

REPORT ON THE OPERATIONS OF A SPECIAL PARTY FOR MAKING ETHNOLOGICAL RESEARCHES IN THE VICINITY OF SANTA BARBARA, CAL., WITH AN HISTORICAL ACCOUNT OF THE REGION EXPLORED, BY DR. H. C. YARROW, ACTING ASSISTANT SURGEON, UNITED STATES ARMY.

UNITED STATES ENGINEER OFFICE,
GEOGRAPHICAL SURVEYS WEST OF THE 100TH MERIDIAN,
Washington, D. C., December 18, 1875.

SIR: I have the honor to submit herewith a report of the operations of a special party under my charge detailed by you for the purpose of making ethnological researches in the vicinity of Santa Barbara, Cal. The report, as will be found, is prefaced by a short historical account of the region explored, as given by Cabrillo, a Portuguese, who visited the coast of California in 1542.

Very respectfully,

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A. A. Surg. U. S. Army, Surg. and Zool. to Expedition.

Lieut. GEO. M. WHEELER,
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On the 27th day of June, 1542, Juan Rodriguez Cabrillo, a Portuguese navigator in the service of Spain, left the port of Navidad, New Spain, with two small vessels, the San Salvador and La Victoria, to explore the coast of California, which he sighted on the 2d of July. Proceeding along it, on the 7th of October he came in view of two islands some distance from the mainland, which he named after his vessels; these islands, lying in Santa Barbara Channel, southwest of San Pedro, and now known as San Clemente and Santa Catalina. On these islands, Cabrillo found many aborigines, who at first showed great fear of the Spaniards, but finally, becoming friendly, told him of numerous other Indians on the mainland. Resting here but two days, he set sail on the 9th. Shortly afterward, reaching a spacious bay and following its shore-line, he soon came upon a large village of Indians close to the sea-shore. Here his ships were visited by the savages in canoes, from the great number of which he called their town Pueblo de las Canoas. It would appear impossible to fix the exact site of this town, but circumstances point to the city of Santa Barbara as the locality. On the 13th, resuming his voyage, he passed near two large uninhabited islands, now known to be Santa Cruz and San Miguel, and anchored in front of an extremely fertile valley. Here he was visited by many natives coming to sell fish, who informed him that the whole coast was

densely populated as far northward as Cabo de Galera, or Point Concepcion of the present day. Northwest from the Pueblo de las Canoas, he discovered two islands, which he named San Lucas, afterward known as San Bernardo, and which at the present day are supposed to be those of Santa Rosa and Santa Barbara. Point Concepcion was reached by this Portuguese navigator on November 1, after much suffering from cold, winds, and tempests. Anchoring near this place to obtain wood and water, he called the port de las Sardinias, from the abundance of fish thereabouts. Here were found many natives of most friendly disposition, one of whom, an old female, said to be the Queen of the Pueblos, came off to the captain's ship and remained two nights. Returning to the Island St. Lucas on account of bad weather, on the 3d of January, Cabrillo died on the island called la Posesion, believed to be the present San Miguel. Of the manner of his death, and his notes in regard to the Indians he saw, we shall have occasion to speak hereafter. With this account of one of the earlier explorers of the region to be visited by ourselves, as a proper preliminary to a report of our own operations, we now proceed to give the latter in detail, first, however, briefly mentioning the circumstances which led to the exploration in question.

It is reported that some years ago the captain of one of the small schooners common to the Pacific coast returned from a visit to the island of San Nicholas, and stated having seen quantities of pots, stone implements, skulls, and divers sorts of ornaments on the surface of shell-heaps, which had been uncovered by storms, and exhibiting in proof of his assertions a number of these articles which he had brought with him, and which he distributed among his friends. It is reported that this captain again visited San Nicholas and its neighbor, Santa Catalina, and returned with a full schooner-load of relics, but this part of the tradition lacks confirmation.

Little attention was paid to this most valuable archaeological discovery until 1872 and 1873, when Mr. W. G. W. Harford, of the United States Coast Survey, happened on the islands of San Miguel and Santa Rosa, lying to the northward and westward of the islands before mentioned. From these islands this gentleman procured a small but exceedingly valuable collection of interesting objects, which came into the hands of Mr. Wm. H. Dall, a most intelligent and enthusiastic collector, from which he deemed the locality of sufficient importance to visit it in person. This he did in the winter of 1873 and 1874. Mr. Dall visited San Miguel and Santa Catalina, but as his time was limited, no thorough examination was made of this mine of archaeological wealth lying then temptingly open to view. He, however, procured many interesting specimens. During the same season, Mr. Paul Schumacher, well known for his investigations farther up the coast, discovered in the vicinity of San Luis Obispo and the Santa Maria River, deposits similar to those found on the islands. The results of these discoveries being communicated to the Smithsonian Institution, this establishment determined to make a thorough and exhaustive exploration of not only the mainland, but also of the islands; and, in the spring of 1875, Mr. Schumacher was named to conduct the work in behalf of the National Museum. By a fortunate coincidence, one of the parties of the Expedition for Explorations west of the One hundredth Meridian under the War Department, of which the writer was placed in charge, was about to visit the Pacific coast, and an arrangement was entered into whereby hearty co-operation and unity of effort were effected. Mr. Schumacher was to explore the islands, and the

Exploring Expedition party the mainland along the coast from Santa Barbara north for a distance of 20 or 30 miles.

