

**STRATIFIED INDIAN MOUNDS IN WILL COUNTY.**

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Fifteen miles from Joliet above the mouth of the Illinois River are certain Indian mounds which I have excavated extensively, resulting in discoveries of considerable importance. The mounds rest upon a limestone gravel deposit near the edge of a bluff 30 feet above and overlooking the Des Plaines River. This elevated position with gravel affording perfect drainage beneath was an ideal condition for the preservation of human relics buried below ground level, although those higher up in the mound body were less favored because of the dark soil there.

The mounds are distinctly stratified, a most unusual occurrence. Their construction broadly resembles a chocolate cake, the earth layers being separated from each other by thin dark seams of mineralized vegetable matter with grass and weeds at the surface taking the place of frosting. The thin seams denote long pauses in construction, each being an old surface where grass and weeds once grew just as they now grow on top. Each layer between the seams contains bones and relics of men distinct racially and in their civilizations except near the surface where various types intermingled. Short, Meso and Long-heads are terms indicating ratio of greatest skull width or breadth above the ears, to greatest skull length measured from forehead to back of neck. This skull ratio or cephalic index as it is called, is much used by anthropologists in determining important racial characteristics. The Middle layer is given over exclusively to a rather small and feeble people with short heads. Further down are even smaller people, also short-headed. Still lower in gravel are larger mesos, or ones with heads of medium length. Beneath them so well concealed in gravel that my discovery of them was purely accidental, are rather small Long-heads. The sequence of Short-heads overlying Meso-heads and the latter superimposed upon Long-heads without mixture of types is a condition we would hardly expect to find except in isolated races or those dating back into ancient times. As far as I know such a sequence has not heretofore been found in Indian

Mounds of this country. That the people of the locality I have explored are all Indians from the oldest to the most recent, I am fully convinced; at least various peculiarities of the skulls, teeth and limb-bones are similar to those commonly met with in our various so-called Indian races. The civilization of the Middle layer is one that experts would diagnose at first glance as Stone Age Iroquoian. This is interesting if true, in that it throws light upon the origin of tribes that went to make up the powerful Iroquoian confederacy which played such a prominent part in our French and Indian and Revolutionary Wars. Their civilization before white men appeared has been traced no farther west than Ohio.

Except upon the surface where colonial silver ornaments have been picked up, the deposit from top to bottom is purely aboriginal without a single suggestion of the White Man's influence. The people of the Upper layer were mostly Short-heads with a few Mesos. Although the men were as a rule powerfully built, I found no tall ones, the greatest stature observed being about 5 feet 6 inches and most of them shorter. They lay in various postures, some upon their backs, others upon their sides with legs straight or slightly bent. Cobblestones occasionally covered head and shoulders. None had been burned or mutilated. Relics were few—flint and chert arrowpoints  $1\frac{1}{2}$  to 2 inches long and notched or stemmed at the base. None had pipes and I could find no sign of cloth, wood, fruit or grain, although I searched diligently.

Going deeper in the Upper Level, skeletons and relics became more abundant. The men were powerful but taller, 5 feet 8 inches and under. There were Short-heads, Mesos and Long-heads as above and they lay in the same postures but they had more things with them, small clay pots, tools and ornaments of bone and copper and many bones of animals, among which were the dog, evidently domesticated. The pots, squat and bowl-shaped with short constricted necks, were unglazed and without decoration engraved or painted. In each one was an uncarved river clam-shell used as a spoon. The copper objects consisted of several small hatchet-heads rudely hammered to shape. The bone-work showed many polished pieces and much variation in form. Some were large pins, others neck pendants used for per-

sonal adornment. Games were represented by deer ankle bones probably dice, cut and bored elk toe bones and polished stone tablets with bone cylinders. This latter game, which may be likened to marbles or tiddle-de-winks with the stone tablet as "shooter" seems to have been a popular one with the young ladies, for three of them had each a set placed beneath her head. Long draw knives, probably used for dressing hides and small notched pegs, possibly needles, represented domestic implements. For the hunt and war, long sharp pointed cones bored for sockets served as arrowpoints. A single bone fish-hook without barb or eyelet but otherwise similar to our modern steel hook, was evidence enough that these people ate fish and caught them as we do. They may also have used nets or traps, but nothing remained to so indicate. A small spade-like tool of elk-horn, a round polished stone and an antler point lying together beneath one skull strongly suggest pottery manufacture, the spade-like tool being used to shape and pat the clay outside against the round stone held against the inside, the antler-point being an engraving tool for surface decoration after the pot, still in a plastic state, had been brought to the desired shape. Other odd-shaped bone pieces are more problematical although the fact that they were cut from soft rather than hard material would have made them useless as tools.

