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OBSERVATIONS ON KJÖKKEN MODDINGS
AND THE FINDS IN ANCIENT¹ GRAVES IN SOUTHERN CALIFORNIA²

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The deposits of shells and bones that constitute the kitchen middens of the earlier inhabitants on the coast of California, the Indians, in external appearance completely resemble those in Oregon, which I have described in the Report of the Smithsonian Institute of 1873, and which manifest themselves everywhere on the American coast of the Pacific Ocean -- at least as far as it has been explored in this context. Granting that certain varieties of shells and bones of the vertebrates are different, owing to local conditions and the age of the strata, we find, nevertheless, that they, as well as the stone objects found with them, resemble the Kjökken Møddings in distant Denmark.

I differentiate two types of such deposits: one deriving from temporary occupation, the other from permanent occupation.

The earlier inhabitants occupied the temporary campgrounds only during a favorable season, to gather their provisions of marine shellfish. We therefore do not find any sign of houses, no assemblages of flint fragments that point to an earlier existence of a workshop, where arrow- and spear-points and the stone knives were manufactured. On the other hand there are extremely sparse stores of bones of land animals, and graves are entirely lacking. Thin sandy layers once deposited by the wind indicate the temporary

¹The somewhat indefinite designation "ancient" probably can be applied only to the last two centuries. According to the reports of various travelers, the utensils of the wild Indian tribes formerly living in Southern California were of exactly the same nature as those found in the tombs (see Waitz, Anthropologie der Naturvölker, V. IV, p. 240, and H. H. Bancroft, The Native Races of the Pacific, Vol. I, pp 407 and 408). The islands of the Santa Barbara channel also still were inhabited until the end of the last century by natives, and therefore we should not attribute a very great age to the tomb finds described in the next article. In any case, the communications of Mr. Schumacher seem to have more importance for the ethnology than for the prehistory of America. (ed)

²The following article was received by the editorial office in July 1875. At about the same time the office received from the author an issue of October 1874 of the periodical published in San Francisco and entitled "Overland Monthly," in which the communications of the author are published, however without illustrations. The study presented here is a translation made by the author himself from the English original, in somewhat abridged form. (ed)

*Translated from the original German by Dr. Fred Stross, Research Associate of the Archaeological Research Facility. Original article in Archiv für Anthropologie, Vol. 8, pp 217-221, 1875.

absence of the inhabitants, but only by carefully studying vertical cross sections of such shellmounds, which we mostly find on sandy ground or the dunes.

Permanent habitations on the other hand are constructed on solid, albeit easily worked ground, and they are recognized by masses of flint fragments and rock debris brought in by diverse mollusc shells that had been taken from the rocks, as well as from the sandy shore, and by the bones of diverse land animals. The practiced eye of the expert then also soon discovers faint circular depressions in the soil, which sometimes are located in regular rows, usually on a hill which commands a free view, and which indicate to us the locations of houses of earlier times.

The graves I always found within a radius of 150 meters from the former village, in Oregon even only a few paces from the domiciliary depressions. Once one has located the site on which there formerly had stood huts, he should look for the most elevated location within the confines of the village, and he will not fail to find the graves there, provided that the soil did not prove too difficult to work with the primitive tools of inhabitants of that time. The nature of the graves themselves is as follows: About 5 feet below the surface, the sandy floor was calcined by means of a vigorous fire, which produces a hard brick-like crust about 5 inches thick. This cavity is subdivided into small spaces that contain the skeletons by means of flat sandstones about 1-1/4 inches thick, a foot wide and 3 feet high. Usually this sort of slab was placed horizontally above the skull, as a protective cover, exactly as I found it at the Chetko River in Oregon, except that those graves were lined with the easily cleaved redwood (Sequoia sempervirens) instead of stone slabs. Painstakingly executed linings, however, which required hauling in the material over great distances, were not the rule, but evidently signified wealth, for in the case of such skeletons always there were present votive objects, which most often was not the case with the others. As to the stone slabs, I found them painted in most cases. One slab, which I took with me, exhibited 32 red stripes opposite each other on both sides of a dark center line, at an angle of 60°; this design thus reminds one of a fir or the backbone of a fish (Fig. 58). In most cases, however, only the lower surface of the stone was colored red. In the graves outfitted in this manner the skeletons were lying on their backs with knees pulled up and, usually, arms extended -- so that the hands were lying adjacent to the feet -- without, however, placing them preferentially in any particular direction. They often were lying about in great disorder, with the evident intention of reducing the room needed for the corpses to a minimum. In the case of female skeletons, instead of the horizontal slabs we find a mortar placed on its edge as a protective device, so that the skull reposes in the cavity; if it is a pot with too narrow a neck to receive the skull, we find it buried under the head. Bowls and jewelry are placed most often near the head, while beads are found in the mouth, in the eye cavities, and the sand-filled brain cavity, forced there through the foramen magnum by the pressure load of the covering. It is striking that in some cases the skeletons are lying on top of one another, and sometimes closely packed next to each other, so that the uppermost are often found only a few feet from the surface. Such burials contain the fewest votive gifts, as I often had occasion to notice, and they were mostly burials of women. However, there is no evidence for the assumption that these were slaves of some rich man of the tribe, for I usually found the lowermost skeletons disturbed in

