MOUND EXCAVATIONS NEAR STOCKTON

BY

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EDITOR'S INTRODUCTION

In 1898, when W. H. Holmes visited California, he was shown certain earth mounds near Stockton, and unusual implements taken from them, which H. C. Meredith was at the time beginning to describe.[1] Professor Holmes subsequently discussed the remains with his usual succinctness and lucidity.[2] In 1900 the late Dr. Philip Mills Jones, commissioned by Mrs. Hearst to explore the prehistoric localities of California, excavated several mounds in this region, and subsequently filed a report, the major part of which forms the following paper. The peculiarities of the artifacts characteristic of the region of Stockton and the lower San Joaquin delta have been brought out by the earlier observers; therefore they are not reënumerated in Jones' report, whose significance lies in its account of the structure of the mounds examined by him, and the place in them of burials and implements. His is the first paper that gives accurate information on this aspect of the data.

The prehistoric culture of the Stockton area shows the following local peculiarities.

(1) Flattish mounds, mainly of earth, with some refuse, and practically no shells. Meredith and Holmes regard them as reared as places of habitation in an annually inundated country; but Jones looks upon them as natural formations.

(2) Bodies not regularly oriented, when buried, and as often in extended as in flexed position.

(3) Serrated obsidian implements, single or double pointed, curved or angular in outline. These, known as "Stockton curves," have been variously interpreted as intended for scarification, cutting flesh, and as due to the grain of obsidian nodules available. E. W. Gifford, however, has recently ascertained from the Miwok of the

[1] *In* Warren K. Moorehead, Prehistoric Implements, Section IX, pp. 258–294, [1900]; Land of Sunshine, October, 1899; American Archaeologist, II, pp. 319 ff., 1898.

[2] Anthropological Studies in California, *in* Rep. U. S. National Museum for 1900, pp. 155–187, 1902 (pp. 176–178 on Stockton district).

foothill country above the lower San Joaquin, that such curved obsidians were used among them, and presumably also among the Yokuts about Stockton, as artificial claws by dancers or religious performers impersonating bears. Several of the pieces illustrated by Meredith and Holmes[3] possess much the shape of bear claws and a groove for attachment. Whether or not all these curves are to be interpreted as having been so used, is less certain. At any rate they were not beyond the capacity of the ordinary California Indian to produce. Ishi, the last Yahi, on being shown the design in 1914, easily made several imitations.[4]

(4) Clay balls, averaging smaller than a fist, more or less baked. A minority are incised, usually with rows of small punch marks. Holmes speaks of them somewhat noncommittally as sling shots, presumably for hunting waterfowl. Jones, as will be seen, regards them as substitutes for cooking stones in an alluvial region.

(5) Cylindrical jars or "vases" of steatite.

(6) Haliotis ornaments, from one or two to five inches long, which to Holmes suggest a double-headed bird, while Meredith likens them to banjos. They consist usually of a round or oval portion with a neck from which two or three tabs project on each side, like the keys of a stringed instrument. A perforation shows that they were worn with the neck or head hanging down. Ornaments of this type occur not only in the Stockton district, but on Suisun bay.[5]

(7) Etched bird bones, with somewhat more elaborate geometric incisions and a higher polish than are usual in California. These are not mainly whistles, as Holmes says. The majority were ornaments, probably either for wearing in the ear or for holding in the hand in dances, perhaps usually with feathers inserted.

It thus appears that a local type of culture once flourished in the region of the San Joaquin delta, on which Jones' notes may serve to throw light. The types having been shown in the writings of Holmes[6] and Meredith,[7] no illustrations are appended here.[8]

[3] Moorehead, fig. 394; Holmes, pl. 25.

[4] Anthropological Museum of the University of California, numbers 1–19871 to 19873.

[5] University Museum, numbers 1–4972, Vallejo; 1–16806, Benicia; 1–17070 to 1–17072, Isleton; 1–17080, Isleton.

[6] *Op. cit.*, pls. 23–28.

[7] *In* Moorehead, *op. cit.*, figs. 394–400, 402, 404–405, 408, 410–414, 426.

