



13. Primitive Salt-Making in the Mississippi Valley.

Author(s): David I. Bushnell, Junr.

Source: *Man*, Vol. 7 (1907), pp. 17-21

Published by: [Royal Anthropological Institute of Great Britain and Ireland](#)

Stable URL: <http://www.jstor.org/stable/2788120>

Accessed: 07/01/2015 03:22

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at
<http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



Royal Anthropological Institute of Great Britain and Ireland is collaborating with JSTOR to digitize, preserve and extend access to *Man*.

<http://www.jstor.org>

ORIGINAL ARTICLES.

America, North.

With Plate B.

Bushnell.

Primitive Salt-Making in the Mississippi Valley. *By David I. Bushnell, Junr.*

13

Although such a short time has elapsed since the greater part of North America was claimed and occupied by the native tribes, nevertheless we possess rather scant knowledge of their arts and customs as practised a century or more ago. This is especially true in regard to the tribes west of the Alleghany Mountains, and so it is with a degree of satisfaction that we are able to trace back to prehistoric times the art of making salt as followed by the tribes in the Mississippi Valley.

Springs of salt water occur in various parts of the Mississippi Valley, but are more numerous in the central part, along the Ohio and as far north as the Missouri and Illinois rivers. Many of these springs are quite large and their waters were often utilised by the early settlers ; but even before the coming of the Europeans the localities had been frequented by the Indians, by whom the water was evaporated and a supply of salt obtained.

During the autumn of 1902 the writer, while conducting an exploration for the University of California and the Peabody Museum of Harvard, discovered a very interesting and extensive site where salt had been made, which had remained undisturbed since it was last used by the Indians. The large earthen pans in which the water from the neighbouring spring had been evaporated were found in a good state of preservation.

The site is located about thirty miles below the mouth of the Missouri and one and a half miles west of the Mississippi, near the small village of Kimmswick in Jefferson county, Missouri. The entire site covers between one and two acres, is level, and is elevated about twenty feet above a small creek which flows to the Mississippi. Less than fifty yards from the foot of the elevated area, in marshy ground, and only a few inches above the creek, is a small spring of salt water, which, however, was evidently of sufficient importance to attract many Indians.

Several excavations were made on the elevated ground, but only the largest and most important, a plan of which is shown in Fig. 1, can be described in this brief article.

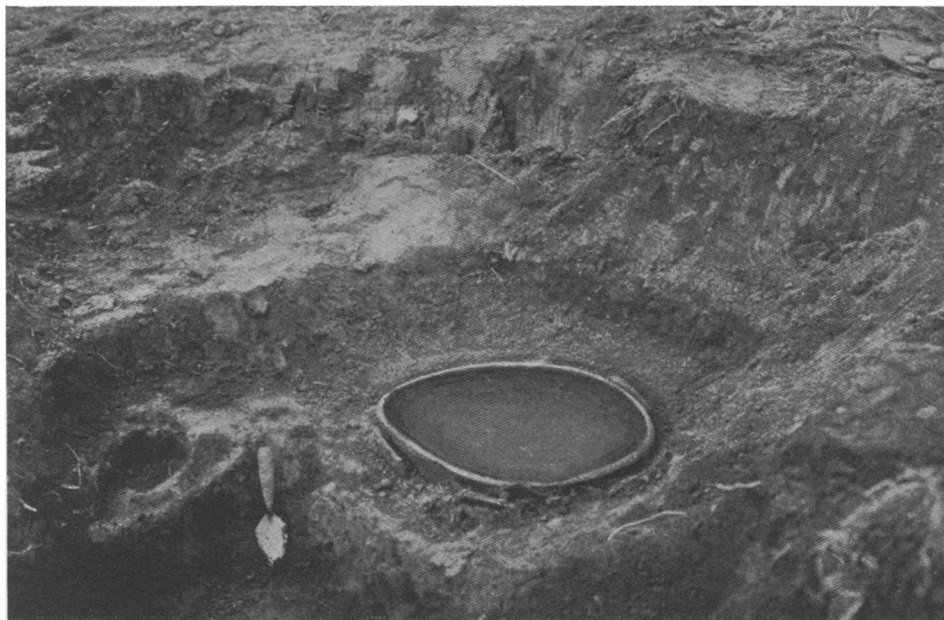
At an average depth of some thirty inches below the present surface an undisturbed surface of clay was encountered, this was the *surface* at the time the site was occupied and, as will be shown later, the superstratum was formed during and subsequent to that time.

In the main excavation more than 8,000 square feet of the original clay surface were exposed to view. On this surface were discovered four large earthen pans placed as they had been when last used, fragments of four similar pans, probably broken while in use, and twenty-eight fire-beds.

