processes requiring much time and patience as the materials worked upon are hard and tough; apparently of diabase or similar rocks. No quartz, nor rocks composed mainly of this mineral were used on account of its brittleness.

Figure 5 represents one of the best, complete, medium sized celts found. It is not improbable that the larger celts were hafted and used as hatchets, or axes. No grooved axes were discovered here.

Tools somewhat resembling celts but in general having one side flatter and the other approaching a half-circle in cross section were sharpened from one side only, thus producing either a straight or a convex cutting edge. These are supposed to have been hafted as adzes and thus used. They are sometimes termed adz-celts or adz-blades. Other ideas of their uses are expressed in the designations sometimes given them: bark-peelers, or bark-spuds; and skinning tools. They certainly would have been of service for these purposes if used without the adz-hafting.

No complete adz-blades were recovered, but broken parts representing several originally well-made examples were saved.

Another type of stone implement was also evidenced only by pieces found. These account for two rather long, straight-faced, thick-in-the-middle, and double-pointed artifacts which are probably correctly termed **pick-axes**.

WHETSTONES

A score or more of stones had rubbed surfaces that indicated use as whetstones. They are unshaped except for a few pieces that are specialized from much use for some particular purpose.

OTHER THINGS

Two objects of stone were discovered which exhibit straight incised lines grouped in various combinations as shown in the sketches.











FIGS. 6, 7, and 8—The upper figures depict incomplete and unreadable stories. The lower figure is probably not a plummet.

Figure 6. This is merely a small, thin, broken-off corner of red sandstone with rather deep grooves carved in its nearly flat surface. So little of the design appears that it hardly furnishes a fair clue for guess-work as to its meaning—if it had one.

The rest of this stone was very regretfully unfound.

Figure 7. This stone, upon which incised lines have been cut, or engraved, is a dark-red slaty rock; apparently one face of a flattish, worn rock of natural shape. Its edges are sharp, and the reverse side is a cleavage surface which shows the effects of fire and suggests the cause of its splitting. The other part is missing.

The inscription which was carefully made in fine lines is in part indistinct or obliterated by wear, but it is more probable that it held some meaning than that it was made as an experiment in ornamentation.

Figure 8 represents an object made of red sandstone. It is roundedly angular in form and is encircled by a deep, sharp groove near the upper end. It is broken through a similar groove at the base, proving that it is not entire. In its present form it might be taken for a plummet, although not typical of such things and probably was never made for one.

No other relic even remotely suggestive of a plummet was found.

It should be noted that many stone relics are covered, either in patches or almost entirely, by a thin, white coating of calcite, supposed to be of lime that has leached from the shells.

Two other objects of stone should be mentioned. These are perhaps of more interest as mineral specimens than as archaeological. One is a rounded piece of quartz a little under two inches in diameter. It resembles a small hammerstone, but its pounded appearance was evidently caused by efforts to detach flakes rather than from its use as a hammer. It is translucent and much like rose quartz in color, but its texture is different as it seems to be very finely granular. Except for its rose color which is not uniform, it resembles the material used for certain chipped blades of the Red Paint People. Where they got it is unknown.

The other object is a nodule of **psilomelane**, black oxide of manganese. It shows several sharply-made V-shaped grooves across different sides. The deepest is about onefourth of an inch.

Several years ago a similar piece of psilomelane likewise grooved was found in a nearby Frenchman Bay shell-heap.

OBJECTS MADE OF BONE

Except for a few barren patches, stone, and bone artifacts were rather indiscriminately mixed throughout the shell-bed in approximately equal numbers. Counting the practically complete relics only, there were more of bone than of stone; but including broken things in the count, there was found to be an excess of stone.

The purposes for which some of the bone implements were made seems fairly plain, but just how many others were used is puzzling.

"FISHHOOKS," ARROWPOINTS, DART-HEADS

The commonest of all, as well as the simplest are small, thinnish, double-pointed pieces of bone usually a little under three inches long and about five-sixteenths of an inch wide in the middle. One end, in the majority of specimens, is more acutely pointed and smoother than the other. That they have been shaped and sharpened by scraping with stone scrapers is apparent from the numerous longitudinal striae and shallow flutings of their surfaces. Like all hand-made objects no two are precisely alike, yet their resemblance to one another is close. The broader ends of a few are notched or barbed on one edge, from the base for one-third of their length, or less. More rarely both edges are notched.