[8] The objects recovered by Jones near Stockton are catalogued as numbers 1–3117 to 1–3367 in the University Museum. 1–3142 is a cylindrical jar of magnesium or mica; 1–3355, a clay bead; 1–3352–54 and 1–3144–48, decorated clay balls; 1–3117–18, and 1–3122–41, plain clay balls; 1–3169–3345, fragments of clay balls.

REPORT BY THE AUTHOR

In certain mounds near Stockton two unique types of aboriginal manufactured products have been found, and, as these mounds have been dug into most unsystematically by amateur collectors, it seemed wise to endeavor to secure some of this peculiar material. The unusual objects referred to were brought to my attention by Mr. James A. Barr, Superintendent of Schools of Stockton, who has personally dug many of them from the mounds in the vicinity of that city. They are, first, rudely made baked clay balls, found in large numbers, generally plain but occasionally decorated, and rarely of fanciful shapes. Second: certain chipped obsidians of rather unusually fine workmanship and peculiar curved outline. In the *American Archaeologist* for 1898, and the *Land of Sunshine,* 1899, are papers by H. C. Meredith, in which these "Stockton curve" obsidians are described and illustrated. Their genuineness is questioned by H. N. Rust in a letter to the *American Archaeologist* (1898). Certain masses of obsidian will produce curvilinear flakes when struck. In Barr's collection are several such specimens, unworked and partly worked, which were found by him in a mound from which a number of specimens of the finished object were obtained.

Barr has also found finished specimens in two other mounds in the vicinity, generally near the head of skeletons. The opinion that these curved obsidian objects were used by the Indians as "ceremonial bleeders," is advanced by Meredith, and has also been suggested to me, in discussion, by W J McGee. Experimental operations by me demonstrate their inadequacy for such a purpose. The superficial locations in which they have been found, in loose soil, and with skeletons in the upper strata, indicate comparatively recent manufacture.

MOUNDS 1, 2, 3

On July 27, 1900, I made camp near a mound about 200 yards south from the dry bed of Mormon slough, 9 miles east of Stockton.

This mound, no. 1, is some 300 feet long by 200 feet wide, and at the highest part near the center is between 4 and 5 feet above the level of the surrounding plain. It was carefully examined by running trenches at right angles through the center and by sinking potholes at various places. So far as I could determine, the mound had not been disturbed save for some ploughing over the surface. Mounds

2 and 3, about a mile and a half downstream on the north side of the same slough, near a house, were of the same general character as mound 1, but had been much more disturbed by extensive ploughing and by scraping off the top.

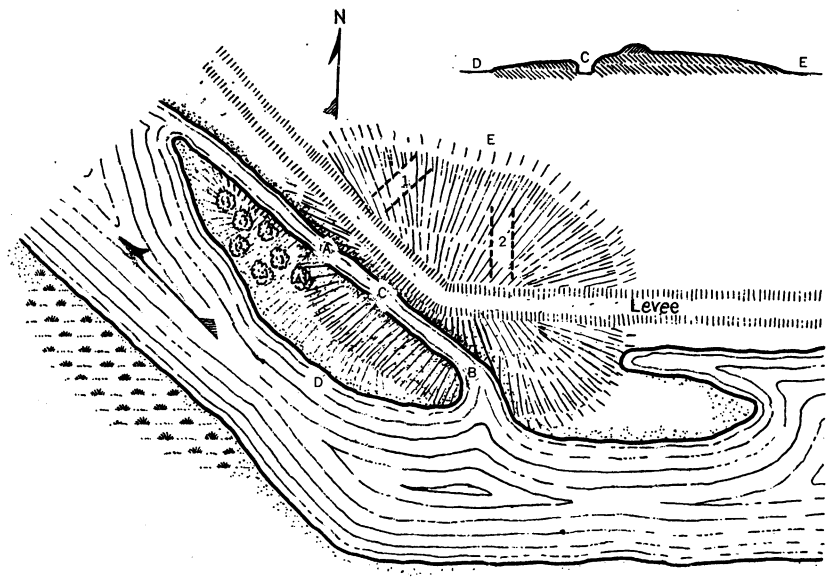
These three mounds were in most respects very similar; they will therefore be considered together. The surface soil to a depth of from a few inches to 2½ feet is loose and largely mixed with ashes and refuse; at the central portions but few ashes are encountered in digging down, but toward the edges of the more elevated portion the ashes become plentiful. No human bones were found in these mounds with the exception mentioned below, though the bones of deer, elk, sheep, duck, wild goose, and rabbit were noted. Mixed with the kitchen refuse, ashes, and charcoal, were a great many fragments and a few unbroken specimens of rudely made baked clay balls, together with an occasional rude bone or horn implement and some partly worked flint flakes. All the long bones of game animals were split and most of them showed traces of fire.