Leaving San Francisco June 4, after a pleasant sail of forty-eight hours, we arrived at Santa Barbara, the Pueblo de las Canoas of Cabrillo, and there found the other members of the party, consisting of Dr. J. T. Rothrock, botanist, and Mr. H. W. Henshaw, ornithologist, whom you had directed to assist in the enterprise. Arrangements were at once made to explore the neighborhood, and the day following that of our arrival we started, and under the guidance of the Rev. Stephen Bowers, whom we were informed had already made some excavations in the section about to be visited, for the ranch of T. Wallace More, near the little village called La Patera, some eight miles from Santa Barbara. Arrived at a spot where our guide informed us he had found a few bones and arrow-heads, the work, digging a trench in a north and south direction on a cliff overlooking the sea and probably 80 feet above it, was at once commenced. There were no indications that this locality had been used as a burial-place, but after digging a few feet, and beyond some loose bones that had been reinterred by Mr. Bowers on the occasion of his first visit, we came to an entire skeleton in situ. It was lying on the right side, facing the west, with the lower limbs drawn up toward the chin. No ornaments or utensils were found, but a quantity of marine shells were near the cranium. Continuing the excavation deeper, two other skeletons were discovered in a similar position to the first, and near them a few broken arrow-heads. These were removed and the excavation extended downward and backward from the sea-cliff, the labor being rewarded by the finding of seven other skeletons. These latter, however, were huddled together and gave no evidence that care had been taken in the burial of the bodies to place them in any particular position. Near by were a few shell-beads and other ornaments, and an abalone shell (Haliotis splendens) containing a red pigment. The bones were so friable as to crumble to pieces on exposure to the atmosphere, and on this account none could be secured. On excavating to a depth of 5 feet, a layer of marine shells was reached, under which was a firm stratum of yellow, sandy clay, beneath which, as our subsequent experience proved, burials were never made. After digging for several hours, and finding nothing further of special interest, the trench was refilled.

Moving around from place to place in the field, our attention was finally attracted to a depression in the center of it, some 200 yards from the sea-cliff, which on examination gave undoubted evidences of being a burial-place, ribs and vertebrae of whales being scattered about, and small inclosures found that had been made in the earth by setting up large flat stones on their sides. Digging into one of these inclosed areas, broken bones and some broken pestles and mortars were found, but nothing of special value. The excavation was continued to a depth of 3 feet only, which, as subsequently ascertained, was not sufficient. We left this locality for a time.

While engaged in the interesting search in question, Dr. Rothrock, who had strolled off some distance after botanical specimens, communicated to us that he had discovered, on the opposite side of a small estero to the northward, a locality which he believed to be a burial-place, founding his belief on the fact that he had seen a number of whales' ribs, placed so as to form arches over certain spots. As we well knew that the Santa Cruz

Island burial-grounds were similarly marked, we anticipated a "good find," and, indeed, so richly were our anticipations rewarded that we named it the "Big Bonanza." The annexed diagram will give an idea of this place and the several other localities already mentioned.

The next morning found us at an early hour near the spot discovered by Dr. Rothrock, and from the surface indications it could hardly be doubted that at some period it must have been a burial place of note. The surface of the ground, instead of presenting the appearance of mounds, or hillocks, was rather depressed in a semicircular form, and in various spots ribs and vertebrae of whales had been partially buried in the ground, the ribs in some instances being placed together, as reported by Dr. Rothrock, in the form of arches. Selecting what appeared to be a favorable place, 20 feet from the edge of the cliff, fronting the estero shown in the map, a trench was commenced running due north and south. Two feet below the surface the first indications of burials were reached, quantities of broken bones being met with at every stroke of the spade, interspersed with pieces of whales' bones and decaying redwood. At a depth of 5 feet the first entire skeleton was found in position, and near it several others were subsequently uncovered; in all of them the head fronted northward, the face was downward, and the lower limbs were extended. Over the femur of one of the skeletons was a flat plate of steatite, a sort of soapstone, 12 or 14 inches square, with a hole in one end, which we called a "tortilla-stone," its probable use having been for cooking their cakes, or tortillas, the hole in the end serving to withdraw it from the fire when thoroughly heated. In rear of the skeleton, and to one side of the plate, was an olla, or jar, of steatite, broken, but containing some fine glass beads and human teeth, and behind this a stone pestle of symmetrical shape, about 3 feet in length, of a hard species of sandstone, and another plate of steatite, and two large ollas of over five gallons capacity, their mouths or apertures fronting north, and just above was a single cranium facing the cliff, face downward, and on top of it a single femur. Continuing the excavations toward the cliff, a small sandstone mortar was exhumed containing a mass of red paint, and in its immediate vicinity a large number of beads of glass and shell with ornaments made from the lamina of the abalone shell, which is common to this coast, being found in great abundance on the islands some 20 miles distant. Digging still farther, other skeletons were found in similar positions, but in many instances the lower limbs were flexed upon the body, while in a few cases the fingers of the right hand were in the mouth. One skeleton was that of a child, near which were found beads, ornaments, tortilla-stones, and two more ollas, one of which contained portions of the cranium of a child. This skeleton had apparently been wrapped in a kind of grass matting, as small portions were found attached to the bones and scattered near by. In the olla containing the head-bones of the child were a great number of small black seeds, smaller than mustard-seed, which were recognized by one of the laborers as a seed used by the present California Indians and natives in making demulcent drinks and eyewashes, the Spanish name being chiya.

A second trench, opened 40 feet from the first, yielded quite a number of excellent crania and other specimens, among which were fish-bones, crenated teeth, (of fossil shark possibly,) and a very large olla containing bones and covered on top with the epiphysis of a whale's vertebra. The fol-

lowing are the notes furnished by the gentleman in charge of the excavations at this point: First trench, 6 feet by 2, running north and south, trending to the westward. Indications of burials, whales' bones, and rocks set up vertically. Two and one-half feet below the surface found skeleton with face downward, head to the north. Three feet below surface reached a large flat stone, which being removed was found to cover ribs and shoulders of a female skeleton, head pointing north, body resting on left side. A small mortar was over the mouth, small sandstone mortar and pestle of fine workmanship near top of head. This locality proving rather unprolific, a second trench was commenced 40 feet below last, nearer cliff, and about of same size. Two feet below the surface to our great surprise a large steatite olla was discovered, which proved to contain the skeleton of an infant wrapped in matting. Unfortunately, upon exposure to the air, the bones crumbled away. Beneath the olla was a cranium, apex west, face north. Three feet below the surface were two skeletons in fair condition, with crania to the north. Our discoveries this day had developed so much of interest that it was not until darkness had overtaken us that we discontinued our work.