In Figure 9 the first sketch (left-hand) is a fair representation of the majority. Its slightly shattered point is not an uncommon feature. The next two show the shortest bone points found. The other sketches represent the notched or barbed kind.



FIG. 9—Varieties of the most numerous little, double-pointed, bone uncertainties of the heap.



FIG. 10—Supposed to have been used as spear-heads, or as middle tines of fish-spears.

So many of these bone points are found that their use or uses should seem obvious, but as my friendly fisherman often remarks: "Thare's allus more 'n one way to look at it."

Perhaps the most generally accepted idea is that they were made for catching fish. It is known that historic Indians of the northwest coast caught fish with similar pieces of bone or of wood used as gorgehooks, the line being tied in the middle and the hook baited. Another method was to bind one or more bone points at an angle of about 45 degrees to the end of a small stick.

It is certain that when the first white people arrived they found Maine Indians employing bone tips for pointing arrows and spears, or darts. C. C. Willoughby in Prehistoric Burial Places in Maine (1) says: "——We learn from Rosier's Narrative of Weymouth's Voyage to the Coast of Maine in 1605, that the Indians near Monhegan had [arrows] 'Big and long with three feathers tied on, and nocked very artificially, headed with the long shank bone of a deer made very sharp with two fangs in the manner of a harping iron. They had likewise darts headed with like bone, one of which I darted among the rocks and it brake not.'" (2) (1) Peabody Museum Paper, Cambridge, 1898, p. 51.

(2) Eastern Times Reprint, Bath, Me., 1860, p. 25.

It is likely that darts mentioned by several early writers as Indian weapons in most instances refer to javelins or throwing-spears, or to arrows. Yet we are told in certain old pioneer stories that Indians obtained much food by their skill in shooting darts, with a dart-stick, into bird flocks and schools of fish. These darts were much like arrows but had a barbed notch cut into one side of the wood shaft about halfway of its length for the purpose of seating a knot at the end of a short string. The other end of the string was tied to the flexible end of the dart-stick,—a sort of half-bow.

SPEARHEADS (?)

Figure 10 shows several bone objects similar in shape to those just described. But they are much larger and stronger and were found far less plentifully. Some are barbed or notched near their bases, perhaps to assist in hafting. They are about round in cross-section. That they were used as spearheads does not seem an unreasonable guess.

No doubt Indians were experts in firmly fixing such weapons in the ends of wood shafts and handles. They probably took advantage of the fact that wood shrinks in drying. Thus objects inserted in green wood become firmly gripped as the wood hugs about them in seasoning. It takes careful work to do this successfully without having the wood split during its shrinking process, but it can be done, as the writer knows from experiment and experience.

Figure 11 represents the only bone spearhead of conventional shape that was found. This one is small and incomplete.

WHAT ARE THESE?

The pointed bone artifacts shown in Figure 12 are peculiar in having their larger ends cut off at an angle of about forty-five degrees. They were evidently specialized for some particular use, but for what purpose is not apparent.

Figure 13. These bone things are much like those shown in the preceding figure but are terminated by a double angle. They are a little better made and smoother than the others but no less puzzling.

Our fisherman friend's explanation of their use is simply— "Wall, I dunno's I know."

HAIRPINS PERHAPS.

Figure 14. Two bone objects that resemble spears in outline as sketched. They do not however give that impression when examined. The broad ends are rather thick and the tapering portions well rounded and smooth.

Someone once called such things hairpins or hair ornaments. Perhaps he was right. They needed a name. Another observer says they are pins—"Obviously pins for the clothes." He did not proclaim them as clothespins. Perhaps he was right.



FIG. 12—The beveled ends of such points should be a clue to their use but the clue seems clueless.



FIG. 14—Bone pins.





FIG. 15—Decorated comb.

FIG. 16—Once these were genuine, hand-made, bone fishhooks.



FIG. 17—Perhaps fish were caught with it.



FIG. 18—A few of the many awls.

If they really were essential for the purpose of holding clothing in place, the Indians who occupied this shell-heap were sparsely clad for but two artifacts of this type were discovered in the entire diggings.

HAIR COMB.

Figure 15. This article was hailed without argument as an ornamental hair comb. There was a greater length to at least one of the teeth when found, but the piece or pieces that dropped off were so painstakingly saved that they have not yet been rediscovered.

