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PALIMPSEST
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THE PURPOSE OF THIS MAGAZINE

THE PALIMPSEST, issued monthly by the State Historical Society of Iowa, is devoted to the dissemination of Iowa History. Supplementing the other publications of this Society, it aims to present the materials of Iowa History in a form that is attractive and a style that is popular in the best sense—to the end that the story of our Commonwealth may be more widely read and cherished.

BENJ. F. SHAMBAUGH

THE MEANING OF PALIMPSEST

In early times a palimpsest was a parchment or other material from which one or more writings had been erased to give room for later records. But the erasures were not always complete; and so it became the fascinating task of scholars not only to translate the later records but also to reconstruct the original writings by deciphering the dim fragments of letters partly erased and partly covered by subsequent texts.

The history of Iowa may be likened to a palimpsest which holds the records of successive generations. To decipher these records of the past, reconstruct them, and tell the stories which they contain is the task of those who write history.

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THE PALIMPSEST

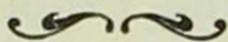
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James Sherman Minott

When James Sherman Minott came to Mount Vernon, Iowa, in the spring of 1869, the entire population, children and grownups, were very soon aware of his presence. For one thing, his broad ruddy face seemed always to be beaming with the joy of just being alive; and, for another, he was the only man in town who had lost most of his lower right leg, to the stump of which in Y form was attached a solid wooden substitute.

Friendly with young and old, and not reticent, Minott conversed about things present and future, not about past events, in which he apparently had little interest. At any rate, diligent inquiry among his old friends and relatives-in-law has failed to elicit any information as to where he came from, or what reason he had for choosing Mount Vernon as a place of permanent abode. The few known facts of his career prior to his arrival in our little city leave large areas of his first thirty-five years without any illumination.

The only extant documentary evidence concerning his early life is a yellowish sheet signed on October 17, 1864, by a surgeon of the United States Army at Judiciary Square Hospital, Washington, D. C. This is his honorable discharge from the Army of the Potomac "on account of wound received in action". The same document states that he enlisted as a corporal in Company F, First Regiment of Michigan Sharp Shooters, on May 6, 1863. A few additions to his early biography were gleaned from old friends and from his obituary notice in the Mount Vernon *Hawkeye* of early December, 1912: that he was born in Elyria, Ohio, in 1834; that he owned and operated a vessel on the Great Lakes in his earlier years, a fact that explained his usual title of "Captain"; that he became a sergeant in the Union Army prior to the battle of Spotsylvania Court House, where he received the wound that smashed his leg and finished the military part of his career.

Few in number also are the outstanding events of Captain Minott's career after he became a citizen of Mount Vernon. In September of 1869 he married Marie E. Neal of Mount Vernon, who died in 1905. In 1885 he joined the earliest roster of the local Wilbur C. Dimmit Post of the Grand Army of the Republic. In 1907 he married Gusta

Clark, who survives him. There were no children. In 1912, in his seventy-ninth year, he died in his low one-story house set into the southeast slope of the Mount Vernon hill.

More important to a host of people in an area much larger than the Mount Vernon vicinity, Captain Minott acquired control of about 160 acres of rough, heavily timbered land in the Lower Palisades region of the Cedar River, some five miles from Mount Vernon, built a spacious inn for the accommodation of visitors to this natural paradise, destined one day to become the center of one of Iowa's best-known State Parks, established a boat livery, sold lots for the building of numerous summer cottages, and for many years was the familiar and much esteemed figure about whom centered the enjoyment of river, cliffs, and forest, with all the plant and animal wild creatures that made this place their home. The Captain's nature lore, though rich, was clearly of the kind learned from a lifetime of contact, not that derived from nature books.

And how expansive he became when among his guests he found a spirit who was honestly responsive to his own! Minor matters, such as waiting for a boat customer or doing errands for summer camping parties, could wait while he guided such a guest through the woods to a blind

of cunningly arranged branches whence, if one's approach was skillful enough, one might watch the drumming of a cock ruffed grouse; or, if a river trip was called for to reach the home of a red fox or the habitat of the pink moccasin flower, the Captain himself would row the boat and poke its nose deftly into a hidden landing place at the mouth of some cliff-walled ravine. And how the boat shot forward when Minott's massive shoulders bent to the oars! Of course all this was a bit short of the best business practice if one was running a summer resort. But how the Captain didn't worry too much about business — in the sense, that is, of looking out for his own material interests. As surely as his whole nature revolved about those things that pertain to forest and stream, just so surely was Captain Minott a maladjustment, a most successful and human one, in an economy that insisted on the accumulation of dimes and dollars. The inevitable loss of his boats and his acres overtook him sometime in the early nineteen hundreds.

It was during the nineties probably that the writer came to know the Captain better and to wonder about the possibilities of his origin. However, the appropriate moment for personal inquiry seemed never to come; perhaps the Captain himself could not have supplied the desired informa-

tion. Nevertheless, an explanation there must have been for a nature attuned only to the out-of-doors, a physique that took in stride all the problems that forest and river travel had to offer, and especially there must have been a history back of that French family name. For of course the original form of the name must have been Minot, just as it is found in the various books of biography and genealogy.

In a story supposed to deal with some facts of history it may be somewhat inappropriate to indulge in a bit of surmise; however, hypothesis often precedes history and it is quite impossible to resist a guess as to the Captain's background. In spite of his Ohio birth (if he really was born there), he must surely have been of that stock that, except for the Indians, first knew this vast country we now call the Middle West. His French name, his early life on the Great Lakes, that superlative development of arms and shoulders, that skill with firearms, that complete commitment to life in the open all suggest derivation from those tough early French "runners of the woods", the *coureurs de bois*, who met both wilderness and Indians on terms of equal understanding and friendship and so opened up to permanent possession by their more conventional successors the endless reaches of the great Upper

Valley. The belated discovery in some reminiscences left by one of the Captain's old soldier friends notes the fact that such was indeed the tradition attached to Minott's personality.