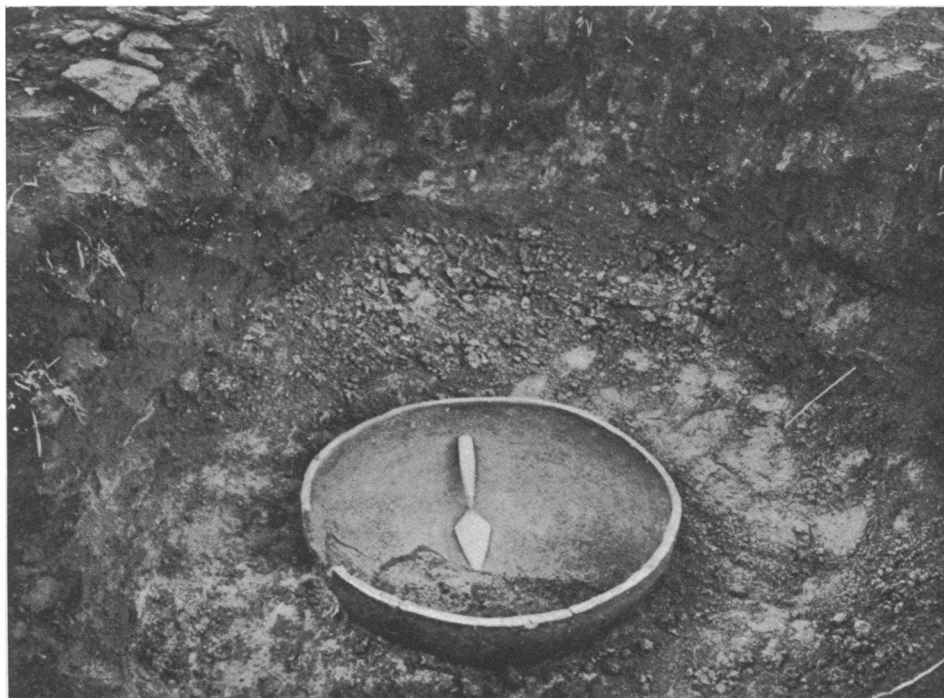
The four entire pans extended in a line from north-west to south-east, the distance from I to II being 19 feet 6 inches, from II to III 17 feet, and from III to IV 17 feet. A drawing of a section through III and IV, showing the superstratum, is given in Fig. 2. The pan designated as II is $25\frac{1}{2}$ inches in diameter, 9 inches deep, and less than three-quarters of an inch thick. It was set in the clay, allowing the rim to extend less than two inches above the surface. To make this pan more substantial large fragments of a similar vessel had been placed under the bottom and around it at a distance varying from a half to one and a half inches, the intervening space having been filled with blue clay from the bed of the creek.

The next example, III, is the smallest of the four. The dimensions are : diameter 21 inches, depth $7\frac{1}{4}$ inches. It was set in the clay, the rim extending about two inches

[17]



PAN III. SURROUNDED BY SHERDS AND BLUE CLAY.



PAN IV.

SALT PANS AS DISCOVERED.

PRIMITIVE SALT-MAKING IN THE MISSISSIPPI VALLEY.

above the surface. Fragments of pottery and a mass of blue clay surrounded it, similar to Number II. A photograph of this vessel before it was removed from the clay is reproduced, Plate B. The fragments of pottery surrounding the pan are visible. The largest pan discovered (I) was not set in the yellow clay as were all the others ; but rested upon a mass of ashes and earth a few inches above the

