

THE USE OF MOLLUSCAN SHELLS BY THE CAHOKIA MOUND BUILDERS*

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The use of the Mollusca by aboriginal man has received scant attention from students of the Mollusca. Stearns,¹ many years ago, published a very able paper on the use of molluscan shells as primitive money, but the wide use of shells for many purposes has been noted almost exclusively by ethnologists. Figures and descriptions of these are scattered through the reports and bulletins of the Bureau of American Ethnology and in papers and reports by archeologists. One of the best summaries of the use of molluscan shells may be found in Moorehead's *Stone Age in America*, pages 117-133.

The excavation and study of the Cahokia group of mounds near East St. Louis, Illinois, carried on by Professor W. K. Moorehead under the auspices of the University of Illinois, has given unusual opportunity to study the use of the Mollusca by the ancient Mound Builders, at least in this region.

The molluscan shells may be divided into two groups: those of marine origin and those gathered from near-by streams and ponds—fresh water shells. The latter may be considered first.

FRESH WATER MOLLUSCA

An examination of the region about the Cahokia Mounds indicates that there were numerous bodies of water as well as creeks (and the Mississippi River) from which mollusks could be obtained. The collection contains specimens from both creek and river, as well as a few from ponds and swales.

* Contribution from the Museum of Natural History, University of Illinois, No. 31.

1. *Ethno-Conchology: A Study of Primitive Money*. By R. E. C. Stearns. An. Rep. Smithsonian Institute, 1887, Part II, page 297.

MUSSEL SHELLS PROBABLY OBTAINED MAINLY FROM THE
MISSISSIPPI RIVER

Elliptio dilatatus (Raf.) Spike or Lady-finger. Common. A fine specimen of this shell, which had been made into a nose or ear ornament, was found at a depth of 20 feet in the James Ramey Mound. The purple nacre of the interior was beautifully preserved.

Proptera alata megaptera Raf. Pink Heel-splitter. An effigy representing a human head was found in the Sawmill Mound (a burial structure) made from a piece of this shell. A gorget or ornament of peculiar design made from this species was found in burial mounds 19, 20, 21 (overlapping mounds). This species was not common.

Megalonaias gigantea (Barnes) Washboard. A medium sized specimen from the James Ramey Mound had been made into a shell hoe. Very rare. Fragments believed to be of this species were found mixed with deer bones.

Amblema costata Raf. Three-ridge. Found in all mounds, common. One specimen from James Ramey Mound made into a hoe.

Amblema peruviana (Lam.) Blue-point. Rare.

Quadrula quadrula Raf. Maple-leaf. Common.

Quadrula cylindrica (Say.) Rabbit's-foot. Rare.

Cyclonaias tuberculata (Raf.) A specimen (broken) from mounds 19, 20, 21, had been used as a hoe. Rare.

Truncilla truncata Raf. Deer-toe. Rare. Found at depth of 21 feet in James Ramey Mound near the bottom of the structure.

Lampsilis fallaciosa (Smith) Simpson. Slough Sand Shell. Rare.

Lampsilis anodontoides (Lea). Yellow Sand Shell. Not common.

Lampsilis siliquoidea (Barnes). Fat Mucket. Not common.

Lampsilis ovata (Say). Pocket-book Mussel. Rare. A specimen from the cemetery at Pittsburg Lake, south of the Cahokia group, had been used as an ornament, several holes being drilled in the side.

Lampsilis ventricosa (Barnes). Pocket-book Mussel. Specimens of this mussel were common in all mounds and fragments occurred in village site debris. Two specimens from Pittsburg Lake cemetery had been variously cut along the anterior margin. It is thought that these were used as scoops or spoons.

Ligumia recta latissima (Raf.) Black Sand Shell. Rare.

SNAIL SHELLS

Anculosa praerosa (Say). River Snail.

This snail was used largely for beads. The side was ground until a perforation was made into the cavity of the body whirl and the shells could then be strung on threads or cords through this hole and the natural opening at the aperture. Shells thus prepared were common in the James Ramey Mound at various depths and also in other mounds.