On the surface of mound 2 were found several fragments of human bones, and the man who lived in the nearby house told me that, in scraping away the top of the mound some years ago, several skeletons were unearthed. The mounds themselves seem to be natural slight elevations which have been utilized by the Indians as camping places or village sites; they show no evidence of artificial formation.

MOUND 4

On August 2 I moved camp to a large mound, no. 4, on French Camp slough, three miles south of Stockton and about a quarter of a mile west of this and Mormon slough. This mound has been dug into rather extensively by Barr, Meredith, and others, and from the statements made to me by Barr I judged that practically the whole of that portion north of the levee which traverses the top had been disturbed at one time or another during the past four or five years. A large number of bodies had been disinterred, but I could not obtain sufficient data to form a reliable estimate of the total number. With the bodies which they have exhumed near the top of the mound, shell ornaments, beads, and worked flints were found, while very little seemed to have been buried with the bodies of those who had been interred at the outer edges of the area used as a cemetery. Barr further informed me that some of the bodies at or near

the top of the mound showed slight evidences of having been partly burned—as though attempted cremation had been practiced—and that they exhibited no regularity in orientation or methed of burial, save that they were usually extended on the back. A number of the curved obsidians already referred to were found by Barr in this mound.



Map showing mound no. 4, Stockton, with relation to slough, levee, cutting, trenches, etc.; also section through mound.

I estimate the original size of this mound to have been about 100 feet by 75 feet, with a high and habitable portion measuring some 50 feet by 40 feet, and approximately 7 feet rise above the level of the plain. All that part to the north and northeast of the levee has been dug to a depth of from 2 to 4 feet; on the south side of the levee and east of the ditch cut by dredging, most of the soil has been disturbed to the same depth, numerous holes have been sunk, and some bodies have been found; on the portion located on the island artificially formed by the channel made in cutting for the levee, only traces of refuse can be found; southwest of the levee, between the point where it turns from west to northwest and the northwest extremity of the mound, the soil does not appear to have been disturbed prior to my excavations.

Several trenches were run from the northern edge of the mound to the line of the levee, but as I had promised that the levee would not be disturbed I did not tunnel under it nor remove any of it. Everywhere, except at the place marked 1, were signs of previous digging to a depth of from 2 to 4 feet, and where skeletons had been exhumed the soil was filled with miscellaneous human bones and fragments of skulls. The soil itself is a brown, sandy clay, mixed in places with adobe, and contains large quantities of ashes, charcoal, and bones of animals, together with fragments of baked clay balls; fireplaces, kitchen refuse, and skeletons seem to have been promiscuously distributed through the mound. Very few stones are encountered and these in almost every instance show clearly that they have been used as hammerstones; at one place in trench 1 a cache of several fine and much used hammerstones was found near a fireplace. Rude bone and horn tools, a small number of partly or wholly worked flints, together with large numbers of fragments and some fifty unbroken baked clay balls, were found unassociated with any human remains.

In this portion of the mound north and northeast of the levee, four undisturbed skeletons were found. The first was encountered in running trench 1, 5 feet from the beginning of the trench; it was lying on the back, slightly toward the right side, extended, with the head toward the northwest. One foot southeast of the feet of this skeleton were found five hammerstones, while in the soil surrounding the head, and some 6 inches from it, were a few perforated shell disks. The second skeleton was found on the same level with the first, 2 feet nearer the levee; the position was the same as that of the first one found, except that the head was some 5° more to the north. Nothing whatever lay with this second skeleton, nor in the soil about it. The first skeleton encountered was at a depth of 3 feet and the second at a depth of between 3 and 4 feet; the difference is due to the rise in the elevation of the surface of the mound as the trench was carried forward toward the levee.