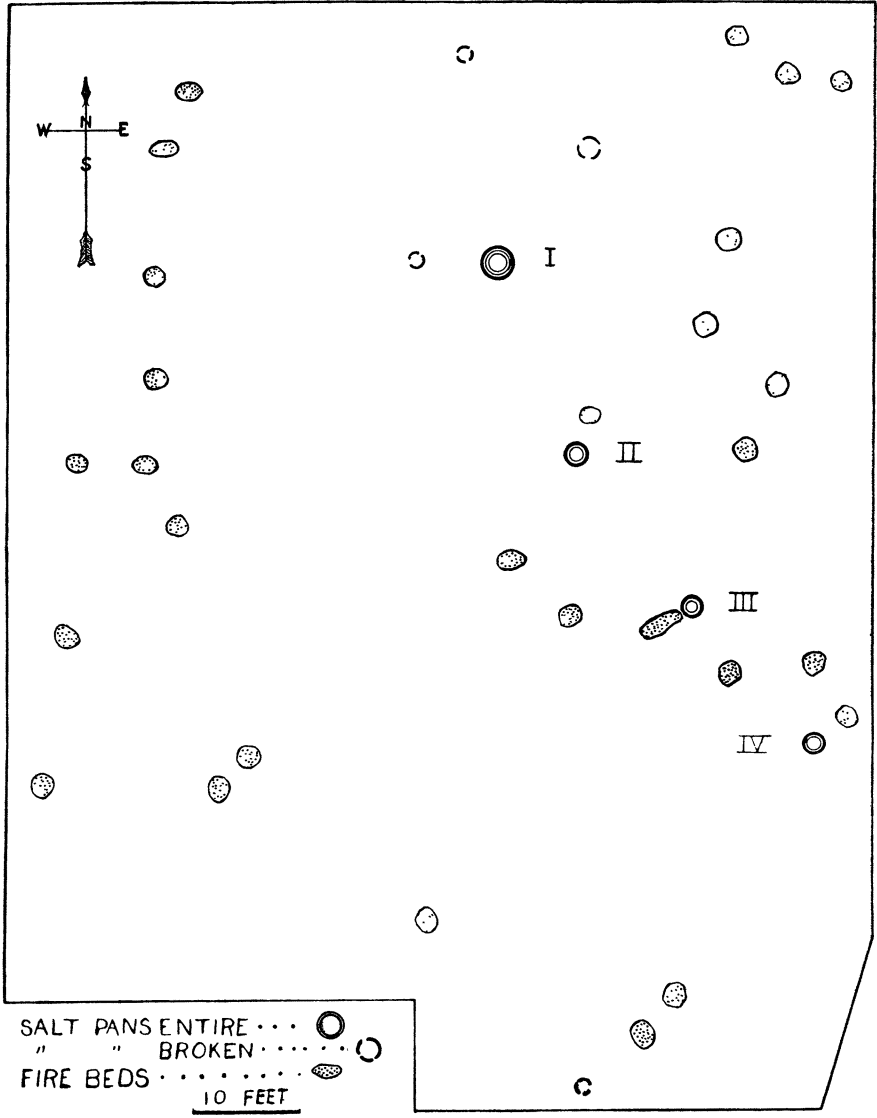


FIG. 1.—PLAN OF THE MAIN EXCAVATION, KIMMSWICK SITE, 1902.

clay surface—probably it had never been used. The dimensions of this large vessel are : diameter 31 inches, depth 12 inches. This, although of the greatest capacity, is the thinnest of the four ; in many places it is not more than half-an-inch in thickness. Pan IV was set into the clay with its rim extending two inches above the surface. Dimensions : diameter 24 inches, depth 9 inches. Although neither blue clay nor sherds surrounded this vessel it was found to be in an excellent state of preservation. A photograph of this pan as it was discovered is shown in Plate B. All were made

of clay, to which a large quantity of pulverised shell was added. The surfaces, both inside and outside, are smooth and without decoration of any sort.

The fire-beds, twenty-eight in number, averaged more than 2 feet in diameter, and beneath many the heat had reddened the clay to a depth of from 6 to 9 inches; while, of course, the surfaces had become quite hard. In pan II a piece of stone about 8 inches in diameter was found which showed the effect of fire; similar stones

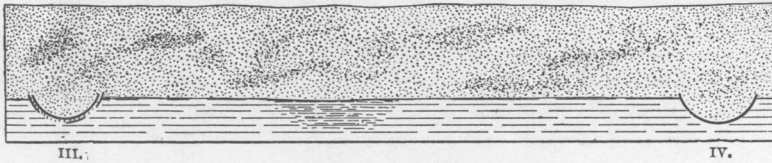


FIG. 2.—PANS III AND IV IN THE UNDISTURBED CLAY: A FIRE-BED SHOWING EXTENT OF DISCOLORATION CAUSED BY THE HEAT. SUBSTRATUM OF REFUSE, VEGETABLE MOULD, ETC. PRESENT SURFACE REPRESENTING 20 FT. IN EXTENT.

were discovered either near or resting upon different fire-beds, all showing unmistakable evidence of having been heated. And

so we may conclude that the stones were heated and placed in the pan containing the water from the spring, the water would soon evaporate, leaving the salt in the bottom of the vessel.

The superstratum, resting upon the natural clay surface, is formed of wood ashes, charred wood, vast quantities of broken pottery vessels or pans, many bones of animals, birds and fish, antlers of deer and elk, and broken implements and ornaments of stone, bone, shell and pottery, all intermixed with vegetable mould.