But we are using Captain Minott's career as a sort of introduction for a story that has mainly to do with those people who came to the Palisades of the Cedar River, lived there for a long period of time, and disappeared from there long before Captain Minott, and the rest of us, ever heard of or knew this fair country. The Captain's association with their places of abode, however, especially with a particular one of these, was most intimate. For this there is the testimony of persons still living, to whom he described the living quarters where he spent his first winter or two after coming to the Mount Vernon region, cold-weather months spent in hunting and fishing and running his trap lines at the Palisades.

On the west side of the river, directly opposite the place where Minott's Lower Palisades tavern was built, is Spring Hollow; upstream from this is the similar dark entrance of Screeching Sands Hollow (place names at the Palisades derive largely from the information or imagination of Captain Minott); then, at another furlong interval upriver, comes Blow Out Hollow, the name having nothing to do with conviviality, but rather with a

nearby wide, shallow cavern in the main cliff wall facing the river, the appearance of which suggests formation by an explosive force. These ravines, like the river itself, are bordered more or less by vertical limestone cliffs, very beautiful with their growths of lichens, liverworts, ferns, cedars, and northern yews, and perpetually shaded by the heavy forest of the ravines themselves and the broad bluff tops that tower above.

In the south wall of Blow Out Hollow, scarcely a hundred yards from the river, is an inviting little cavern in the cliff wall, irregularly circular in form, eight by eight feet in size, with a level floor, above which the ceiling is removed far enough not to be troublesome to a man of stocky figure, like Captain Minott. There he built a lean-to of slender tree trunks and thatch, installed a small cast-iron stove, built a bunk, and so created a refuge secure from the winter storms and cold of the late sixties. Did it occur to him that many campfires had burned there before he kindled his own, and that the ashes and refuse from them had been spread to form a level floor and had then been beaten down by the pressure of moccasined feet? Being who he was, it is probable that some such thoughts did come to him. To the Captain's successors, however, the little cavern was always known simply as Minott's Cave.

CHARLES REUBEN KEYES

Indian Rock Shelters

The term "rock shelter" is not a particularly happy one; however, it has long been in use with a meaning understood by all students of the early American Indians, and so is likely to continue in service. The name is a general one applied to any place of habitation in, or adjacent to, a cliff where, with or without the addition of a lean-to, protection could be had from cold and rain and snow. Winds were ordinarily taken care of by the natural location of the shelters in timbered ravines with forest-covered hills above them.

In Iowa these shelters are most common in Allamakee, Clayton, Dubuque, Delaware, Jackson, Jones, Linn, and Cedar counties, where the massive limestone cliffs contain or afford many locations suitable for human habitation. They are always open enough for good illumination, the dark, deeper caves, if used at all, having served only as places of deposit for secondary human burials, that is to say, burials of bones only from primary dispositions that had been made elsewhere.

Up to this time about a hundred Indian rock shelters have been verified for this northeastern

Iowa region, and undoubtedly this is a part only of the number that actually exist. It would take a long time to explore all the cliff-lined ravines in Iowa and to make the necessary tests. In smaller numbers the rock shelters are found also outside of the counties mentioned, wherever, indeed, cliffs affording the appropriate conditions occur. Some of these habitation sites are barely large enough to afford protection for three or four persons; others are large enough to furnish good quarters for a small community of five or six families.

Probably the prehistoric Indians chose the shelter of the cliffs as home sites for the same reasons that Captain Minott chose his little cavern in one of the ravines of the Palisades of the Cedar. Such sites were ready for occupation with a minimum expenditure of labor, or none at all, and they were safe and comfortable. Though serving a common purpose, the shelters used show a considerable variety of form and location. No fewer than six different types occur in Iowa, all with their characteristic deposits of kitchen refuse, in which are mingled various objects made by the hands of the occupants, the raw materials for making these, as also the refuse that resulted from the making processes.

There are shelters where a level part of the ravine, or narrow valley, floor lies immediately

adjacent to and so, in part at least, is protected by a vertical cliff. A second type was probably preferred to this — a site also on the level valley floor, but under the shelter of an overhanging cliff. Because of its better drainage and better outlook, a third location, supplied by nature in small numbers only, was probably even more preferable — the summit of a broad talus slope beneath a cliff overhang. For reasons that geologists could no doubt explain, nature was especially prodigal in producing a fourth type of shelter, quite the most common one used by the early Indians — caverns in the cliff walls at the tops of talus slopes. These were well lighted through a broad arched opening, the level floor of the shelter forming the chord of the segment. A small shelter of this kind at the Palisades of the Cedar has already entered our story as Minott's Cave. Such shelters would surely provide a maximum of living space and comfort, along with a minimum need for any added protection, indeed none at all during a large part of the year. A fifth shelter type is known by one example only — a picturesque level shelf running along the face of a vertical cliff and partly overhung by the cliff wall above it. And finally, the massive cliffs of the Maquoketa contain a sixth kind of shelter, two examples only — little rooms that are situated high in a vertical

cliff wall and, except for a few precarious finger and toe holds, quite inaccessible.

Did the prehistoric Indians (for evidence is lacking that the later Indians known to white men ever occupied these shelters) choose their cliff homes with reference to their facing, as away, for example, from the prevailing winds of winter? There is no evidence whatever that they did this. The known inhabited shelters face in all possible directions. Since they were situated deep in the ravines, with forest protection both in front of them and above them, and often with an opposing cliff wall as an additional buffer, it probably didn't make a great deal of difference whether the rock-girt home faced in this direction or in that. Apparently just two main conditions had to be met — the cavern or cliff overhang had to be well lighted, and it had to be high and dry above the usual level of high water.

What evidence of former human habitation is found in the rock shelters, and what about the amount of this? As the shelters were home sites, where people built fires, ate, slept, made needed tools, weapons, utensils, clothing, ornaments, and the like, some proof of these processes will remain, but only, of course, to the extent that some of the products, or by-products, are not subject to rapid decay. Few things are less destructible than the

ashes and charcoal of campfires, and these will be found from top to bottom of the refuse deposits. As stone was used for the making of many of the weapons and domestic utensils, the refuse chips and spalls will be found in large numbers, and even good specimens of the raw material that never saw use. Much of the kitchen refuse will endure for long periods of time, especially as the soil becomes mixed with ashes, the alkaline reaction of which helps to counteract the acidity that promotes disintegration.