Two more skeletons were found, in trench 2, near the spot marked 2. They lay at a depth of between 5 and 6 feet, and the soil above them, to a depth of slightly over 4 feet, had been previously dug: it was a mass of miscellaneous human bones and fragments of bones which had been dug out and afterward thrown back. These two skeletons were lying on the back, extended, with heads toward the west, the upper one across the lower, the spinal column crossing and in contact with the lower portion of the chest of the under skeleton;

the heads and pelves were in contact. Immediately beneath them was a bed of ashes and charcoal, and the bones of the legs showed blackening and charring by fire. At the feet were a rough paint mortar and three rounded brook pebbles of the variety generally used as hammerstones, together with the bones of two birds and one bird bone which had been pointed as an implement. On the left side of the chest of the lower skeleton, between the ribs and the flexed forearm, with its mouth directed toward the feet (east), was a cylindrical vessel of magnesian mica, some 10 inches long and of oval section. This "vase" was empty and the position in which it was found showed that it had been hugged to the left side by the left arm of the person with whom it had been buried. While the soil in which these skeletons were found was rather loose and not at all tightly packed, the cavity formed by the arching ribs was nearly empty; only two handfuls of dirt had sifted through the spaces between the ribs of the lower skeleton. The interments thus seem comparatively recent in spite of the fact that other bodies had been buried above these two. That the two recovered individuals had been buried simultaneously was equally manifest. These two skeletons were located 4 feet from the edge of the levee and in what must have been the outer edge of the upper flat portion of the mound at the time of its occupancy.

STRATIFICATION

On the southwest side of the levee was a strip of the mound remaining undisturbed. It was from 5 to 10 feet in width between the rise of the levee and the ditch cut in dredging, and presented toward the false channel of the slough an almost vertical face, represented in the map as the portion between A and B. This vertical face through the mound nearly at the edge of the high central portion which must have been the place of erection of huts, exhibited the stratification of the original mound. From the surface to the base at the highest part of the section, midway between A and B, the strata are as follows.

Surface stratum: light yellowish brown clay mixed with sand and humus and covered with weeds and brush: 18 inches thick, tapering to 6 inches at either end of the section.

Second: at the junction of the surface stratum and the third layer is a clearly defined series of ash deposits, not continuous, but pretty well distributed, and varying in diameter from a few inches to 2 or more feet, and in thickness from a mere trace to 3 inches.

Third: a stratum of black adobe 6 inches in thickness on the upper surface of which were the ash deposits mentioned. It is noteworthy that this stratum is not parallel with the upper surface of the top layer or surface stratum, but that it has a much greater radius of curvature—is more nearly level—than the surface, and that it is very even in thickness, varying not more than 1 inch in this respect.

Fourth: underlying the black adobe is a thin layer of sandy clay light yellow in color and imperceptibly shading into a mass of ashes, flint chips, worked flints, bone flakes, broken baked clay balls, and fragments of game and fish bones.

Fifth: a stratum of clayey sand, similar to the upper soil of the fourth stratum, and varying in thickness from 1 to 3 inches.

Sixth: another layer of sandy soil about 3 inches thick mixed with ashes, bones, worked flints, etc., and containing an immense number of minute flint and obsidian chips, such as would be pressed off in retouching.

Seventh: the soil forming the mass of the mound, which apparently had not been disturbed. It is a very tough and tightly packed yellowish brown clay and is hard to dig. It extends to the water level of the slough.

The fourth and sixth strata were evidently formed by the slow accumulation of house refuse and what appeared to be the sweepings from the shop of some aboriginal manufacturer of flint and obsidian tools. Several good arrow joints were found in these strata, together with a few bone and horn implements, a fish spear, and numerous baked clay balls.