Somehow it suggests European influence, yet it is undoubtedly of Indian make and could have been formed with stone tools and patience. Its incised decoration though crude and simple is pleasing.

As a shell-heap find it seems to be unique.

REAL FISHHOOKS.

Figure 16 shows all that were recovered. Both are broken. The smaller one **did** have when found an upturned point as indicated by dotted lines in the sketch, but it was too far gone to stay on.

Such hooks could not have been strong enough to catch other than very gentle fish. Anyway modern fish would be too indignant to stay hooked on a thing so easily broken.

The resemblance of these bone hooks to those of iron causes one to wonder if their makers had seen and copied fishhooks of early arrived European fishermen.

It is doubtful what Figure 17 represents. Possibly an endeavor to improve the simple gorge fishhook. If so it could not have become popular as one only was found.

AWLS

Awls, or perforators, occurred next in abundance to the little bone dartheads, or whatever they are. Of course many were incomplete, but a dozen or more entire examples were found. Some of the best are represented in Figure 18. They are mainly acutely pointed and smooth as if polished from much wear. Some are of solid bone and some are of hollow split bone. A few have been worked down from antler tines.

To simply call these implements awls would seem sufficiently explicit, but the long individuals with large roundjoint-ends could have become wicked daggers upon occasion. Our fisherman friend finds that certain of them were marlinspikes, sure! And one of the lady diggers just knows that the delicate little types were embroidery stilettos!

CROCHET HOOKS

Figure 19. When these things were found the women diggers immediately exclaimed "crochet hooks!" It seemed an appropriate name and they are thus tentatively tagged. But this term has jarred a protest from friend fisherman: "Huh! Them old Injuns didn't have nothin' to crochet, and nothin' to sew it on to if they did. More'n likely them's for hauling snails and wrinkles out'er their shells after you bile 'em up a bit."

BODKINS

Figure 20 represents several, long, flat, carefully made and very smooth implements which are generally called needles. There were few complete examples but many fragments of these. In one case several pieces that fitted together showed a length of nine and one-half inches. Nor was this all for it had been broken through the eye and the bottom section is missing. Nearly all were long, the shortest being over four inches. They were made of rib bones worked down thin and are curved.

Many had broken at the eye (which is about three times as long as wide), and a new eye had been made about an inch above.

Various uses have been suggested including weaving, net making and particularly for stringing shucked clams as a part of the process in preparing them for winter use.

Bodkins, instead of needles, is used here as a better descriptive term and to distinguish them from real bone needles that are found, though rarely, in some of Maine's shell-heaps.



FIG. 19—Crochet hooks!





FIG. 21—Flakers. Tools used in chipping projectile points and knife blades.

FLAKERS (Sometimes called fabricators)

The many stone arrowpoints and knives found, and the chips from their making indicate that the forming of such weapons had been quite an industry at this heap. So it was not surprising to find here many bone tools characteristic of a type known to have been utilized for a similar purpose within historic times by Indians in certain western states.

Figure 21 shows four of these tools. More than a dozen were found including broken ones. They vary somewhat in size, but all are alike in having the working end terminated by two planes which meet at a somewhat obtuse angle—like the kerf of a tree that has been felled by chopping on each side alike.

Most, perhaps all, that were found here had been worked down from antler prongs.

In use (the process has been described by persons who have seen it) the angle end of the flaker was placed on the edge of a rock-spall, or blank, at a point where it was desirable to detach a chip, and the chip was thrown off by pressure alone, or by simply tapping the head of the flaker with a hammerstone.

It sounds easy enough and the writer begs to state that as a result of his endeavors to follow directions he is convinced that it is possible by the successive and successful repetition of this process on favorably working materials, aided by long experience, good luck, many expletives, lasting patience and three hands, for anyone to make a mediocre chipped spearhead, or something that might charitably be called such.

Anyway he who tries it will have a greater respect for the workmanship of Stone Age man and will be rather glad that modern civilization does not necessitate the acquisition of the arrowmakers' craft.

BONE CHISEL

One chisel was found. It is a strip of thick heavy bone nearly eight inches long and about an inch wide. The cutting end had been nicely sharpened. Four notches had been broken out near its upper end. This is an interesting feature for they fit one's fingers and served as a hand grasp.

HARPOONS

Perhaps no artifacts of the Jones Cove shell-heap are of greater interest than its bone harpoons. While only a few entire examples were recovered, there were many broken ones and fragments present.