It is to be expected, therefore, that the bones of animals, birds, fishes, and reptiles, and the shells of mollusks, will remain to tell at least part of the story of food resources. Even a few nut shells may be preserved. If the inhabitants had pottery, as all the known prehistoric peoples of Iowa did have, the fragments of the broken vessels will make up a large and very important part of the finds preserved for careful laboratory study. So important are potsherds, indeed, differing, as they do, from one culture boundary line to another, that they take first place in the thinking of every archaeologist whose labors have to do with pottery-producing sites. Fortunate it is to find at the ancient places of habitation objects of such pre-eminent diagnostic value.

A few things found in the shelters may be

whole instead of broken: domestic implements or ornaments, such as flint knives, scrapers, drills, milling stones, abraders, bone awls, or an occasional bead or pendant. The flint arrowheads are few in number, and stone axes are rarely found. These were generally used abroad and lost there. Neither will such articles as were buried with the dead, or placed as offerings in or near some sacred shrine, ordinarily become a part of the shelter refuse. Thus it is seen that, if one is in search of beautiful and perfect specimens for a showcase, a rock shelter is hardly the best place to find them. If, however, one wishes to learn about the daily lives of those who preceded us in this land, then the rock shelters become a primary source of information, along with the larger village sites. Clues to the life processes of people of a remote past will here be found in considerable variety and, because of their concentration within a small space, in an astonishing abundance. The Iowa rock shelters often have deep deposits of refuse, from a depth of two feet up to as many as six or seven. But of course it takes some diligent digging and sieving, as well as some careful planning and organizing, to separate it out properly.

What Indians occupied the rock shelters? Excavations and tests in about half of the Iowa shelters show that they belonged to tribes pos-

sessing an Algonkian type of culture. Were they not then actual members of the far-ranging Algonkian stock? They may have been such, but in the Middle West some tribes not Algonkian are known to have adapted themselves quite fully to the Algonkian ways of life, even to their pottery traits. In the present state of knowledge, caution indicates the use of some general descriptive term. For the forest dwellers with a certain group of traits the name Woodland Indians has come into quite general use, and their culture pattern too is known as Woodland.

When did the Woodland people occupy the villages and rock shelters which today are the most common and most widely distributed features of our Iowa archaeology? There is no certain answer at present to this often asked and very natural question. The seventeenth-century explorers of the Iowa country mention a few tribes of Woodland Indians, such as the Peorias and the Miamis, but these were temporary sojourners only in the region west of the Mississippi, fugitives for a short time before the fierce eastern Iroquois. The Indians who were well established in Iowa in the seventeenth century, and who left an archaeology very different from that of the Woodland, were members of the Siouan stock, Ioways and Otoes, and possibly a few others.

Sometime in the prehistoric past, before the seventeenth century, the peoples who left a Woodland archaeology in every corner of what we now call Iowa lived here for a long period of time and then departed. Traditions are lacking as to the time, the reasons, or the direction of their going. Strange facts these, apparently, but American archaeology is today too young a science to furnish us with any total picture.

CHARLES REUBEN KEYES

Excavation and Contents

When we approached it on May 21, 1942, there was nothing on the surface to suggest that human beings had once lived here. The gentle slope leading up to the cavern was carpeted with dead leaves and leaf mould, through which many species of forest vegetation had sprung up. The cavern floor, of a gray-brown color, was mostly barren, but with nothing to show human occupation, or even interference, except a shallow pit in the center, some two feet across and eight inches deep.

The testimony of three witnesses, however, made it certain that prehistoric Indians had once used this cavern as a home. Two of these, Errol Miller and Bernard Van Etten of Mount Vernon, the builders of the Howard Hall stone cottage on the north bluff of Blow Out Hollow, were attracted one pleasant noonday by the inviting appearance of the shelter, visited it, and incidentally did a small amount of digging in the ash-like level floor. To their surprise most of the fragments of a rather large ancient pottery vessel rewarded their efforts, finds which were promptly contributed to the State Historical Society of Iowa. News of



PHOTOGRAPH BY J. HAROLD ENNIS

EXCAVATION OF MINOTT'S ROCK SHELTER PROCEEDING



PHOTOGRAPH BY RALPH KOHN

MINOTT'S ROCK SHELTER, LOOKING SOUTHEAST ACROSS THE APPROACH TRENCH

this interesting little discovery reached Jay Sigmund, the Cedar Rapids businessman and poet, and he too visited Minott's Cave and did a small amount of exploring. He found only three or four decorated potsherds from about as many different vessels. These random diggings explain the shallow little pit in the cavern floor.

Witnesses to Captain Minott's occupancy of the cave were also too numerous to be discredited. Had all visible signs of the Captain's busy weeks and months, years perhaps, spent in this small home in the decade following the Civil War, vanished without leaving a trace? They could and they did! In how short a time thus, sometimes, do the abodes of men become archaeological sites!

It was a happy combination of circumstances that brought together the desire and the opportunity to excavate Minott's Cave — to be called henceforth in Iowa archaeological history Minott's Rock Shelter. Three Cornell College seniors, Peggy Boyer, Ralph Kohn, and Ted Stotler, who had been members of the course in anthropology offered at the college, planned to attend the first six weeks of Summer School, May 19th to June 30th. Why wouldn't Professor Harold Ennis, who organized and carried most of the course, and the writer, who taught the American Indian part, they asked, offer a field course to

enable these students to apply some of the theories with which they had been struggling?

"Too busy on an article for publication", said Dr. Ennis, "but, after all, maybe it's a jolly good chance to gain experience and information in a new field. The students may be justified in offering their petition — and anyhow, I need the vacation, and I should like to join the group."

"Too much work piled up in the laboratory", was the first thought of the second addressee, "but, after all, haven't I had an eye on Minott's Rock Shelter for years? And aren't the State collections short on Woodland habitation-site materials, which this shelter would help supply? And then, here's a chance to get a promising excavation done without costing the State of Iowa one red cent and without having one single yard of official red tape to untangle. We'll go to it!"

It is doubtful whether an archaeological expedition ever exceeded ours in the luxury of the conditions under which it was carried out. These were not of our making; it just happened that way. Our rock shelter was only six miles from town and could be reached over an all-weather road and a crossing of the Cedar River. "No need to make the long trip around by way of the Ivanhoe bridge", said the Palisades State Park custodian, Charles Meyer, "just take the State

boat and make your crossings. If I should happen to need it for an hour or so, I could call across." As all materials excavated would be the property of the State of Iowa, the use of a State boat, as well as permission of the State Conservation Commission to excavate the shelter, seemed natural enough.