In order to give some idea of the amount of material recovered during the excavations, a record of each day's work follows:

June 10. -- This morning began work shortly after sunrise at both trenches opened the day before, digging in a westerly direction in the first. In this, numbers of crania and bones were found in similar positions to the first met with, and also several fine ollas, tortilla-stones, mortars, and pestles. All these utensils were invariably in the immediate vicinity of the heads of the skeletons; in fact, in many instances the crania were covered by large mortars placed orifice down. In the second trench, the digging was in an easterly direction, and the first discovery that of a skeleton and a fragment of iron near the right hand, probably a knife or spear-head, which, archaeologically speaking, was a source of great grief to us, our hope being that no remnants of Spanish civilization would be found in these graves. It could not be helped, however, although a great deal of pre-historic romance was at once destroyed. Near this skeleton was another, and by its side the first pipe met with, which was similar in appearance to a plain modern cigar-holder, and consisted of a tube of the stone called serpentine, 8 inches long, the diameter of the wider orifice being a little over an inch. At the smaller end was a mouth-piece formed from a piece of a bone of some large water-fowl, and cemented in place by asphaltum. How these pipes were used with any degree of comfort is impossible to surmise.

Continuing this excavation, the next discovery was a steatite olla containing a skull, differing in many respects from those found in the graves; if from one of the same tribe, it shows marked differentiation. Near the olla was a large sandstone mortar, over 2 feet in diameter, and behind it another olla containing more bones, and another pipe, 10-1/2 inches in length, and near this latter article a smaller olla filled with red paint. It should have been mentioned that from this trench was procured a femur showing evidences of a fracture through the neck of the bone, which had become absorbed, the head uniting to the upper portion of the shaft between the greater and lesser trochanters. Further search revealed at the

same depth a mortar, covered by the shoulder-blade of a whale, which also contained the skull of an infant covered with an abalone shell, while near by was paint, piece of iron, a nail, and various shell ornaments and beads. Near at hand, to the rear, were a broken mortar and pot underneath, which was a small olla, the whole covering the skull of a child; and a little deeper a skull resting upon a fine, large, pear-shaped steatite olla, the outside of reddish color. These remains appeared to have been inclosed in a sort of fence, as a plank and stakes of decayed redwood were near by. At the bottom of this trench, just above the firm clay, and under all the specimens just described, was a fine sandstone pestle 17-1/2 inches in length.

June 11. -- Continued in same trench, advancing in a northerly direction toward trench No. 1. At a depth of 4 feet were two skeletons, and near them was a square cake of red paint; alongside were two more skeletons, over one of which was a large mortar, mouth downward, and close by another similar utensil. Under this skeleton was an instrument of iron 14 inches in length, a long iron nail, and two pieces of redwood, much decayed. A little farther in was a small canoe carved from steatite. All the skeletons were face downward, heads to the north. In trench No. 1 the digging was continued in a southerly direction. The first object encountered was an enormous mortar, 27 inches in diameter, with its pestle near by. This article was on its side, the mouth toward the south; around it were no fewer than thirty crania, some in a fair state of preservation, and others very friable, broken, and worthless. Lying on top of this mortar, on further removal of the earth, was an almost entire skeleton, with fragments of long bones and of steatite pottery. As surmised by some of the party, the perfect skeleton was that of a chief, and the remains those of his slaves slain with him; which is at least a possible, if not a plausible, view of the case.

Experience by this time had taught us that nearly all the burial-places or spots had been carefully marked, since near the head of each skeleton were either bones of the whale or stakes of redwood.

Being obliged to leave for Los Angeles June 12, the work was continued by Mr. Bowers, who, up to June 25, secured the following articles from the two trenches in question, viz: 32 skulls, 24 large steatite ollas, 6 large mortars, 7 large pestles, 2 small serpentine cups, 7 tortilla-stones, 7 abalone shells, 3 iron knives, 4 stone arrow-heads, 1 iron ax of undoubted early Spanish manufacture, quantities of glass, shell beads, paint, shell ornaments, black seed of the character previously mentioned, 2 pipes, 2 soap-root brushes with asphaltum handles, and a copper pan 8 inches in diameter, which were found covering the top of a skull -- the copper evidently having preserved a portion of the hair, which was quite black and silky, and not coarse, as is usually the case with Indians.

June 25. -- The same excavation No. 2 was continued, and 3 crania were uncovered, also an olla containing the bones of a child, not far from which were 3 mortars and 2 ollas. Just above the stratum of clay the most interesting discovery was made of an entire skeleton, which had been buried in a redwood canoe, but which was so decayed that only a small portion could be preserved. Near the head of the canoe were a large olla and mortar, the

mouths northward. On removing the skeleton, which was lying on its back, the bones fell to pieces. In the canoe, alongside of the skeleton, were 3 pestles, 2 pipes, an iron knife or dagger blade that had been wrapped in seal-skin or fur, and a stone implement of triangular form and about 6 inches in length, probably used as a file, or perhaps for boring out pipes.

June 26. -- Trench No. 2 was abandoned and work resumed in No. 1, which yielded several crania in bad condition. Near a whalebone, standing on end, was an empty broken olla, and not far off a skeleton on its right side, legs drawn up, head facing west. On its right-hand side, near by, was a small highly-polished serpentine cup and a small mortar and pestle. After excavating awhile and finding nothing but broken bones, digging here was discontinued and an excavation commenced ten feet to the northward and near the edge of the cliff, but after going down 5 feet through kitchen refuse, ashes, bones, shells, it was filled up and work resumed at the same trench. Several hours' digging resulted in finding nothing, but finally the "lead" was once more struck. The first discovery was a skeleton, which, from the appearance of the pelvic bones, was that of a female, and near which were great quantities of beads, shell ornaments, and seeds. It was here we first encountered what at first sight appeared to be dried cloves, but which, on closer examination, proved to be ornaments of asphaltum, hollow in the center, and in some instances having at one end a small piece of dried grass or fiber, by means of which doubtless they were fashioned into necklaces. Some abalone shells were also found, in close proximity to which were the bones of a child. Another mortar was discovered, containing some bones in bad condition.

June 27. -- Being Sunday, operations were suspended until the next day.