Excavation was carried forward to the edge of the levee and the strata as enumerated were found to be continuous and unbroken up to the point where the work was stopped by the embankment. At no place had any of the strata been disturbed, nor had this portion of the mound been dug into either by the natives for burial or by collectors. To make sure, however, that nothing was being overlooked, I had the bottom layer dug to a depth of 1 foot. It was exceedingly tough and tightly packed and rather difficult to dig; it contained no ashes, charcoal, bones of animals, shells, flint chips, or implements of any sort, and in fact nothing which showed the slightest trace of use by man, with the following exception:

At a point one-third of the distance from A toward B, where the width of the part of the mound between the edge of the cutting and the levee was about 8 feet, and some 4 feet from the edge of the

cutting, four human skeletons were found 8 inches below the surface of this bottom soil and in dirt that was as hard and compact as the soil on either side or below. The soil gave no indication of ever having been disturbed, and the unbroken strata above furnished conclusive evidence that the burials were not intrusive. These skeletons[9] lay parallel and close together, occupying a lateral space of 5 feet; nothing whatever was buried with them, and careful search for a considerable distance around the bones failed to disclose any artificial product. With the exception of one,[10] which was huddled up with the legs flexed upon the abdomen, the bodies had all been buried extended, lying upon the face, with the head turned slightly to the left; the axis of all was NE–SW, with the heads to the NE. Great difficulty was experienced in removing these bones owing to the toughness of the soil and their great frangibility; but some of them were successfully obtained intact.

These four skeletons are probably the oldest human remains that have thus far been found in the vicinity, and the presence of the several unbroken strata above them would seem to indicate that a considerable period had elapsed since their burial.[11]

Numerous trenches and prospect holes, dug at almost all other parts of the mound, failed to locate anything more than mixed bones showing previous excavations, with an occasional implement, hammerstone, pestle, or awl. Work was therefore abandoned and camp broken on August 15, 1900.

THE CLAY BALLS AND POTTERY

So far as I am aware, the baked clay balls have been found only in the vicinity of Stockton; but in the mounds, camp sites, and refuse heaps hereabout they are very common. They seem to be of two general sorts: first, those which are perfectly *plain,* rough, and evidently moulded by the hands, generally of a dark brown color, and showing repeated heating; second, specimens of various forms, simply *ornamented.* These are relatively few in comparison with the first class, are of a lighter color, and generally show no signs of having been used. Barr has gathered these for some years. I have carefully examined all of his specimens.

[9] Numbers 3, 4, 5, 9 of the field notes, of which the first three have the permanent Museum numbers 12–11, 12–12, and 12–13.

[10] Number 12–11.

[11] They do not show any significant difference from other skulls from the Stockton area in the University Museum, either in appearance or measurements.—Ed.

Certain characteristics are common to both the plain and decorated balls. They are made from a yellowish clay slightly mixed with grit and are of forms and sizes easily moulded with the two hands; they are fairly well fired. Most of the specimens show that they have been fashioned by simple hand moulding; a few, while not exhibiting this fact unmistakably, could readily have been made in such a manner. In no instance has any specimen of this sort, either decorated or plain, been found associated with the bones of a dead person, in, or near, a grave, or in general in such a location as to lead to the belief that these clay balls were highly regarded or buried with the dead. On the contrary almost all of them have been found in, or near fireplaces, refuse heaps, abandoned camp sites, etc.

Of the plain variety, the enormous numbers of fragments and goodly quantity of perfect specimens all show repeated heating and cooling, and their presence in the refuse heaps and ash pits leads to the belief that they were purely utilitarian. When it is remembered that the soil for miles around is quite free from stones of size usable for cooking stones—a pebble the size of a hen's egg is large and rare —and when we recall the very important place that cooking stones held in the domestic economy of the California Indian, an explanation of these clay balls presents itself. Following the discovery that baked clay makes a very good substitute for stone would be the moulding and baking of suitably sized masses of clay for use as cooking stones. Repeated heating and rapid cooling soon cracks fired clay, hence the large number of fragments.

The decorated and unused specimens are but the next step in the process of evolving manufactured articles from this comparatively newly discovered material. I think they were not made with any special purpose. They seem to me rather the expression of the fortuitous moulding of the pliable clay in the hands of one whose occasional occupation was the making of balls to be used for cooking stones. The shapes are truly primitive, as, for instance, a mass about equal to that of the ordinary cooking ball flattened and rounded by patting between the hands and decorated by simple indentation with the finger nail or with a twig.

Idle effort having once demonstrated the possibilities of the easily worked clay, directed effort might produce many forms and lead eventually to the development of the potter's art. I cannot but look upon these simple objects of baked clay as exceedingly interesting specimens, representing, as they seem to, a preliminary step toward the discovery of true pottery.