The presence of the Howard Hall summer home on the bluff overlooking the shelter has been mentioned. A few days before our work was to begin, Dr. Ennis and I called on Mr. and Mrs. Hall and explained our plans in detail, including the fact that these suggested our asking a favor or two. "Go ahead", they nodded. Might we have drinking water, and might we use some nook or other on their premises for storing our tools at night? "Certainly", said Mr. Hall. "The cold-water hydrant is on the terrace just to the left of our door, and the tool shed is at the far end of the garage. Here's a key; and here is one to the guest house too; if a storm should happen to hit from the northeast, maybe your shelter might not be all that the name implies." These were the first of many kind favors from Mr. and Mrs. Hall.

Finally, the natural surroundings of Minott's Rock Shelter were surpassingly beautiful: wild flowers in bloom, such as the wild ginger, geranium, even the showy orchis; tall cliffs decorated

with masses of fern, columbine, and harebell, as well as the ever-present cedar and yew; deep forest covering the hills and filling the ravines, and a majestic river flowing slowly by; nesting birds in full song everywhere. "Too bad to expose you to all this on your very first dig", I remarked to my four husky helpers; "it couldn't happen a second time, but perhaps the hard work ahead may furnish a useful counter-irritant."

Our first job was to remove the accumulation of leaves, herbage, and brush from the shelter itself and the gentle slope in front of it. Fortunately no live tree was in the way, though a large basswood log lay across the approach. Mr. Hall loaned a cross-cut saw. We established our datum stake beneath the outer edge of the cliff overhang, took our levels from this, and laid out our five-foot squares, A1 and A2 with their outer edges ten feet down the slope, B1 and B2 reaching the datum line, and so on to the rear wall of the shelter. The compass showed that the shelter faced directly north.

The excavation area seemed generous enough to allow for salvage of most of the camp refuse accumulated within the shelter or thrown out in front of it. The area averaged ten by twenty feet, narrowing to eight feet inside the cave, but lengthening a few feet as we found extensions into the

rock wall on proceeding downward. One never knows how far afield one ought to go when dealing with a habitation site. When one finds only a single rimsherd of a fine pottery vessel, one naturally wonders where the other pieces are; they might have been buried in a pit somewhere, or even thrown far enough to reach the bottom of the ravine and get washed into the river. Then one is limited too by the time factor and the size of one's work crew. We had three long afternoons a week for a six-weeks period, a time allowance that can be made to count well when it falls on both sides of the summer solstice, when one is on daylight-saving time, and when one has brought along a food-basket.

Two workers were assigned to each section, beginning farthest out with A1 and A2. One scooped up the rather loose soil of the refuse deposits and placed it in the hand sieve of the other. As the sieving was the harder job of the two, places alternated as often as seemed desirable. The fifth worker sought to coördinate efforts, make suggestions or answer questions, encourage debate, or lend a hand wherever at the moment some difficulty caused a lag.

To keep the sides of the excavation vertical, in order to detect any possible mark of stratification, or to loosen fallen rocks and tree roots, the short-

handled trench pick-and-mattock combination, descended from World War I, was found to be an ideal tool; otherwise standard shovels, held usually in a horizontal plane, were used to gather up the refuse carefully and, if possible, without breakage of any fragile objects. Good workers (and my workers were good) soon learn to detect the presence of things foreign to the soil by sensing the little messages that come up through the stout hickory handle of their working tools. Even such things as the shells of river mollusks seldom suffered any damage. Whatever the shovel picked up then became startlingly clear after a few shakes of the hand sieves. Flint implements and pottery rimsherds were always good for a pleasant thrill and often called for an immediate conference. To make sure that we overlooked nothing in the way of possible stratified deposits, we kept in separate containers all objects found in each six-inch level as we worked downward. Grocery sacks are handy, as the section and depth can be quickly written on the container itself.

On the slope in front of the shelter we found the cultural debris contained in rich black forest soil, two feet in depth, ending with the yellow loess mantle of the Palisades hills. The camp refuse of both white man and Indian was intermingled in the first two six-inch levels, the evi-