June 28. -- Work was resumed at trench, No. 1 but for 6 or 8 feet nothing was met with save isolated bones. Digging to the southward, however, a skeleton was found with top of head to the northward, the position of which was nearly face downward. On its removal and beneath it was a large mortar, cavity down, slightly tipped, and facing west. In another direction, to the eastward, was a large sandstone mortar facing north, and beneath it a skull in good condition, while near by was a small olla containing ornaments of shell, beads, seeds, and paint. Deeper down, still another small olla was revealed, filled with the black seeds, and near it a small pestle. A number of crania and bones were also found, but all in bad condition. One of them, however, was particularly interesting from the fact of two arrow-points, one of a porphyritic stone, the other of obsidian, being imbedded in the outer table of the skull. From the position of the arrows it was inferred that the wounds were received by the person while lying down. Digging in a northerly direction in this trench, 8 or 10 more skeletons all huddled together, were exhumed, also 2 small pestles, 2 mortars, and some abalone shells containing ornaments. In one of the larger of these shells were the head-bones of a young child, and near it two polished serpentine dishes, containing some of the clove-like asphaltum before alluded to. A broken dish had been neatly mended with asphaltum and probably sinew, as drilled holes were found in both pieces.

Not far from these cups was found a leather(?) pouch curiously ornamented on the outside with circles of shell-discs.

On June 29, finding that our labor was not as richly repaid as formerly, further excavation in this locality was delegated to Mr. Shoemaker, who, having discovered only 6 crania, and these in poor condition, after six hours' faithful labor, the "Big Bonanza" was abandoned, and in the meanwhile the writer was prospecting.

Crossing the estero, and reaching the ranch of T. Wallace More, esq., we visited the asphaltum mine, from which it is probable the Indians whose resting-places we had been so ruthlessly disturbing, procured their supplies of this, to them, most precious material, since it must have been extensively used in fastening on their arrow-heads or spear-points, and in mending and filling up cracks and holes in their canoes. Not far from this mine, the spot was reached which has been mentioned as that where burials were indicated by whalebones and flat stones, and it was determined to explore it next. Near it was a depression, in which appeared to have been either a threshing-floor or dancing-place, oval-shaped and 60 feet long by 30 or 40 wide. It had been beaten or trodden down so firmly that no vegetation could flourish thereon. In the afternoon, not far from camp, one of the party discovered some fragments of human bones which had been thrown out of a squirrel-burrow, which circumstance led us to search for relics. Opening a trench 300 yards to the westward from camp, at a depth of 3 feet, some broken bones were found and one skull; near the latter were a quantity of beads and a matted mass of fur, apparently of either the seal or sea-lion. After some hours' fruitless labor, digging in this locality was discontinued. This was the only instance in our experience where the burial of but one individual had taken place.

On the following day, one of the laboring party, assured of finding something to repay further labor in the "Big Bonanza," urgently suggested the same, whereupon excavating was again entered upon at that place; and, curiously enough, after a little digging, a remarkably fine knife of obsidian was discovered, nearly 10 inches in length; a bone implement, similar in appearance to a sword-blade; and two pipes, one of them ornamented. This ornamented pipe was the first of the kind we had met with, and we congratulated ourselves upon having yielded to the suggestion of the workman.

July 1. -- Resolved to excavate in the locality last discovered, and an early start was made. This trench in T. Wallace More's ranch was commenced 200 yards from the sea-cliff. At a depth of 2 feet broken bones were uncovered, and at 4 feet entire skeletons, which in many instances had been inclosed with flat stones, forming a kind of coffin. Some mortars and pestles were here also met with, as well as pipes, arrow-heads, and another fine spear of flint, and one of iron. After four days' hard work, with no other results than those mentioned, this trench was abandoned. It is doubtless probable that many more articles might have been found here, but the time that would be consumed in securing a few small articles was demanded where results would most likely prove richer and more interesting.

From Dr. Taylor, of La Patera, a gentleman who for years had

studied the ethnology and archaeology of the Pacific coast, we learned of the probable existence of burial-places at a spot some 12 or 15 miles up the coast, known as Dos Pueblos, Dr. Taylor having there seen the remains of numerous kitchen-heaps, inferred that a large population once lived in that locality, and that their dead would be found not far distant. Accordingly Dr. Rothrock and the writer started on a prospecting tour, and after a couple of hours' ride came in sight of the Dos Pueblos ranch, occupied by Mr. Welch and family. Making ourselves and object known to Mr. Welch, we received a welcome, and were invited to dig anywhere we might think proper. Mr. Welch showed us in his potato-patch numbers of broken bones that had been turned up by the plow; but being attracted by some whalebones partially imbedded in the earth of the sea-cliff near by, we immediately left the potato-patch, knowing from experience that where the whalebones are there also were graves. The position of these graves, as well as some others subsequently discovered, may be seen from the map. (See Sketch 2.)

The next day it was determined to move the entire party to this locality and excavate, which was done, the first trench being made at the point marked 1, near the brow of the cliff, where were whalebones and large, flat stones. At a depth of 4-1/2 feet, great quantities of bones were found huddled together, but no skeletons in a particular posture. In some instances, stone receptacles, similar to the one already described, were encountered, but from their infrequency this burial feature was apparently not common. All the bones were in a very bad state, much worse than those about La Patera, and but few were preserved. Throughout the graves, but not placed in particular position, were several large mortars, large and small ollas, pipes, beads, and ornaments, besides bone awls. In locality No. 2, the same class of articles was brought to light, but in larger number.

In the narrative of Cabrillo, by Bartolome Ferrel, this locality is called Dos Pueblos, from the fact of there being two towns on opposite sides of the creek, which runs down from the Santa Inez Mountains. These towns were densely populated with a mild, inoffensive people. We were informed by Mrs. Welch that she had heard from an aged Indian woman that two separate tribes, speaking different dialects, lived on opposite sides of the creek, which constituted the boundary-line between them, and that the tribes were not permitted to cross this creek without first obtaining each other's consent.

Continuing our excavations in No. 2, a long, straight pipe and a small mortar having a handle (the first of its kind,) and containing red paint, were found, and near the latter a pipe only partially bored out. On the opposite side of the creek a trench was opened beneath a gigantic piece of whalebone, but several hours' work revealed nothing but broken bones, and it was abandoned and work resumed in Nos. 1, 2, and 3. During the 6th, 7th, 8th, 9th, and 10th, the excavating was continued, resulting in the discovery of mortars, ollas, pipes, &c., and curiously enough in No. 3 of no fewer than 30 skeletons which had been buried in sea-sand, and under which were 3 fine stone spear-heads and some fragments of iron. In No. 2 were several large ollas and mortars, and near the head of a skeleton, presumably that of a female, some china cups and saucers of very ancient

shape. The time allotted to these explorations having now nearly expired, the remainder of our stay was devoted to filling up holes and packing the specimens. The specimens were roughly estimated as weighing from 10 to 15 tons.