Campeloma subsolidum (Anthony). Large River Snail.

This shell, which in life has a beautiful green epidermis, was also esteemed by the mound builders and used as beads in the same manner as *Anculosa* described above. These shells occurred in the mounds and in the village site material.

Campeloma ponderosum (Say). Heavy River snail. Rare. Two specimens were found in the James Ramey Mound.

Pleurocera acuta Raf.

A few specimens of these slender river snails were found in the James Ramey Mound. Their practical use is not indicated by marks on the shells.

Near the bottom (21 feet depth) of the James Ramey Mound, as well as in other mounds, a number of fresh water shells were found which evidently were not used by the aborigines for ornamentation or domestic use but were included when the mound was built. If the material from which the mounds were built was in part taken from the border or bottom of ponds which were dry in summer but contained water in the winter and spring, such mollusks as here indicated would be included. They occur abundantly in such locations in all parts of Illinois.

It is possible also that this depth (21 feet) marked the base of the mound and these shells may have lived in a swale on the original site of the mound. Three species were found, as follows: *Physa gyrina* Say, *Planorbis trivolvis* Say, *Lymnaea reflexa* Say. One specimen of *Planorbis trivolvis* was found in the upper eight feet of the mound. This must have been contained in the material used in erecting the mound.

Professor M. M. Leighton collected several shells from other mounds during his geological examination of this region. These are noted below. *Planorbis trivolvis* Say, *Segmentina armigera* (Say), *Lymnaea palustris* (Müll.) (fresh water shells): *Helicodiscus parallelus* (Say), land shell. From Sam Chiucallo's Mound, on outskirts of East St. Louis, Ill. These probably were included in building material.

Physa gyrina Say, *Vivipara contectoides* W.G.B., *Anodonta grandis* Say.

Fresh water snails and paper shell clam from the Kunnemann Mound. These probably were included in building material.

Nineteen species of fresh water shells are listed above as occurring in the mounds and as being used by the Indians for some purpose. Seven additional species probably were included in building material. The first mentioned species doubtless were used largely as food, for the ancient aboriginee, like his more modern descendant, probably esteemed this bivalve as a valuable part of his menu. The curious and brightly colored shells of the clams and the form of the snails doubtless attracted his attention and suggested ways in which they could be used for practical use as well as for bodily ornamentation. The shell gorgets and effigies also indicate that the large flat surface of some of the mussels created an art impulse which is reflected in these curious objects.

MARINE MOLLUSCA

That the Mound Builders and other aboriginal inhabitants of America were traders is evidenced by the presence of many marine shells which evidently came from the west coast of Florida or from the Gulf coast of the

southern states. That certain of these mollusks were highly esteemed is shown by the number of fragments and finished objects made from at least one of these marine snails. It is probable that the canoes of the more southern tribes ascended the Mississippi River and barter was carried on between them and the Cahokia Indians.

Busycon perversa (Linn.). Marine Conch.

This mollusk, so common on the Gulf and Atlantic coast of the United States, is the most abundant snail in the Cahokia Mounds. Hundreds of specimens of the heavy axis occurred in the James Ramey Mound from top to bottom. This part evidently was used to make a drill, and it may also have been used for ornamental purposes. Beads, nose and ear ornaments, and gorgets were made from parts of this shell. A dipper made from the body whorl of this species was found in burial mounds 19, 20, 21. A gorget made from the side of the body whorl was found in the Sawmill Mound with skeleton No. 10.

Busycon carica (Gmelin). Marine Conch. Two specimens of this species were found in the James Ramey Mound.

Busycon pyrum (Dillwyn). Marine Conch. One specimen of this small conch was found in the James Ramey Mound.

Strombus pugilis alatus Gmelin. Stromb Conch. One perfect specimen and a fragment of this species were found in the James Ramey Mound. Used as nose or ear ornament.

Fasciolaria gigantea Kiener. A portion of the axis of this largest of American marine snails was found in the James Ramey Mound.