This was apparently camp refuse which had accumulated during a long period of time. During the time the site was occupied, or rather frequented, by the native tribes, ashes and refuse must necessarily have accumulated in heaps at different points near the fire-beds. After the site was no longer visited the action of the rains and winds would have had a tendency to level the surface. Later a growth of timber covered it, and so it remained until some thirty years ago, when it was cleared and ploughed for the first time.

It will not be possible to describe in so short an article all the material discovered in the mass of refuse and vegetable mould which was found to cover the original clay surface. Only the more interesting pieces can be mentioned.

As would be expected, very few perfect specimens of any sort were recovered.

Among the objects of earthenware were several jars of a cylindrical form. One is shown in Fig. 3, B. The dimensions are: height, 12 inches; diameter of opening, $4\frac{3}{4}$ inches, tapering to the lower or closed end. Another unusual type is shown (A) in the same figure. This is $5\frac{3}{4}$ inches in diameter and $6\frac{1}{4}$ inches in height. Being of a conical form and surmounted by a knob or handle makes it appear to have been used as a lid or cover. These are believed to be forms heretofore unknown in the Mississippi Valley.

Many fragments of earthen vessels of different shapes and sizes were found in all parts of the excavation. Some were portions of large jars which would have held from three to four gallons. Also many fragments of shallow plates—similar to the modern

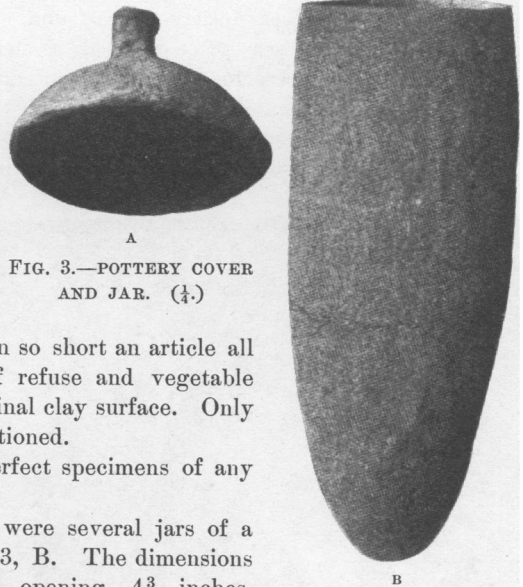


FIG. 3.—POTTERY COVER AND JAR. (A.)

soup plate—the flat, flaring rim being decorated with incised straight lines. Some were coloured red, others black. The largest specimen found measured 14 inches in diameter.

In addition to the vessels were many smaller objects of pottery, including many discs from 2 to 4 inches in diameter (one, being perforated, had probably served as a spindle whorl), and small pestle-shaped objects, which were probably used in smoothing the surface of pottery vessels.* Some small bowls less than 2 inches in diameter, a small gourd-shaped rattle, and a figure of an owl, all made of pottery, were probably toys.

The implements of stone were similar to those found throughout the adjacent country, on both sides of the Mississippi. It is rather difficult to account for the large number of broken celts, usually a half or a third of an implement, which were found in all parts of the excavation. Many were pieces of large specimens probably from 6 to 8 inches in length. No grooved stone axes were found, although two excellent examples made of hæmatite were discovered near pan III. Among the pestles or grinders was one of unusual interest; adhering to the flat surface were many small pieces of shell, showing it to have been used to pulverise the shell which was mixed with the clay when making pottery.

The finding of pumice may be accounted for, as it often occurs on the sand-bars in the Mississippi, having been brought down from the Rocky Mountains by the current of the Missouri.

Bone needles and awls were quite numerous, but the lance-head shown in Fig. 4 is by far the most interesting of all the bone objects discovered. It is $5\frac{3}{4}$ ins. in length and only $\frac{1}{8}$ inch in thickness.

A great many deer antlers were found. The thick section of the antler near the skull was often utilised, as many such pieces, from 4 to 6 inches in length, were found, the ends of all being rounded and smoothed from use. These have often been considered as “flakers” used in working stone, but had they been so employed the ends would not have been smoothed but roughened, consequently they appear to have been utilized for an entirely different purpose.

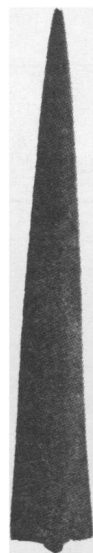


FIG. 4.—BONE
LANCE POINT.
($\frac{1}{2}$.)