Regarding the people of whom we have been speaking, and of whom no representative remains to tell of their history, but little could be learned; the crumbling bones and household gods we had so ruthlessly disturbed, were the only witnesses of the former existence of a once populous race; but beyond this they made no revelation, while careful examination of the entire literature of the Pacific coast proved fruitless in throwing light on these early generations. All the writers who speak of these aborigines, and it is but fair to state that few, if any, of them were possessed of original information on the subject, (having gathered their materials from Ferrel's narrative,) are of the opinion that they were friendly, peaceable, and inoffensive, which opinion is enforced by the absence in their graves of warlike implements to any extent. Cabrillo states that they were armed with bows, the arrows being pointed with flint heads, similar to those used by the Indians of New Spain; he also speaks of clubs, but mentions no other weapon. As to population, he states that on some of the islands there were no people, but that others were densely populated; the former we have not been able to identify. The Indians told him they had occasionally suffered from the attacks of warriors armed like the Spaniards, and from the fact that toward the middle of the eighteenth century the mission priests of Santa Barbara removed their savage parishioners from the islands to the mainland to escape the ravages of the Russians and their Kodiak allies, it is supposed that this warfare had been going on for a number of years. As to the extent of the population, we can form an idea only from the number of burials, at different points, and villages, the names of which have been handed down to us through Cabrillo. At a rough guess, our party must have exposed at their main trenches the remains of no fewer than 5,000 individuals, and, from what we have subsequently learned, there are hundreds of these burial-places along the coast.

With regard to the towns, the Indians informed Cabrillo that the whole coast was densely populated from the Pueblo de las Canoas to 12 leagues beyond the Cabo de Galera, (Point Concepcion,) and gave him the names of these towns. To the northward of their city was Xuco, Bis, Sopono, Alloc, Xabaagna, Xocotoc, Potoptuc, Nac buc, Omlqueme, Misinagua, Misisopano, Elquis, Colve, Mugu, Xagna, Anac buc, Partocac, Susuquiy, Omanmu, Gna, Asimu, Agnen, Casilic, Tucumu, Incpupu. These towns were in the immediate vicinity of the Pueblo de las Canoas. Near the Cabo de Galera, or Point Concepcion, as it is at present called, was the pueblo named by Cabrillo, "Pueblo de las Sardinias," in consequence of the great number of small fishes taken by the natives. In the neighborhood of this pueblo were the villages of Xixo, Cincacut, Cincut, Anacot, Maqumanoa, Paltated, Anacoat, Paltocac, Tocani, Opia, Opistopia, Nocos, Yutum, Iniman, Micoma, and Garomisopona. These towns or villages were ruled over by the aged queen to whom referencé has been made, the capital and seat of government said to have been Cincut. Cabrillo also gives us the names of some of the towns on the islands; for instance, on one of them, which he states is 15 leagues long, probably San Miguel, Niquipos, Maxul, Xugua, Nitre, Macano,

Nimitapol. On other islands not intelligibly specified were the towns of Ciquimuymu, Nicalque, Limu, Zaco, Nimollolli, Nichochi, Coycoy, Estoloco, Niquesesquelua, Poele, Pisqueno, Pualnacatup, Patiquin, Mnoc, Patiquilia, Nimumu, Piliaquay, and Lilibique. He also mentions that on an island south of Isle de la Posesion was one called Nicalque; on this were three towns, Nicoche, Coycoy, Coloco. From this extended list it may be inferred that a large population once lived in the region explored.

With regard to the time that these people disappeared we can only conjecture. From the mission records it appears that in 1823, the total number of Indians in the vicinity of Santa Barbara was upward of 900, but this census embraced all Indians, and not alone those from the islands and sea-coast. In 1875, the year in which we write, not a soul can be found to give any information as to the ancient inhabitants of this part of the coast. There is a tradition that many years ago a Mr. Neidifer, while on a trip to the island of Santa Cruz, discovered there, much to his surprise, an aged hag, and that he removed her to Santa Barbara, but no one could understand her language, and after a short time she died; also that she was a young girl at the time the Indians were removed to the mainland, and returning from the boats to seek her infant, in the hurry and confusion of the embarkation she was left behind; that when found she was clothed in furs ornamented with the feathers of birds. Doubtless this woman was the last survivor of the island tribes. As to the causes which led to the total extinction of this once populous race, there are no trustworthy data, and it would profit us but little to enter the wide field of speculation.

Of their manner of living little if anything is known. Cabrillo states that on most of the islands miserable huts existed, but on the mainland there were houses similar to those of the Indians of New Spain. On one of the islands, however, which he states was four leagues long, there were many good houses of wood. We are at a loss for further information on this point, but it is certain that the dwellings of these people were constructed of perishable materials and not of adobe bricks like the Pueblo Indians of New Mexico, since no trace can be discovered of such material, and it is hardly possible this would be the case in the short space of time since Cabrillo's visit. It is extremely probable, therefore, that they built their houses of timber, or else used the skins of animals slain in the chase. Referring to the matter of houses of wood upon the islands, some doubt might apparently be thrown upon this portion of Cabrillo's narrative, for at present no trees of a size sufficient for building purposes are found on the islands; but this author states that on the Isle de St. Augustin he saw trees 60 feet in height and of such girth that two men could not encircle them with their arms joined.