The Upper layer rested upon a thin black seam of carbonized vegetable matter. Passing down through this into the Middle layer I encountered 18 inches of brown pebbly soil resting upon a 6 inch earth and ash-layer, the latter being sandwiched in between two more thin black seams. The Middle burials lay closely beneath the Ash Layer and below ground level. All of the skeletons were Short-heads, physically feeble and none over 5 feet 4 inches tall. They lay upon their backs generally with face to the east. They were big-eyed, broad-nosed and long faced with wide prominent cheeks, projecting teeth and weak lower jaws. Some had very wide heads with narrow temples. Male adults were few, women and children predominating. Many young women were accompanied by tiny infants. One had two beside her. Everywhere in the mound I found signs of care and reverence for the dead. Clay pots containing bits of bone and clam-shell spoons were placed beside each head,

the latter adorned with a meager ornament of bone, copper or shell and an ash-bed covering all. In eleven cases, all of children, one hand was within the accompanying pot, evidently placed there by the mother to make sure that her child would find the food close by. None of the males had pots, lying only with a bundle of flint arrowpoints, a lance-head and stone tomahawk beside them. These weapons were all mounted on wooden shafts as attested in one instance where the wood had left long dark marks on the gravel. No sign of cloth, grain or pipes as yet. Apparently the people of this Middle layer were meat, fish and clam eaters and did not smoke. The earth over them was full of charcoal, clam-shells and the bones of birds, turtles, fishes and animals. I found many unshaped bones under human skulls with stone and bone implements placed there intentionally. Deer, elk, puma, bear, beaver, mink, wildcat, otter, raccoon, goose, wild turkey and many others were represented. I could find no remains of dogs, common in the layer above. The Short-heads of the Middle Layer are the ones previously referred to as possible forerunners of the great Iroquoian Confederacy. The main characteristic of their civilization classed elsewhere as Iroquoian is the use of the small triangular arrowpoint without base notches or stem. This occurred in the Middle layer to the exclusion of other forms. These arrowpoints are made of white chert; keen-edged, sharp-pointed and very thin and small. No other kind has better penetration, a most important consideration for ones compelled to offset physical inferiority with superior weapons so that a stiff bow and powerful arm were not absolutely essential for piercing power. This selection of efficient tools for war and chase was also true of the stone hatchets or tomahawks, which were made long to gain weight and slender to increase penetration. They are keen-edged and highly polished.

The only other stone tools found are hammerstones and bones for smoothing wooden arrowshafts. The former were nothing more than large pebbles of quartz or chert held in the bare hand and used on one side then the other until a blunt edge finally resulted. No grooved stone axes appeared; no gorgets, plummets, banner-stones, pierced tablets or other showy pieces classed as positively non-Iroquoian. The second type of stone tool in the mounds is a

roughly shaped sandstone block with a deep groove on one surface. Fitting this groove to the wood and moving the stone to and fro, the aboriginal archer could make his arrowshafts smoother and straighter. The absence of stone mortars and pestles for grinding grain were in keeping with the lack of agricultural tools and anything else suggesting vegetarianism.

The bone culture of the Middle Layer is crude, the pins and ornaments being only roughly shaped. Copper pieces consist of discs worn at the ears and bead necklaces. Clamshells were cut and pierced to wear as pendants or the thick parts carved into beads for wear around the neck. Shell spoons found in pots were cut to form stub handles or notched with saw-teeth on their lower margins. The pottery is quite artistic both in shape and decoration. Some vessels had loop handles or rim lugs and most of them bore parallel rows of meanders, festoons or diagonals with dots or dashes, engraved upon the outside surface before drying. I call these "antler-point" pots, believing that the engraving was done with the tips of deer horns, common in the mound. The pottery decoration is quite pleasing artistically in spite of its extreme simplicity. It is the only form of art observed. Faces and figures of men or beasts are entirely lacking. In preparing his clay-paste, the potter incorporated a large percentage of rock or clam-shell, pulverizing and mixing this in to assist shrinkage and prevent cracking as the vessel dried in the sun or near a slow fire. Most of those found with skeletons were thin-walled; only 1/16 inch in places, although fragments in the camp-refuse thrown upon the mound are much thicker—1/4 to 1/2 inches—also more coarsely made. The finer type appeared to be more a funeral urn than the coarser, though more durable, was less artistic and intended solely for use.