So it may be surmised that adventurous questing for big fish was not uncommon. Moreover bones of large fish and of seals amidst the shells of the heap prove that many captures were made. But of the big ones that got away, broken harpoons furnish only a hint. Thus fish stories of Stone Age man are not available for comparison with those of modern times, and the progress of prevarication cannot be checked.

Only those bone objects that are barbed and perforated are here included as harpoons.

Figure 22 represents four types. That on the left has deeply cut and rather slim barbs. No entire examples were found here, but this type from certain other heaps is in some cases considerably longer, shows four or five barbs and is of course perforated. All are noticeably curved.

The smallest figure is of the thin kind and has little undercutting of barbs. Longer specimens with more barbs have been found at other heaps in this region.

The third example shows the long-pointed, deeply notched and heavy duty type.

The fourth type has but one barb. The specimen sketched is complete except for the very tip of barb. Incised bands which hoop the upper end above the perforation were not found on any others.

All specimens that were found, and classed here as harpoons, have barbs on one edge only.

The following interesting description of the Indian way of using harpoons is quoted from "Prehistoric Burial Places in Maine" by Charles C. Willoughby.

PEABODY MUSEUM PAPER, CAMBRIDGE, 1898, P. 51

"John Josselyn in his Account of Two Voyages to New England informs us that the Indians from their canoes strike

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FIG. 22—Harpoon types.



FIG. 23—Fish spears?



FIG. 24—Symmetrical objects of unknown use.



FIG. 25—Doublepointed puzzles.



FIG. 26—Converted teeth.

AT WEST GOULDSBORO, MAINE

the fish with 'A kind of dart or staff, to the lower end whereof they fasten a sharp jagged bone . . . with a string fastened to it, as soon as the fish is struck they pull away the staff, leaving the bony head in the fishes body and fasten the other end of the string to the Canow: Thus they will hale after them to shore half a dozen or half a score great fishes'."

BONE FISH SPEARS

The hook-like objects shown in Figure 23 are termed fish spears by some collectors.

Perhaps in some unknown manner they had been firmly fastened in the ends of poles and really were used for spearing fish. Perhaps not.

In Figure 24, the first sketch shows one of the smoothest and most symmetrical bone objects found in the heap. It is nearly six inches long, has carefully pointed ends and is round in cross-section, except for a thin fin which runs nearly its entire length. This fin is notched to form a half score of barbs. A similar object found at another shell-heap shows much smaller barbs on opposite sides.

The second sketch in Figure 24 represents an object which may have been designed for the same purpose as those just noted. It has no barbs, however, and one end is missing.

Several complete but much smaller examples of this type were found. Two are shown in Figure 25.

A FEW TEETH

If these Indians had many ornaments or charms while they were at this shell-heap they took good care not to loose them here, that is, if they were of materials that would last till now.

Many animal teeth were found, but very few show that any attempt was made to change their forms, although they may have been treasured as they were. Of teeth of large animals, bears' canines were the most numerous.

Figure 26 shows a large one that was nicely drilled for suspension. It is also of interest on account of the "tally" marks cut in its edges. (When the writer sketched this tooth he supposed it was found in the Jones Cove shell-heap—like every other object pictured in these notes. He has since discovered that this particular tooth was from another heap, a few miles distant.)

The tooth with a groove cut around its smaller end could also have been readily attached to a string. It is supposed originally to have belonged to a moose.

Someone has stated that beaver teeth were employed by Indians as tools. No doubt this is true as the enamel is hard, and beavers always keep their incisors sharp. This heap produced a good many such teeth, also similar incisors of the porcupine, but none were discovered which showed evidences of having been artificially resharpened or otherwise changed from natural form.

The circle formed of beaver teeth as depicted in Figure 26 was drawn from memory, so that the writer cannot prove that he saw what he thinks he did, nor is the original with all the other things on exhibition in the Jones Cove case at the Museum. It happened thus—A rather barren part of the heap was being hastily dug over when the "napkin ring" of beaver teeth suddenly appeared, and, as quickly disappeared at the next scratching rake of the garden weeder. Many pieces remained but the form did not (it must have been cracked before!) nor is it certain just how they were put together, or if two, or three teeth formed the ring.