In their choice of localities for towns these ancient people showed the same degree of sagacity as that evinced by the American aborigines down to the present day. On the islands were myriads of water-birds and quantities of sea-lions and seals; the water fairly teemed with fishes and molluscous animals, affording a plentiful supply of food, and no doubt at the time they were occupied there was plenty of sweet water to be had, which, unfortunately, is not the case at present. On the mainland, at all the localities visited, the circumstances of environment must have been such

as to render the struggle for existence extraordinarily easy. For instance, at Santa Barbara and up the coast, or what was called the Pueblos de las Canoas, the land is extremely fertile, and must have yielded good crops, for Cabrillo especially mentions that the Indians lived in a fertile valley, and had an abundance of corn and many cows. In addition to their pastoral pursuits, the Santa Inez Mountain afforded them game, and the waters, fishes, clams, mussels, &c. From the great quantities of shells found in the graves and kitchen-heaps, and the absence of mammalian bones in any quantity, it is fair to suppose that the tribes living near the seaside derived the greater portion of their sustenance from the waters. The favorite places for towns appear to have been not far from groves and near small mountain-streams. Anterior to 1542, these Indians must have been idolaters, but we have good reason for believing that after the advent of the mission priests many of them embraced the Roman Catholic religion, and faithfully followed its teachings. Cabrillo speaks of having seen on one of the islands (probably San Miguel) a temple of wood with paintings on its walls, and idols. San Miguel and some of the other islands have been carefully searched for this temple, but in vain.

It is hardly necessary to refer again to the different utensils found in the graves of these people, but it may be well to state that all the ollas, mortars, cups, pipes, and pestles met with were fashioned out of steatite, or magnesian mica, a sort of soapstone, consequently very soft, which alone was used for the ollas, sandstone of different degrees of hardness for the pestles and mortars, and serpentine for the cups and pipes. It is easy to understand that the ollas were readily carved from the soft soapstone-like material by means of stone knives, but how the gigantic and symmetrical mortars were hewn out with such rude tools is beyond our comprehension; yet they must have been easily procured, otherwise such lavish generosity in burying them with the dead would hardly have been possible. It is thought that the steatite articles were not made by the mainland Indians since no deposits of this mineral were at their disposal, but by the dwellers on the islands of Santa Catalina and Santa Rosa, where alone this mineral existed, and the supposition is that the islanders trafficked with those of the mainland for their commodities, giving in exchange utensils of steatite. The ollas were doubtless used for cooking, as many of them bear marks of fire, and the mortars for bruising grain, acorns, and grass-seeds, the smaller cups and basins for ordinary household purposes, and the pipes for smoking. Canoes are mentioned by Cabrillo, who states that some were small, holding only two or three persons, while others were of sufficient capacity for ten or twelve. These were probably hewn, not burned, from logs of redwood cast up by the waves. The one mentioned as discovered by our party containing a skeleton was, however, formed of three planks, which had been lashed together by sinew or cord, the joints being paved over with asphaltum. The ornaments and beads of domestic manufacture were made of the nacre of shells and of small shells, but the glass beads found were undoubtedly of European workmanship. There seems but little doubt that nets were used for trapping fishes, a small portion of what appeared to be mesh-work being found. Furs are spoken of as articles of clothing in Cabrillo's narrative, but beyond this nothing is known. In speaking of the employment of furs, mention is made of the long, fine, black, and beautiful hair of the natives; this statement is corroborated by the appearance of some hair found on the skull which we have spoken of as being

found covered with a copper pan.

It was at first supposed that a certain design had been followed in the manner of interment, or rather of the posture in which the bodies were placed, but an examination of the notes already given will show that such was not the case, although most of the entire skeletons discovered at La Patera were in the same position, but those at Dos Pueblos were in all attitudes, consequently we infer that there was no regular mode of procedure. From the fact that so many loose and broken bones were found close to the surface of the earth, it is probable that the same spot had been used over and over again for burials, the remains of the previous occupants being shoveled out to make room for new-comers. Perhaps the utensils disinterred were also made to serve for more than one burial. A question in connection with the burials, which is yet to be satisfactorily answered, is, How were these people enabled to pass the heads of children, and even grown persons through the narrow openings in the ollas except in a mutilated condition. It is true that some savage tribes expose the bodies of their dead until the flesh is removed, but we know of no instance where savages are in the habit of cutting up their dead for burial purposes. It may be these people practiced the cutting method, or that finding bones in digging anew, these were thrown in the ollas simply as a ready means of their disposal.

In addition to the burial localities already mentioned, we are cognizant of others to the northward and southward of Santa Barbara, and quite a number of them have already been explored, although doubtless others still remain perdu to excite further archaeological cupidity. Mr. Paul Schumacher has examined a number in the vicinity of San Luis Obispo and on the Santa Maria River, and Mr. Bowers quite a number in Santa Barbara and in the vicinity of Carpenteria, lying south of this city.

We have carefully consulted all available works which would tend to throw light on the history of these aborigines, but, with the exception of the narrative of Cabrillo, have found little pertaining to the subject. It may, perhaps, be interesting to give the full title of the rare and most entertaining manuscript from which we have so freely quoted, which was reproduced in typography by the late Buckingham Smith, in his work entitled / Coleccion / de varios documentos / para la historia de la Florida / y tierras adyacentes:

Cabrillo's own title, or rather Ferrel's, is as follows: "Relacion, ó diario de la navegacion que hizo Juan Rodriguez Cabrillo con dos navios al descubrimiento del paso del mar del sur al norte, desde 27 de Junio de 1542 que salio del puerto de Navidad, hasta 14 de Abril del siguiente año que se restituyo á el, haviendo llegado hasta el altura de 44 grados, con la descripcion de la costa, puertos, ensenados e islas reconocio y sus distancias, en la estenscion de toda aquella costa." The death of Cabrillo, as already stated, occurred on the Isla de la Posesion, in the middle of January, 1543, and was caused by injuries received from a spar which fell from aloft and broke his arm near the shoulder. Before his death, he named as his successor Bartolome Ferrel, "Piloto mayor de los dichos navios," and to this successor we are indebted for all we know of the people under discussion.

In conclusion, it may with propriety be stated that we have here only endeavored to show the results of the exploratory work performed in the vicinity of Santa Barbara by the party sent out under the auspices of the expedition in your charge, and that no attempt has been designed toward solving questions appertaining thereto, more particularly in view of the fact that the entire subject will be fully and ably discussed by Professor F. W. Putnam, of the Peabody Museum of Archaeology, Cambridge, to whom the entire collection has been submitted for examination and study, and who is perhaps better fitted for this most entertaining task than any other person in the country. In his hands we willingly leave the subject, confident that, with the rich materials gathered by us as a basis, he will elucidate many hitherto mysterious problems connected with the customs of this extinct race, and bring to light much of their now hidden history.