Fasciolaria distans Lamarek. A single specimen of this Banded Snail occurred in the James Ramey Mound. Its probable use was not indicated.

Oliva litterata Lamarek. Olive Shell. The spire of this specimen had been removed and it might have been used as a bead or as a pendant from a string of beads. From the James Ramey Mound.

Littorina irrorata Say. Periwinkle. A single perfect specimen was found in the James Ramey Mound. Its use was not indicated.

Rangia cuneata Gray. Marine Clam. Left valve of a medium sized specimen found at a depth of 12 feet in James Ramey Mound. Also found with surface material.

Marginella apicina Menke. This small marine snail occurred in abundance, especially in the James Ramey Mound. This species was used largely for the purpose of making beads, the side of the shell being ground down to the natural cavity, as in the case of the fresh water shells *Anculosa* and *Campeloma*. The number of specimens found indicates that this shell was a favorite for this purpose. A singular fact, through perhaps without significance, is that these shells were found only in the James Ramey Mound, none occurring in any of the burial mounds thus far examined. In the mound mentioned they were found at several levels between 1 and 12 feet below the summit, and from 20 feet deep to the base of the mound, 23 feet below the summit.

Ten species of marine shells have been found in these mounds, all but one being gastropods. Three of these species were used definitely for ornamentation, either as beads, nose ornaments, or gorgets. It is possible that these other species will be found to have been used for the same purposes when other mounds are examined.

COMPARISON WITH HOPEWELL MOUNDS OF OHIO

It is of interest to compare the mollusks found in the Cahokia group with those preserved in the Hopewell group of mounds in Ohio (Moorehead, Publication 211, Field Museum of Natural History, 1922). An examination of the collection on exhibition in the Field Museum shows that apparently only four species are common to both mound groups, *Busycon perversa*, *Fasciolaria gigantea*, *Cyclonaias tuberculata* and *Amblema costata*, the last two fresh water mussels.

Two large and characteristic species of Mollusca occur in the Hopewell group that are absent from the Cahokia group, *Cassis madagascariensis*, and *Cypraea exanthema*. This may indicate a different trade route, perhaps with different tribes, because these shells would appeal to the aboriginal mind on account of their size and striking appearance as well as attractive colors, and would have been sought eagerly by the Cahokia people.

These shells are found on both sides of the Floridan peninsula, their distribution including the east coast of Texas. The finest specimens, however, occur in southern Florida and in the West Indies.

The Hopewell people used these large shells (some of which are larger than any recent specimens the author has seen) for dippers and perhaps for drinking vessels. The interior whorls are usually removed, leaving only the large outer or body whorl. *Busycon perversa* is also of large size and seems to have been used as a dipper. Of these large shells, several were found with skeletons. The following were noted:

Cassis madagascariensis with skeleton 241 in mound 8; skeleton 192, in mound 4; as ear ornaments 8 inches long with skeleton 281 in mound 25. *Cypraea exanthema* with skeleton 191 in mound 4. *Amblema costata* with skeleton 173 in mound 20. A fragment of *Cyclonaias tuberculata* was observed with other mussel fragments.

It is noteworthy that in mounds in Calhoun County, Illinois, the large *Cassis madagascariensis* occurs and is the same form as found in the Hopewell Mounds. This might indicate a different route of barter from that of the Cahokia group, possibly overland from Indiana and Ohio. That this large shell should be absent from the Cahokia Mounds is significant. Beads of *Anculosa praerosa* are more abundant in the Calhoun County mounds than in the Cahokia group.

The builders of the Hopewell mounds used shell beads, made of both marine and fresh water shells, to a marked degree, thousands of these being in the collection. Baroque pearls were also in demand, judging by the number of these in the collection which had been made into beads. It is probable that valuable free pearls were used also. None of these have as yet been found in the Cahokia Mounds.

It would be of interest to both Malacologists and Ethnologists if the shells found in various tumuli left by aboriginal people could be listed accurately and the uses of the shells indicated. The present paper is a contribution toward that end. All of the material listed from the Cahokia Mounds is in the Museum of Natural History of the University of Illinois.