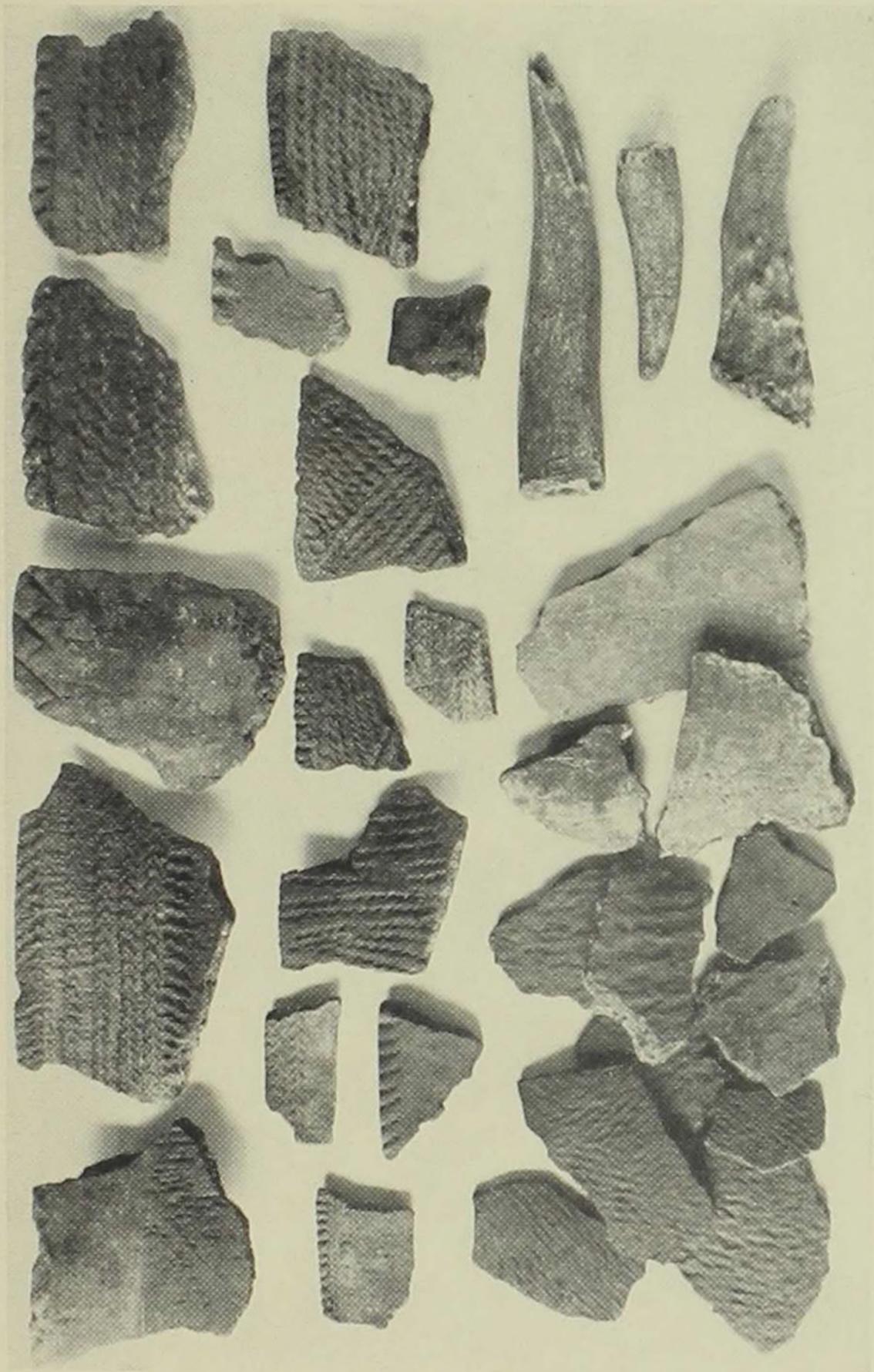
dences of both occupations beginning very close to the surface. In such a location soil accumulation is exceedingly slow. Yet some of Captain Minott's things were found deeper than eighteen inches; the Indian refuse was abundant from top to bottom of the cultural deposits.

Within the shelter the conditions were similar, except that the soil contained much ashes and the refuse was considerably deeper. Indian occupation had begun on the level rock floor of the cavern, as we discovered ultimately, and had continued until the deposits of ashes and other camp refuse had reached a depth of three and a half feet. How did it happen that a considerable part of the white man's debris had penetrated that of the Indian for one, or even two, feet? One needs to remember that many small animals, most of them rarely seen by man, are constantly burrowing, feeding, and home making beneath the surface of the soil.

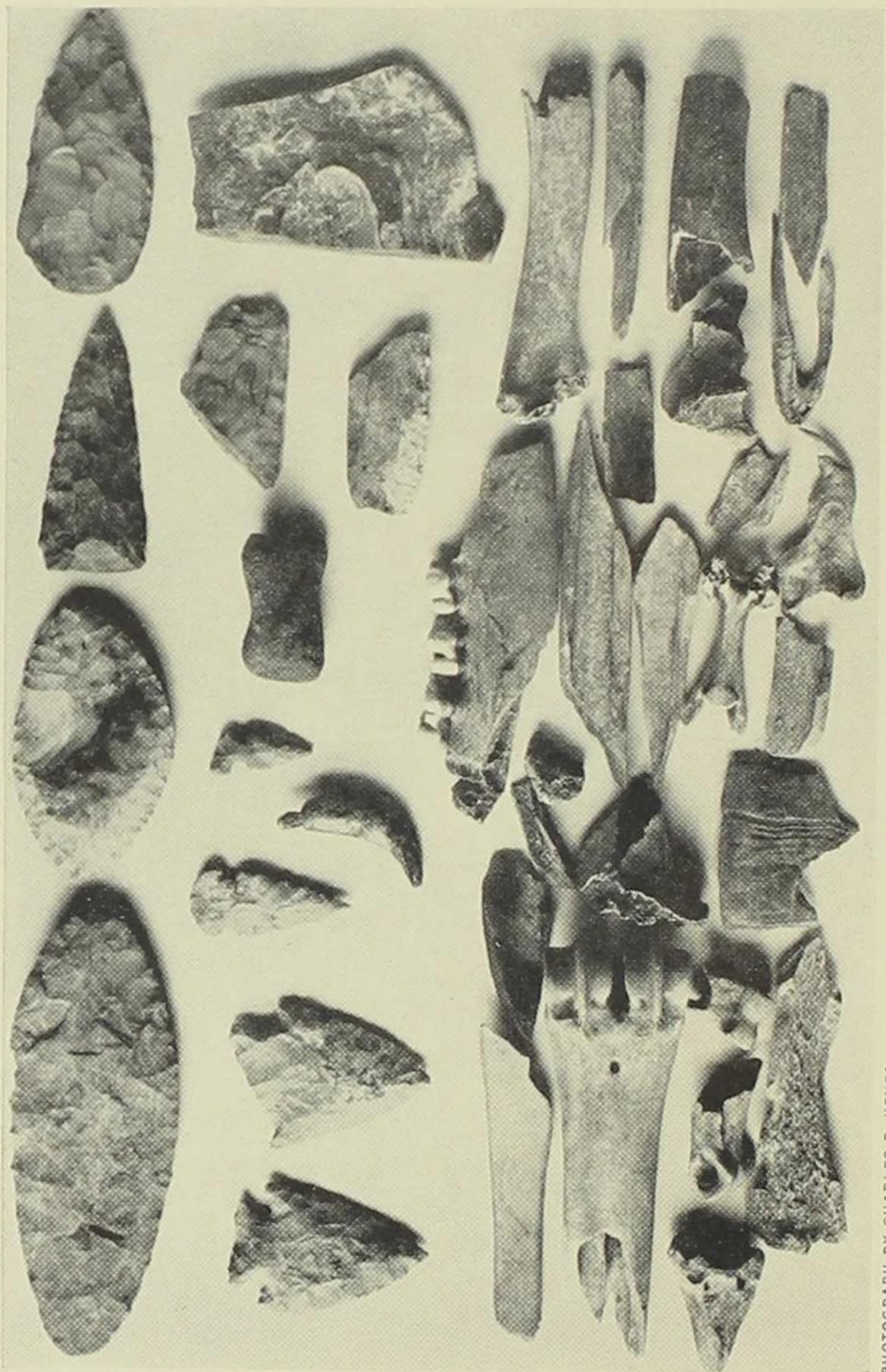
And now for the concrete proof that Minott's Rock Shelter had once been a white man's home. Here is the list: many fragments of a small cast-iron stove; many pieces of iron stovepipe; stove bolts of different sizes and lengths; several pieces of sheet zinc, probably the remains of a stove board; a stove-lid lifter; iron screws, both large and small; pieces of wire; six connecting links of