APPENDIX H 14.

NOTES UPON ETHNOLOGY OF SOUTHERN CALIFORNIA
AND ADJACENT REGIONS, BY DR. O. LOEW.

UNITED STATES ENGINEER OFFICE,
GEOGRAPHICAL SURVEYS WEST OF THE 100TH MERIDIAN,
Washington, D. C., February 19, 1876.

DEAR SIR: I have the honor to submit herewith a report upon the Indian tribes visited, their customs and relations, as well as old hieroglyphical writings upon rocks in Mono County, California. As ethnology is a matter of steadily increasing interest, I hope this contribution will not be without its value.

Very respectfully, your obedient servant,

OSCAR LOEW.

Lieut. GEO. M. WHEELER,
Corps of Engineers, in Charge.

During the field-season of 1875 you kindly gave me an opportunity to visit a number of localities in California that did not lie directly upon the route of Lieutenant Bergland's party, to which I was attached, and I therefore availed myself gladly of any occasion to collect facts upon ethnology whenever the regular duties permitted me to do so.

While on the expedition of Lieut. Bergland's party, the Payutes of Southern Nevada, the Hualapais of Northwestern Arizona, the Mohaves and Chemehuevis of the Colorado River Valley, the Kuvuyas and Takhtams of the vicinity of San Bernardino, were visited; and before the expedition started out, the Mission Indians of Santa Barbara and San Gabriel; and after the return from the field to Los Angeles, the Indians of San Juan Capistrano, San Diego, and of Mono and Inyo Counties, California. Vocabularies comprising from 200 up to nearly 400 words, and also sentences that may assist in establishing certain grammatical rules,* were collected of those languages, of which some have almost died out and now spoken by very few individuals, as is the case with the Kasuá of Santa Barbara and the Tobikhar of San Gabriel.

While of some of the languages (Mohave and Chemehuevis) a long list of words was collected by Lieut. A. W. Whipple during his exploration for a Pacific railroad route in 1853; of others, over two to three dozen words were barely known, as with the languages of San Diego, San Juan Capistrano, and San Gabriel. Of others again, no vocabularies had been published to this time, viz, Kasuá, (Santa Barbara,) Takhtam, (Serranos of San Bernardino,) and the Western Payutes, (Mono and Inyo Counties, California.) Hence I trust that the collection of vocabularies and sentences now made will prove of value and fill a gap in the philological knowledge of Indian idioms.

The Mission Indians.

The pious zeal of the Spanish priests drove them soon after the religious subjugation of Mexico into Southern California, but up to the end of the seventeenth century they had but little success; many were murdered, stoned to death, or cremated alive. It was mainly in the eighteenth century that they gained considerable headway. Some of the mission churches were built in the present century; that of San Juan Capistrano in 1806, destroyed by an earthquake in 1812, has remained in ruins ever since; and that of San Bernardino was built in 1822, whose ruins are now used for a sheep-corral. Sic transit gloria mundi! Nearly all the missions, hardly over forty in number, were in the coast counties. The most important of them were San Diego, San Juan Capistrano, San Luis Rey, Los Angeles, San Fernando, Santa Barbara, San Luis Obispo, and Monterey.

The Mohaves, Yumas, and Cocopahs resisted all attempts at conversion; they could not conceive the sometimes contradictory teachings of Loyola's followers, who preached different morals from what they practiced, and it appears that the Mohaves, like the Moquis, became the more averse to the Christian religion the greater the zeal and energy of the Jesuits in forcing their belief upon them.

The Padres generally tried to eradicate the original name of the tribes and substitute Spanish ones; the tribe of San Diego, for instance,

* The reader is referred to Gatschet's paper in this report. (App. H 16.)

is known under the name Diegueños, and their original name is forgotten, but, as the language indicates, the tribe forms a branch of the Yuma stock. Just north of this tribe lives another, but speaking a very different language, and without a uniform tribal name. They occupy about a dozen ranches* situated between the coast and the Coahuila Valley. The tribal name Netela, mentioned by Buschmann appears to be unknown there, at least all my questions were answered in the negative by the Indians of San Juan Capistrano and San Luis Rey. The former call themselves Akhátchma, the latter Gaitchim, (the Ketchis of Buschmann,) but the Spanish names have here also taken root, the names San Juaneños, San Luiseños, &c., being frequently used. Their language is closely related to that of the Kouvuyas, (Cowios, Coahuillas,) who live just east of the former, and occupy a number of ranches in the San Jacinto Mountains and the adjacent Cabezon Valley. The Kouvuyas had also been converted by the Jesuits, and belonged, with the related tribe of the Takhtams,** to the mission of San Bernardino. One of the Kouvuyas told me that their forefathers used to burn their dead, but the padres abolished that practice, saying that "the Great Spirit would be displeased," (se enojaria Dios.) These Indians raise corn and watermelons, and serve as laborers with the whites.

Another tribe lives at San Gabriel, a town nine miles east of Los Angeles, but the full-blood, as well as the half-breeds, use more of the Spanish language than their own, which is known to some extent only by the two old chiefs living there. The name Kizh, given by Buschmann to this tribe, could not be verified with all my efforts; if this tribal name ever existed, it is now entirely forgotten. The old chief I visited called his tribe Tobikhar, or Spanish, Gabrileños. He was probably over ninety years of age, very weak, and suffering from a painful eye-disease. Among other statements he said that he had made a treaty with General Frémont in 1843. Many words I propounded to him he could not recall in his native language, and excused himself by saying, "we are now so far civilized that we have forgotten our own language," (somos tan civilizados que hemos olvidado nuestra lengua.) Still the collection of words obtained comprises about 200.

Another language nearly extinct is that of the Indians of Santa Barbara, on the coast. After much inquiry, an intelligent Indian*** about three miles north of the town was found, who owned a large farm, and spoke, besides his own language, tolerably well Spanish and English. He called the original tribe Kasuá. The ruins of the old mission church are about three miles east of the town.

The Unconverted Tribes.

One of the most numerous tribes in North America is that of the Payutes.**** Indeed, this tribe, the main stock of the Shoshone family,

* Among them the lately much talked of Temécula.