The moral is: The dissector of shellheaps should heed in justice to ancient artisans—to head off unavailing regret and for the sake of archaeology—that oft occurring roadside warning "Go Slow."

MISCELLANEOUS BONES

In addition to their interest as raw material of prehistoric implement makers, bones tell us of the many kinds of animals that lived here then, something of their abundance and of man's success in their capture.

There were many bones scattered throughout this heap, though they formed far less than one percent of its bulkbones of great animals and of little fishes; of large fish and small animals and of various sized birds.

All long bones had been split or broken across and even smaller rectangular bones that moose and deer have in their feet had been broken into. A few bones show that pieces had been laboriously cut out for making implements and others exhibit more or less unfinished work.

A list of the various animals represented would be given if the writer could, but his knowledge of osteology is practically only that gained by a few days of shell-heap work. It gives him a little satisfaction to add that a few of his fellow workers were nearly as ignorant.

We learned much, but some of this knowledge was not absolutely accurate. We could positively identify bear teeth (canines only) though similar teeth of smaller animals kept us guessing. Incisors of beaver and of porcupines were also readily recognized, but we were not always sure of which from t'other. In some cases we could tell moose antlers from those of deer.

It is almost certain that no human bones were found. One of the diggers, however, became a little awed and excited by a small piece of skull bone which he dug out. It was a bit of skull, surely, so "of course," he stated, "that of an Indian." He was impressively informed that man is not the only animal that has a skull—or even a thick one, and that a reddish color does not necessarily prove that such bone was ever any part of a red man.

Bones of certain animals now extinct have been discovered in some of the Maine heaps. If such were found here, they are yet to be identified among the miscellaneous bones saved for further study.

A man who really knows much of bird anatomy pronounced a certain light, hollow bone to be "almost that of the great auk," though he qualified this statement by adding "or turkey, or something."

One of the searchers thought he had discovered something when in accidentally breaking a hollow bone he was amazed to find another bone fitting snugly inside. Both had been broken squarely across. What kind of an animal had double bones? An extinct species, or something new? This question was decided by some of the diggers, without the aid of an expert. They found: That "they ain't no such animile," that it was either an accidental occurrence, or that the outer bone had formed the handle of "one of them little crochet-hook things." The finder rather reluctantly accepted this verdict but "Wished it had been."

Such trifling incidents are mentioned merely to emphasize the desirability of a competent "bone sharp" in the crew of shell-heap diggers, that data of scientific value be not overlooked, particularly that concerning those types of life which will never again occur on earth.

POTTERY

It is perhaps needless to state that no entire vessels were found, nor were there any that approached completeness. In fact pottery was mostly represented by small, rather widely scattered shards, and there were not enough of these to imply that cooking pots were ever plentiful here. However 'in one place the diggers had little ceramic thrills by finding a group of shards in contact. Surely all were the fragments of one pot, and a large one. Great care was used in their removal but alas! a slight touch was sufficient to break them into still smaller pieces. This pot, **then**, seemed to be in as hopeless a condition for putting together again as was Humpty Dumpty after his lamentable fall.

But the shards have now become firmer through drying and there is a possibility that a partial restoration may be made when someone has the patience to puzzle them together.

Something may be made, too, from other shards which now fill several cigar boxes—kind of pottery hope chests.

Careful study of this pottery, its composition, shapes, sizes and decorations and comparisons of it with pottery from elsewhere is necessary to ascertain if it is like or unlike that from interior village sites and that from other shellheaps further up or down the coast. It is known that different river valleys and different sections of the coast were claimed and occupied by different tribes of Indians when Europeans first came here. If this had been the custom for a long time, it is reasonable to suppose that tribal specializations may be detected in certain of their artifacts. Perhaps their pottery which was heavy, fragile and hard to transport, is more likely to possess identifying characteristics than things smaller in size.

ALIEN ARTICLES

If Indians continued to occupy the Jones Cove shellheap after the coming of white people to these shores, it is surprising that so few clues are found which suggest the European influence.

The entire heap yielded only four man-made things that are unmistakably not of the red man's work.

One is a fragment of a jug handle of gray pottery, glazed. It is coated with irridescent patina.

The only metallic thing is a bit of copper weighing perhaps a half ounce. It had been fused and left in irregular shape. No signs of hammering or shaping could be detected.

A gun-flint. Certain scrapers resemble gun-flints so closely that sometimes it is difficult to tell the difference. This piece however shows the characteristic angularity of gun-flints and is made of real flint, so there is little doubt of its identity.