an iron log-chain; an iron staple; an iron ferrule from a cane or some wood-working tool; numerous metal bottle caps; many iron nails of various sizes, both the old square-cut variety and the later round ones, these latter probably from some temporary unrecorded occupation subsequent to that of Captain Minott; many fragments of cups, saucers, bowls, and plates of the English ironstone-china pattern, complete with the lion and the unicorn, stamped in blue on the under side, familiar to most people whose lives include some period of the nineteenth century; numerous fragments of clear, transparent-glass bottles, also some blue and brown ones; a case knife with a rather well preserved wooden handle; a silver-plated teaspoon; the brass bases of two twelve-gauge shotgun shells; several copper thirty-two caliber revolver or rifle shells; a lead fish-line sinker, three inches long; a metal cap box, for use with a muzzle-loading shotgun; two shirt buttons; one pants button; and finally, three cents in cash, the earliest of the Indian-head pennies, of dates 1859, 1862, and 1865, all in good condition.

Altogether about 350 items remained to give certain clues to the doings of some white settler in this place. "Considerable of a collection", one might say, until a comparison is made with the Indian refuse and lost articles sieved from pre-



PHOTOGRAPH BY CHARLES R. KEYES
RIMSHERDS AND BODYSHERDS FROM POTTERY VESSELS USED IN MINOTT'S ROCK SHELTER;
THREE ANTLER TIPS



PHOTOGRAPH BY CHARLES R. KEYES
FLINT KNIVES, PROJECTILE POINTS, A CANINE-TOOTH PENDANT, SANDSTONE ABRADER,
SCRAPER-KNIVES, AND BONE REFUSE FROM MINOTT'S ROCK SHELTER

cisely the same cubic yards of soil and ashes — 11,472 items of which were saved, washed, and brought into the laboratory as study material. And all of these could be distinguished readily from anything that the white man had used.

As already indicated, certain categories of objects occur but sparingly in the rock shelters, even though common as field finds. There were only eleven flint projectile points, all but two of these more or less imperfect, broken perhaps in the process of making. Such completed products were not ordinarily kept at home.

Flint knives, used either at home or abroad, were comparatively common, and most of them were in good usable condition. The four at the top of the picture are chipped from both sides on the two cutting edges; the three at right center are unmodified flakes or spalls, except for the chipping on one straight or curved edge. The little piece of worn sandstone at the top center would have been useful in reducing wood or bone to some desired form, though the pointed end of a bone awl is all we found of any product from such materials. The curved canine tooth of dog or wolf, notched at the root for suspension, is an ornament lost from someone's necklace. It is our sole find that reveals attention to personal adornment.

Out of the refuse deposits came a few examples of man's earliest tools. One of the two hammerstones was of yellowish quartz, the other of gray flint, both of a size to fit the hand conveniently and both with the battered edges that told the story of hard usage in the reduction and shaping of stone to make useful implements. Two pitted stones, one an unmodified pebble of granite weighing about two pounds, the other a larger one of grayish-green diorite, each with a small, shallow cup pecked in one side, suggest the use of fire drills for renewal of the precious campfires or service as bases for the setting of bow drills for the making of any needed perforation. They would have served well also to crack nuts, and perhaps they had other uses. Hammerstones and pitted stones occur at nearly all the ancient habitation sites, a fact that argues for their general and basic usefulness.

Much more numerous than the stone weapons and implements that were clearly fashioned for purposes more or less definable are the large and small stones and stone fragments that at first glance appear to be nothing at all but refuse. At Minott's Rock Shelter our shovels and sieves revealed nearly thirteen hundred of these. Usually they are called simply "stone refuse", though clearly this term is an over simplification of their

real significance. A number of them, the size of one's two fists or larger, and blackened or reddened by fire, were evidently the fireplace stones from the Indians' modest little fire circle. They served to confine the fire to the usual location in the center of the dwelling. Other large pebbles of such material as diorite, or greenstone, and without the marks of fire, may well have been the raw material for the making of stone axes. The grooved ax especially is a common Woodland product, in the eastern United States a diagnostic trait, in fact, of the Woodland culture. We found none, and indeed the Iowa rock shelters produce very few of them. However, like the projectile points, they may well have been made in the shelter and lost abroad. Numerous examples have been found in the Palisades region. At any rate we found what looked like good ax material. The smaller broken pieces of igneous rock could then be either broken fireplace stones or the spalls from the ax-makers' operations, depending on the condition in which they were found.

Pieces of flint, nearly a thousand of them, ranged all the way from the small thin chips that result from the making of flint implements to the larger flakes as struck from the flint cores, the cores themselves, crude blade-like forms roughed out at the quarry for further elaboration in the

leisure of the home site, and finally blocks of unmodified flint just as they were taken from a stratum in a limestone cliff. Really not one of these flint categories could properly be called "refuse" except the first one — and even flint chips seemed at times to have a secondary use. For what interpretation is one to make when one finds these tiny objects recurring in small collections here and there — in a little pocket next to the shelter wall, for instance? Flint chips, freshly pressed or struck from the implements in process, show clearly on their smooth surfaces the various colors that reside in the flint mother lode. And these bright surfaces and colors are often quite attractive. At Minott's Rock Shelter they were light gray, dark gray, brown, and pink. Perhaps the reader too has reached the conclusion that the Indian children made collections of flint chips and hoarded them.