such a conspicuous manner that it could have happened only by opening the grave after decomposition. Thus for instance I found a lower jaw-bone, in its proper place, but placed upside down, so that both rows of teeth pointed downward; in another case the thigh bones were placed with the knee pointing toward the pelvis, and frequently the bones were completely separated and interchanged. Such disturbances in the placement of the skeletons led me to the assumption that the corpses were buried at different times, and that the disorder was brought about by repeated re-opening of the graves. The objects found with the skeletons were in the correct position, which is easily ascertained especially in the case of the mortars and pots; this is a reason for not assuming a later disturbance by action of a different tribe. Charcoal is present in large quantities, with few exceptions consisting of the redwood mentioned above, which at present is found in this region only in the form of driftwood. Sometimes one finds remnants of split rails 3 to 6 inches in diameter, and of boards that were approximately two inches thick. Viewing of such remains instinctively suggests that they represent the last remains of the habitation of the departed, placed in the grave in the form of ashes, together with the other possessions -- and this custom I had occasion to observe in the case of the Chetko Indians a year ago.

The household utensils that I found in the course of excavation of approximately 300-400 skeletons in the graves [of the settlements] designated Kesmali, Temeteti, Nipomo, and Walecha¹), remain so similar in their aspect and their nature that it is not necessary to attribute them to the respective graves, for they apparently belonged to branches of the same tribe.

The large cooking-pots, which are made in spherical shape from micaceous schist, are especially remarkable, (Fig. 59). The opening, which has a small protruding lip, is only 5 inches wide on a pot measuring 18 inches in diameter, and the wall near the opening is only 1/4 inch thick, but going to ward the bottom increases with greatest regularity to 1-1/4 toward the bottom. Pots from the same material were also excavated, which from the point of widest diameter downward become more narrow, and appear more modern, by virtue of their wide opening (Fig. 60). Others become narrower toward the top, in a pear shape (Fig. 61). A whole assortment of dishes was brought to light, which measure 1-1/4 to 6 inches in diameter. (Figs. 62 and 63). Some, including a few of fine shape, are made of serpentine and are polished. The smallest dish that was excavated I found enveloped in three shells (Fig. 64); it contained hardened black pigment. It is remarkable that all these dishes had traces of color on them, and some were even filled with it, and we can therefore assume that such dishes were not used in partaking of food. Then there also was a pan equipped with a handle, (Fig. 65) and a plate, similarly made of micaceous schist, which had a hole that clearly showed that it had been made with a drill (Fig. 66). The mortars of sandstone

¹The three first-mentioned graves are located within 14 English miles from each other, and not more than 7 English miles from the coast; Walecha on the other hand is 35 miles from the coast of San Luis Bay on the Santa Maria River.

(Fig. 67), vary widely in size; they were found to range from 3 inch-diameter (at the widest part of the cavity) and a 1-1/2 inch height, to a diameter of 16 inches and a height of 13 inches, with corresponding pestle (Fig. 68). No spoons or knives were found in the graves. On the other hand three fine funnel-shaped pipes of serpentine were found, which resemble those found in Oregon in form, although they are considerably more substantial (Fig. 69).

Few weapons were found, but what little there was, was mostly of excellent workmanship. Only one spearpoint of obsidian was found, 5-1/2 inches long; another spearpoint of chalcedony, 9-1/2 inches long and 1-1/4 inches wide is of very beautiful form and of most careful workmanship.