A section of clay pipe stem blackened from much use.

Of course there is no certainty that Indians ever even saw any of these things. They might easily have become intrusive in a field cultivated for generations.

BIRCH BARK

A single piece of birch bark was found amongst the shells. It is frayed, irregular and fragile. It bore no trace of a message, not did it show indication of shaping. It may seem trivial to mention this occurrence, but birch bark lasts a long time even when buried in ordinary soil—far longer than the wood it once covered and probably longer than any other kind of bark or wood of our native trees. Perhaps, like bone things, its decay here has been long retarded by a preservative chemical action of the shells.

Birch bark was of so much importance to Indians that whenever traces of it are found in shell-heaps it ought to be very carefully uncovered and studied for possible evidence of its having been used in basketry or for other purpose.

THE SHELLS THEMSELVES

As previously hinted, the Jones Cove shell-heap was found to be made up almost wholly of shells. Everything else found, dirt and all, would represent not more than one percent of its bulk. And the shells are mostly those of the clam —old looking shells, generally broken, sometimes crushed.

Just clams such shellfish are called hereabout, but other folks often designate them as soft shell clams, Mya arenaria. The same species are still rather abundant in favorable localities along the coast and are gathered for food even as in the day of the red man. In fact, civilized but barren shellheaps are now accumulating as discards of so-called "clam factories."

Shells of various other species added their mite to the heap, but they are so few that altogether they represent little of food value.

The kinds identified are: Quahogs (hard-shell clam) Venus mercenaria, Winkles (wrinkles) or "whelks" Buccinum undatum and Chrysodomus decomcostatus. Large snails Plynices (Natica) heros. Red, and blue mussels Mytilus edulis and Modiola plicatula, Scallops Pecten magellanicus.

Nothing made of shell was discovered, that is, no shell purposely changed from its natural form—not even a wampum bead—but no doubt uses were found for many entire valves without artificial shaping.

Scallops were perhaps valued particularly for their shells. Certain potsherds of this region show marks that prove one use of such shells was that for tools of prehistoric potters. Joseph Nicolar, one time governor of the Penobscot Indians, gives a minute description in his little book* of the old-time Indian method of preserving fire, particularly when traveling. Lighted punk, or shredded inner bark of the cedar was enclosed between the thick valves of a round clam shell (quahog). The shell was carried in a skin bag, or poke, especially prepared for this purpose.

It is not improbable that the few quahag shells widely distributed in this heap were used or intended for such fire carriers.

Some Questions—Few Answers

These notes are simply an attempt to record the things found here without wandering far from tangible objects of the Jones Cove deposit, or in forming conclusions.

It was only natural, however, that questions relating to Indian life as it was before the White man came should be often asked and discussed by the diggers and other querists.

This is a sample: Did these Indians eat lobsters? No proof that they did was discovered in the shell-heap. "But," it was stated, "there couldn't be, for lobster shells (carapaces) have little lasting quality compared with clam shells, and would soon have disappeared." Well, if they did eat lobsters, how could they have gotten them from deep water? "Didn't have to, for lobsters used to come close in and could be found aplenty at ebb tide nuzzling 'round in the sea weed," and, one man affirmed, that lobster traps used by fishermen nowadays are but copies of old time Indian traps, anyway, et cetera. All of which of course proved nothing. But such good natured exchange of opinions brought out interesting incidents concerning the relations of early white settlers and the Indians.

Among other questions unanswered by our excavating, but discussed and undecided, are:

Where did the Indians come from when they came here? When was it? Did they raise tobacco here? Did they capture whales? Did they use salt? Did they chew gum? Did they eat each other? But perhaps the question oftenest asked is: How old are the Maine shell-heaps?

Certain similar deposits have been estimated to be from five hundred to one thousand years old; some are supposed to be far older than others, but further study and more data are needed for closer calculations.

Who were the Indians that accumulated these shells?

Judging by stone relics and pottery, they were Algonkins. Bone objects, found here so plentifully, have practically disappeared from known Algonkin interior sites so comparisons cannot be made.

What tribe, or tribes?

Undetermined.

Were evidences of the Red Paint People discovered in the Jones Cove shell-heap?

No.

Would it be possible that traces of Norsemen might be found in Maine shell-heaps?

Yes.