The larger flakes of flint, although unmodified except as the hammerstone struck them from core or block, were the raw materials from which, in skillful hands, the chipping tool quickly turned out finished arrowheads, spearheads, knives, drills, and scrapers. Moreover, if the flake broke off so as to form one or more sharp edges, as it very often did, it could be used, and undoubtedly was often used, as knife or scraper without any further

modification. The writer well remembers hearing a former resident of northern Minnesota describe as an eye witness how Chief Bemidji of the Chippewas deftly and quickly skinned a black bear that had just been brought to camp. For his primary incision across the beast's belly and chest he used a flint knife that was nothing more than a rather thick flint flake with a sharp, thin projection on one side.

Flint cores could not be refuse, of course, until, by the striking from them of successive flakes, they became too small for further use. Flint nodules or flint blocks were not refuse either, being raw materials brought home with the certain expectation of later productive use. Nor were the quarry blanks refuse, those partially worked pieces that were probably brought in from some favorite ledge at a distance from home, roughed out at the quarry to save weight on the homeward journey. Flint in the form of quarry blanks was often carried many miles.

There were a few other stone objects, not artifacts, but also not refuse — things either to be used or to be enjoyed. A piece of hematite, or bloodstone, had been subjected to grinding on one of its surfaces. Clearly someone, or perhaps several persons, had wanted to make red paint. The blood-red powder, combined with grease, would

have furnished this. Then there were five pieces of white quartz and nine calcite crystals. Their beauty and their translucence were reasons enough to account for their presence. Numerous Indian burials in Iowa have been accompanied by just such objects.

Shell refuse was plentiful, although many of the shells found, those of the land snails, could not with certainty be connected with any human need or intention. Not one of these showed any artificial modification; moreover, they would have been found in any case, whether the Indians desired their presence or not. So we counted them out. But quite different was the outlook when we took out in large numbers the shells of river clams, a thousand of them or more, if the uncounted number of small pieces might be estimated to represent three hundred to add to the over seven hundred that were either whole or nearly whole. These could not have found their own way to the Indians' abode, to be found at all levels of every section of the refuse deposits. Within the shelter, in the mixed light soil and ashes, they were remarkably well preserved, with their colors and pearly sheen as fresh as when they became camp refuse. And refuse they evidently were — all except one specimen that had a smooth, one-eighth-inch hole drilled through it near the hinge. Had

the intention been to cut away most of the shell and have a pretty pendant left? Such an intention would have come well within Indian traditions, but really we do not know.

The only reasonable conclusion to derive from the presence in the shelter of many shells of freshwater mollusks is that the fleshy parts of these mollusks were an important article of diet to the inhabitants. There was not an indiscriminate use, however. Not a single shell of any of the larger species of clams was found, none, at least, that had reached adult status. All the shells were small or, at the most, of only medium size. Were the big ones too tough or too unsavory? Up to this time we have gained no information on these points, either from the literature or by experimentation. Fifty years ago the clam beds of the Cedar River had their thousands of healthy, lusty clams, little, big, and medium. Soon thereafter these disappeared as the poisons from the factories upriver washed over them.

It is impossible to believe that an early people could have lived in the Palisades region of the Cedar without having made large use of the fruits, nuts, berries, and other natural plant foods that the area surely afforded. We found little proof that they actually did use them: a few hickory-nut shells (the bitter nut variety), three hazel-nut

shells, three pieces of butternut shell, and three acorns — these found deep enough in the refuse to suggest a possibility of human use, and preserved by complete or partial carbonization from contact with fire. Equally striking were some of the absences: not a fragment of shell of a black walnut, not a single plum pit, not one charred bean, and not one kernel of corn. Indeed, any evidence of the practice of horticulture, even in a rudimentary way, was completely lacking. There was very meager proof, it would appear, of the use of plants as food, though one should consider that much of the plant refuse makes good fuel and so would ordinarily be reduced to ashes; further, that shells not reaching the fire would hardly last through the centuries.

Surprising and confusing in their variety and abundance were our finds of bones — animal bones that our shovels gathered up from every foot of our excavation at Minott's Rock Shelter: bones of mammals, birds, fishes, and reptiles, bones whole and bones broken. But mostly broken!

Of the nearly eight thousand bones, and fragments of bones, saved to tell the story of the meat diet at the little home by the Cedar, fewer than four hundred were left entire. Long bones were split or splintered; shorter ones were crushed into

irregular fragments or broken straight across; bird bones were split lengthwise or snapped into short sections; even the deer toe bones were broken for the half thimbleful of marrow contained within their heavy walls. The few unbroken bones were those of fishes, the carpals and tarsals of mammals, that consisted almost entirely of bony tissues, or such small thin structures as the mandibles of squirrels. The intent of saving the ultimate in food values was more than evident, it was eloquent.

Was this *n*th-degree of conservation a necessity, or was it a matter of moral ideas with respect to waste? The historic Indians are well known to have been, and indeed still are, imbued with the second motive, whether this derives from occasional want and suffering or from a deep reverence for nature. Both explanations may have their force. All Indians lived in close touch with nature, spiritually as well as physically, and, in the hunting and food-gathering stage especially, they undoubtedly had some hard experiences when bad seasons came. There is no necessary exaggeration in the story of Hiawatha.

Our collection of bone refuse from Minott's Rock Shelter must hold a rich story of the river and forest fauna of a period from which, in the white man's sense, no written documents have

come. As the trays containing the thousands of shattered bones now lie before us, they make, however, a first impression of palimpsests that must necessarily make vain any attempt to read. But fortunately a few entire words form themselves, and there are parts of others, sufficient to justify a rather confident guess.

Because we can claim no more than a partial grasp of the many implications of our great supply of bone refuse, a few general facts only may be set down here. The flesh of the white-tailed deer was much the largest item in the meat diet at Minott's Rock Shelter. Parts of skulls with the scars where antlers had been broken off, fragments of antlers, antler tips, hoof cores, toe bones, large splinters of the long bones, the thicker articular ends of long bones, all these make up more than half the bulk of our collections of bone refuse. The fact that the antler tips had been carefully removed, the break sometimes started with an incision made with a flint knife, indicated a special purpose for these tough little objects. The small ends, worn and sometimes slightly broken, had been used in the flint-chipping process. A correct interpretation here rests on the fact that the early white settlers in America saw the Indians so use them. These specimens are illustrated along with the fragments of pottery facing page 24.