As concerns ceramic ware, I found during my investigations only one noteworthy object, the vessel shown in Fig. 70. The clay body as well as the glaze is coarse-grained, and the different rosettes, which are of primitive form, apparently were pressed in freehand, for the impressions are not equal in depth, and their placement varies. Because of the small number of such objects found on the Californian coast it is difficult to come to a conclusion as to whether pottery was practiced by the natives themselves, which I am inclined to doubt a priori, or whether those objects were acquired from the peoples of Mexico skilled in the art of pottery, by barter; or whether they, as well as other objects, such as the glass beads frequently found, derive from the time of Christian missionaries, when objects from the higher civilization were introduced among the natives.

Another object with an equally dubious pedigree, since nothing similar has yet been found here, is a bronze cup (Fig. 71). It is molded and the handles are riveted to it; the ornamentation consists of straight lines, in a manner similar to that of the Hallstadt finds. The space between the leg and the lowest line decoration of the cup fragment is divided into small squares having a diameter of a pinhead, by means of shallow grooves, but they are pronounced only in some spots; moreover the cup still exhibits a design, which goes from the vicinity of a hold (molded) toward the pedestal. Inside the cup one can see lanceolate leaves forming a star in the middle of the bottom, especially when the cup is wet. The entire vessel is covered with fine vert antique.

I turned over my collections to the well-known Smithsonian Institution in Washington, at whose expense I shall soon organize a fairly substantial field trip having the exploration of the islands in the Santa Barbara Channel as its objective.

San Francisco, California, March 1875

Fig. 59.

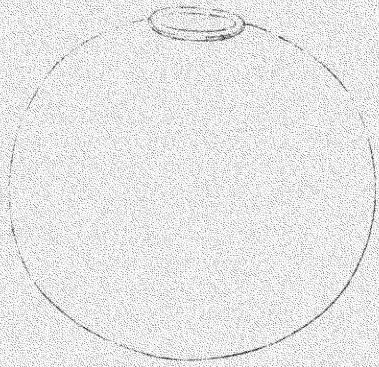


Fig. 60.

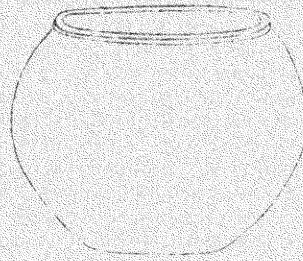


Fig. 61.

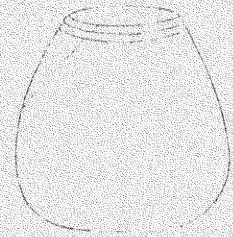


Fig. 62.



Fig. 67.

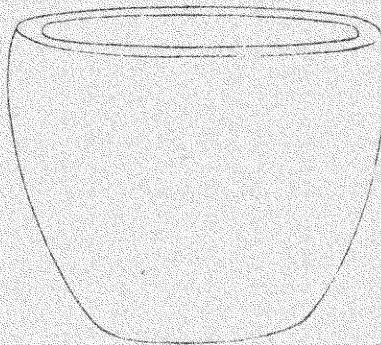


Fig. 70.

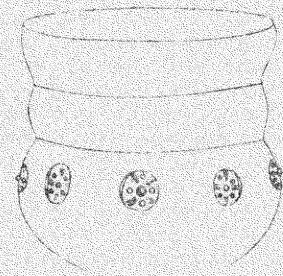


Fig. 63.



Fig. 64.

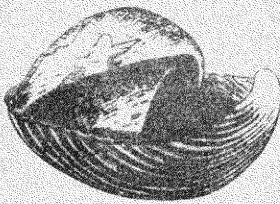


Fig. 65.



Fig. 66.



Fig. 71.

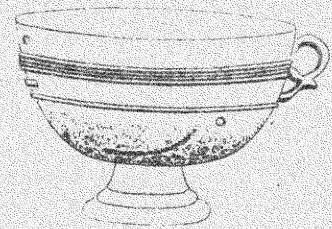


Fig. 58.



Fig. 68.



Fig. 69.



Captions of Figures:

59-61, pots; 62-64, pan; 66, plate; 67, mortar; 68, pestle; 69, pipe; 70, pot of clay; 71, bronze cup; Fig. 64, 69 are represented in 1/2, Fig. 62, 63, 70 in 1/8, Fig. 66, 71 in 1/4, Fig. 59, 60, 61, 65, 67, 68, in 1/8 and Fig. 58 in 1/12 of natural size.