Although peaceful interments, some skeletons bore marks of battle. One male skull had a small triangular chert arrowpoint embedded in the left temple. Another with round hole in the forehead and a bone arrowpoint close by suggests a second violent death. In one female adult skull was a chisel-like stone hatchet with blade driven into the face. A young woman with a child had a small triangular chert arrow-point in the left shoulder-blade and a bone arrowpoint in the forearm. There were other similar

cases. Disease affecting the limb bones was often evident. Many legs and arms had been broken and healed in life usually resulting in deformity. One long bone of a left hand carried a small triangular chert arrowpoint embedded in the base. The point had entered the palm of hand and protruded at the back of wrist. It was apparent that the one thus stricken had vainly endeavored to remove the missile which was broken at point and base, but it was stuck fast and so remained in life with the bone enlarging around it.

At the foot of the Middle layer were a few very small people without any relics whatsoever and lying in sprawling postures. They were Short-heads. The greatest male adult stature observed was not over 5 feet.

The Lower layer burials in gravel from 3 to 4 feet below ground level were Meso-heads overlying Long-heads, and strangely enough, this relative position was maintained in every instance, the Long-head always being undermost. The Meso-heads were fairly tall and robust, the greatest male adult height being 5 feet 8½ inches. These were narrow-nosed, long-faced men with big teeth and massive jaws. All lay upon their sides, usually the left with knees drawn up. None had pots or relics of any kind, not even clam-shells, charcoal or animal bones. The gravel about them was absolutely bare. The Long-heads were somewhat smaller than the Mesos. Their bones are hard and heavy and well-preserved. The skeletons lay in crouching postures on the left side, face to the north. They had no pots, nor implements of bone or copper. Two adults had worn chipped flints near the heads; too crudely shaped, however, to be recognizable as tools. One old man wore a shell tube at his throat. A woman was accompanied by two notched shells resting upon her face. It is interesting to note that the three shell ornaments are not freshwater but marine species. They once lived in the ocean. This last female burial was quite elaborate, relatively considered. She lay upon her left side like one asleep. An infant was pressed closely to her side. Her head rested upon a mosaic of limestone pebbles in the center of which was an oblong granite block veneered with a seam of metamorphic rock—all unfabricated but carefully selected and arranged. Like other deep Long-head burials, this one was literally encased

in a gravel vault which under the closest scrutiny could not be detected from above. I came upon one quite by accident and so after that I always dug deeply with the hope of discovering another. I found eight at various times, all crouching Long-heads in concealed graves. Who they were and where they came from is a matter for experts to determine; and there are other problems of interest. The crouching posture adhered to by the Mesos and Long-heads with faces looking northward was too prevalent to have been a chance occurrence. It has been suggested that these were northern people possibly Eskimos, but this is mere conjecture. The entire absence of pipes, grain, fruit-pits, nut-shells and agricultural implements throughout the mound implies that all of the people were meat-eaters and did not smoke. A kernel of grain, one plum-stone and a single fragment of stone or clay pipe would have proved the contrary, but I could find none, although tiny objects such as teeth of mice and copper plate beads 1/16 inch in diameter were readily recognized.<sup>1</sup> My only assistant in the work of excavation was Albert Tennik of Joliet. Business gave us no time for digging except on Sundays and holidays and only 80 days have been spent upon the site, although the work is continuing and with remarkable success. Two mounds only 60 feet in diameter and 6 feet high contained more than 300 human skeletons, 70 clay pots and numerous relics of polished stone, chipped flint, bone, copper and shell. The ground around the mounds has yielded an additional 100 skeletons and other relics. It is not my province here to discuss the structural features of the mounds and other details explaining on what grounds my conclusions as to the stratification of the mounds is based. A longer and more technical description with illustrations will soon be published in "The American Anthropologist."

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<sup>1</sup>Since this article was written, I have spent a season of excavating the pits around the mounds and these correlating with the mounds have disclosed several stone pipes and caches of charred corn with some acorns, showing the pit people, therefore the mound people of the upper and middle levels did smoke and had vegetable food.