The bones of rodents were numerous: beaver, woodchuck, muskrat, squirrel, and cottontail. Squirrels especially must have been an important part of the diet, to judge by the large number of lower mandibles found. Flesh eaters were well represented, mandibles with sharp canines and cusped molars being common and of sizes to indicate the dog or wolf, fox, mink, badger, and various others even smaller in size. Bird bones were plentiful too, the wild turkey, various ducks and geese, grouse, and some of the waders being certainly represented, with smaller species thus far unidentified. The sixty-odd pieces of turtle carapace and plastron were apparently those of the box turtle, a chunky little fellow who prefers woods to water. Fish bones were surprisingly few in number; we found only one hundred and five.

It will be seen that the meat portion of the food supply could all have been taken from the nearby river and the surrounding forest. Not a bone of elk or bison appeared, though presumably both these animals were grazing along the forest margins not so many miles away. The black bear too eluded the chase, or perhaps some taboo protected him. Apparently there was no taboo that forbade the eating of fish, though most of the fish hosts swam unmolested a stone's-throw distance from

the Indians' campfire. Possibly a preference for venison, a bountiful supply of this, and some not-too-difficult means of securing it may be the explanation.

Thus far a rather primitive and not very far-ranging culture is indicated for the people who lived some centuries ago in Minott's Rock Shelter. This makes it more difficult to understand the presence of the culture phase to which we must now refer, the pottery phase, which had its utilitarian aspect, to be sure, but which, with equal certainty, takes us into the field of fine art. The same cubic yards that gave us the stone, shell, plant, and bone refuse also provided us with over fourteen hundred fragments of Indian pottery, eighty-two of these being the precious rim fragments that carry the decorative designs. But bodysherds or rimsherds, more than seven-eighths of the total number are decorated in one way or another, many with the employment of designs and techniques that contrast startlingly with the other artifacts gathered from our sieves.

Cord roughening was generally considered sufficient for the body parts of vessels that had been molded to their final form. This meant the application in various directions of a cord-wrapped stick or paddle to the still plastic surface, the result being that no two body surfaces could ever be

alike. Indian art was shy of duplication. Our illustration (lower left, facing page 24) shows examples of these cord-roughened bodysherds, and a few that were left with plain smoothed surfaces.

Decorative designs in the case of Woodland pottery are usually confined to the outer rim, either to the upper part of this or over the entire surface down to the outward curve of the shoulder. At Minott's shelter, and at all the Iowa rock shelters so far as known, the design frequently passes across the lip and, often again, is continued for a short distance on the upper inner rim. Two examples of lip decoration may be seen at the upper right of the illustration, and three little sherds at the left center show a decorative band on the inner rim. Even with the originals in hand it is often desirable to use a reading glass. Many of the vessels were small and so the fragments are likely to be both small and thin. The three sherds at the left center average just an inch and a quarter in their greater diameter, from which the size of the other objects may be judged.

The simpler decorative techniques, as incising and stamping, were generally used to produce such simple effects as narrow bands of cross-hatched lines, or stamped notches or indentations, on the upper rims of vessels otherwise plain.

Usually in touch with the outer lip, these bands of decoration extended all the way around the vessel rim. The rimsherd in the top center of the picture shows incised cross-hatching, and the small one near the upper right has dentate notches, apparently produced by means of a little wooden stamp with low transverse ridges. Much variation is possible with merely these two techniques, but at Minott's only two vessels exhibited them.

The application of twisted cords to the plastic surface is the technique most used in the rock-shelter pottery. Of the twenty-eight different vessels of which we secured rim fragments at Minott's shelter, twenty-two made use of it. Four rimsherds were plain, at least one of these attached to a cord-roughened body. Application of a single smooth, two-ply cord of sinew appears to be the usual procedure, although impressions of two such cords twisted into one occur quite commonly also. In the latter case, the rather clear-cut notches from the string will themselves contain smaller notches, two to five in number, depending on the closeness of the twist and the depth of the impression. The results from both the simple and the double twist may be seen on the sherds illustrated. The twisted-cord impressions may run parallel with the lip, in which case they are likely to encircle the vessel, or they may be put on in

shorter parallel verticals, diagonals, or loops. As the number of parallels in the same direction varies constantly, and as the lines may be evenly spaced or grouped in duplicate or triplicate, it can be seen that the possibilities of variation in the designs are practically without limit.

However, the technique can produce still further variations. By reversing the cord as often as one wishes, it is possible to make the primary notches slant from left to right instead of the more usual right to left. The effect of this change in direction is pleasing, as may be seen on the sherd in the top row second from left, where the cord was reversed for the impressing of each one of the five pairs of horizontals. Although too small to show the complete design, the little sherd in the center, when studied through a magnifying glass, shows an even more complex treatment. The writer will forbear analysis.

Is it any wonder that identical full-rim, cord-impressed designs on two different vessels have not yet occurred to the experience of the writer? It follows, of course, that the occurrence of the same design on a number of sherds is the best guide for the selection of fragments that belong to the same vessel, fragments often found widely separated in the excavation area. Occasionally enough pieces may be got together to compose

a more or less complete restoration. But pottery restoration, with its more than jig-saw puzzle complexity, and its call for new and strange techniques, is surely a different story from the one we have tried to tell.

We have some twenty rimsherds and bodysherds that almost certainly belong with the sherd shown at right center of our picture, the only sherds that give promise of a restored pottery vessel from Minott's Rock Shelter. If some day the two expert pottery restorers return from the Army and Navy to their old job at the Milwaukee Public Museum, the institution that for years has specialized in making these restorations for the various archaeological surveys of the eastern United States, we shall put these precious fragments in their hands.

We finished our work in late June and, when a clear, rainless period came in mid-July, we re-filled our excavation completely and smoothed the surface to conform to its original contours. It wouldn't do to leave unsightly piles of earth about a little home place that had offered its shelter to members of two different races of men. In early October we passed that way again. Nature had already partially obliterated the evidences of our toil. The forest was already spreading its crop of foliage for 1942 over the freshly filled-in earth.

CHARLES REUBEN KEYES

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