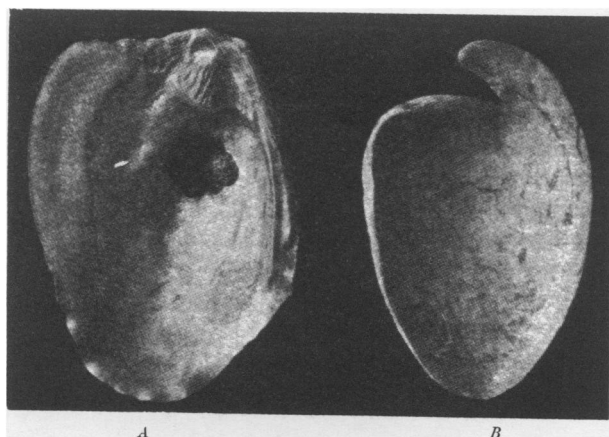


FIG. 5.—SHELL OBJECTS. ($\frac{1}{2}$.)

The following fresh-water shells, all of which occur in the streams of Jefferson county, were found in quantities:—*Quadrula undulata* (Barnes), *Quadrula pustulata* (Lea), *Lampsilis luteolus* (Lamarck), and the *Lampsilis rectus* (Lamarck). In addition to these, two marine shells from the Gulf of Mexico: *Strombus altus* (Gmel) and *Sycotypus perversus* (Linn.). The finding of these marine shells is of special interest when we consider the distance from the Gulf, some 600 miles in a

direct line and more than twice as far by the course of the Mississippi.

Two worked shells are shown in Fig. 5: *A* is a specimen of the *Quadrula undulata* perforated, undoubtedly to make it possible to attach it to a wooden handle.

* W. H. Holmes, *Twentieth Ann. Rep. Bureau Eth.*, p. 36.

Similar pieces have been found in the adjacent parts of the valley. *B* is a more finished object. The entire outer surface of the shell had been smoothed and polished and the edges shaped. This and a similar specimen were found in the bottom of a broken salt pan in a small excavation near the south-west corner of the site; others, however, were discovered in the main excavation. Probably they served as spoons and may have been attached to handles.

Bones of the bear, deer, fox, turkey, and of a large fish, antlers of the deer and elk and teeth of the beaver were found in all parts of the excavation. This appears to strengthen the theory that the mass, now forming the upper stratum, was originally heaps of refuse which had accumulated during the days the site was visited by the natives for the purpose of making salt.

Many references could be quoted from the histories and other writings relating to the Mississippi valley, but certainly the most interesting of all appears in Du Pratz's work,* which reads:—"After we have gone up the *Black River* about thirty leagues, we find to the left a brook of salt water, which comes from the West. . . . The *Indians* come a great way off to this place, to hunt in winter, and make salt. Before the *French* trucked coppers with them, they made upon the spot pots of earth for this operation: And they returned home, loaded with salt and dry provisions." This place was not far from the northern boundary of the present state of Louisiana.

It is evident from this statement by Du Pratz that the Indians ceased making earthenware pans as soon as they were able to obtain metal vessels from the European colonists. The Kimmswick site was probably similar to the one on Black River, not a permanent village, but merely a locality visited from time to time by different bands for the purpose of hunting and replenishing their supply of salt. The site is evidently quite old as no objects of European workmanship were found in either the superstratum or the stone-lined graves, many of which were discovered near by. These are to be described in a separate article.

And so it would appear the place had been abandoned before the arrival of the French in Upper Louisiana. D. I. BUSHNELL, JUNR.

England: Archæology.

Lewis.

The Flint Supplies of the Ancient Cornish. (See MAN, 1906, 97.)
By A. L. Lewis, F.C.A.

14

My friend, the late Francis Brent, F.S.A., of Plymouth, gave much consideration to this matter, and collected large numbers of worked flints (mostly of small size) from various parts of Cornwall, and especially from Dozmarè Pool, several of which he gave to me during my various visits to him. Vol. 9 (1886) of the *Journal of the Royal Institution of Cornwall* contains a short paper on the subject by him, but it is principally a list of places where worked flints had been found, to which he afterwards added Boscawen-un (near the circle), and Polurrian headland, near Mullyon. I tried to get him to write a paper for the Anthropological Institute respecting the sites from which the flint was in his opinion obtained; that he did not do, but he gave me the following particulars, which are not contained in the paper cited. At various spots along the west coast of the Land's End peninsula there were green sand flints, the nearest point of supply of which was, he thought, Haldon above Dawlish, and red chert from Chard. His belief was that the Dozmarè flints were brought in bulk from Bere, on the Devonshire Coast, and worked on the spot where they were found in such large numbers, and that some found at Kynance Cove came from the same source. Red chert, as he thought from Chard, was also found at Kynance Cove and at Goonhilly on the Lizard peninsula. In a lecture delivered by Mr. Brent before

* *History of Louisiana*. London, 1763. Vol. I., p. 283.