** Their Spanish name Serranos signifies "inhabitants of the Sierra."

*** His Spanish name was Vincente Garcia.

**** Spelled in various ways: Pa-utes, Pi-utes, Pah-utas.

has ramifications that reach very far. From the Mohave River* in Southern California to Central Utah, from the Moqui towns to the northern boundary of Nevada, they are distributed in larger or smaller bands across valleys and mountains, and have many dialectical differences of language. While the party was encamped in the Colorado River Valley at Cottonwood Island, a great number of Payutes came daily into camp, and occasion was taken to collect over 350 words and many sentences; an easy matter if one meets an Indian speaking well Spanish or English. The vocabulary was again compared at El Dorado Cañon and Stone's Ferry.

The Chemehuevis live farther south, near the mouth of Bill Williams Fork, in the valley of the Colorado River. Their language is nearly identical with that of the Payutes of Southern Nevada. However, the language of the Payutes of Inyo and Mono Counties, California, shows very considerable differences; again, the dialect of Aurora, Nev., is differing considerably. The distinction is therefore made between the Southern Payutes, living in Southern Nevada and in the Colorado River Valley below the mouth of the Grand Cañon, and the Western Payutes, living in Mono and Inyo Counties, California. The Payutes are but little devoted to agriculture, some families raising watermelons, being exceptional cases. Their principal food consists of mesquite, beans, pine-nuts, lizards, vermin, grasshoppers, occasionally rats and rabbits, still rarer - a deer or a mountain-sheep forms means of subsistence. Fish are not eaten because of a superstition. The Southern Payutes, who have, like the Mohaves, four blue tattooed vertical stripes on the chin, used to be a dangerous tribe. Camp Cady, on the Mohave River, was established on their account, and in a most desolate uninviting region; but the post was abandoned several years ago, the Indians having gone to the Colorado River. In 1864, over two hundred Payutes were surrounded at Owen's Lake by a party of whites and all drowned.

A tribe much superior to the Payutes is represented by the Mohaves, devoted to agriculture and but little to hunting. Lieut. A. W. Whipple, 1854, was the first who published details of the customs and language of this interesting tribe. This officer also selected the spot for the establishment of a military post in that region, and Fort Mohave was soon afterward built there. The Mohaves have seldom been troublesome to the whites, and the latter have in such cases been the cause of difficulty. In 1859, they killed some emigrants who had stolen corn and watermelons from their fields, which caused a fight between a company of soldiers under Captain Armistead and a band of Mohaves, whereby the former were repulsed and would have suffered heavy loss had not succor arrived from the fort at the critical moment. This tribe numbers about 3,000 souls, and is one of the tallest on the continent, surpassing in height the hunting tribes of the Payutes and Hualapais, the latter speaking a tongue closely related to Mohave and inhabiting the cool mountain regions of Northwestern Arizona. The Colorado River Valley, from Fort Mohave about 200 miles to the southward, with a very hot climate in summer-time, was the home of the Mohaves for many generations past. They live principally as vegetarians, using meat but very rarely. The Mongolian features are more marked with

* They left the Mohave River but three years ago.

the Payutes than with them. The color of the skin is light-brown, their countenance is rather pleasant and even intelligent, and the physiognomies differ as much as among the white race. The front teeth are worn down to one-half the usual size, and flattened, showing that they are much used in masticating food. Bad teeth appear to be unknown there. In summer-time they live in open huts, in winter in holes dug in the ground and covered with branches. They have names for constellations, for some even the names of animals, a singular coincidence with the idea of the old oriental nations. Thus the Orion is called amó, (mountain-sheep;) Ursus Major, hatchá; Milky Way, hatchil-kuya-avunyé, (trail of heaven;) Venus hamosé valtai, (the big star;) Jupiter or Saturnus, hamosé kavotanye. According to the position of the "Great Bear" they judge the time at night, and know that its position is a different one at sunset at different times of the year.

The language is polysyllabic, melodious, and rich. There exist four words for "to eat," according to the food, and three words for "ant," according to the species: Tchama thulye, (little piss-ant;) Hano-pó oka, (large hairy ant;) Horó-o, (little black ant.) They have a separate word for "thinking," alieta, and in expressing it put their fingers to the forehead, knowing well that brain-work and thinking are identical. Some of their words have eight syllables, for instance, melage-genya-hanólye, the throat-bone, thyroid cartilage. Although they have no law against polygamy, most of them have but one wife. The women are well treated, and by no means like slaves, a moral feeling in the families generally being observed. Of course there are exceptions to the rule, exceptions that become conspicuous with those Indians that live just around the white settlements.







The Mohaves have a myth of a great flood, during which their forefathers lived upon the neighboring mountains. They are very superstitious. Dreams are ascribed to the influence of deceased friends. If one dies upon a trail, his spirit will hover there to harm those passing by at night. To avoid this, another trail is made, leading far around the bewitched spot. After the death of a man, the whole family bathe for four days, with little interruption, in the river, and a horse is killed in order to enable the spirit to ride to heaven. The heaven, okiámbova, is situated in a hot and dry valley west of the Mohave range; while the hell, avikvomé, is on the top of a big mountain where it is cold and rainy, (Dead Mountain, forty miles north of Fort Mohave.) They believe in a good and bad spirit. The custom of cremation is very old with them. Upon inquiry why the dead are not interred, as among white people, they laughed, and said, "It stinks bad." During the ceremony, all the clothes of the deceased and of his relatives are burned. If a medicine-man predicts three times falsely he is invariably strangled. Several years ago such a medicine-man was only saved by the interference of the military authorities of the post. Another provided himself with a pistol, having resolved not to submit to the punishment for his unfortunate diagnosis.

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In connection with this, it may be interesting to reproduce here a singular inscription containing several distinct Chinese characters on basaltic rocks in Black Lake Valley, about four miles southwest of the town of Benton, Mono County, California. Mr. Richard Decker, of the town, called my attention to this inscription. Certainly, I never saw a similar one in New Mexico or Arizona. Should the striking resemblance of some of the characters to Chinese symbols be a mere accident, or give proof of early Chinese explorers? The inscription is scratched in the basalt surface with some sharp instrument, and is evidently of great age.

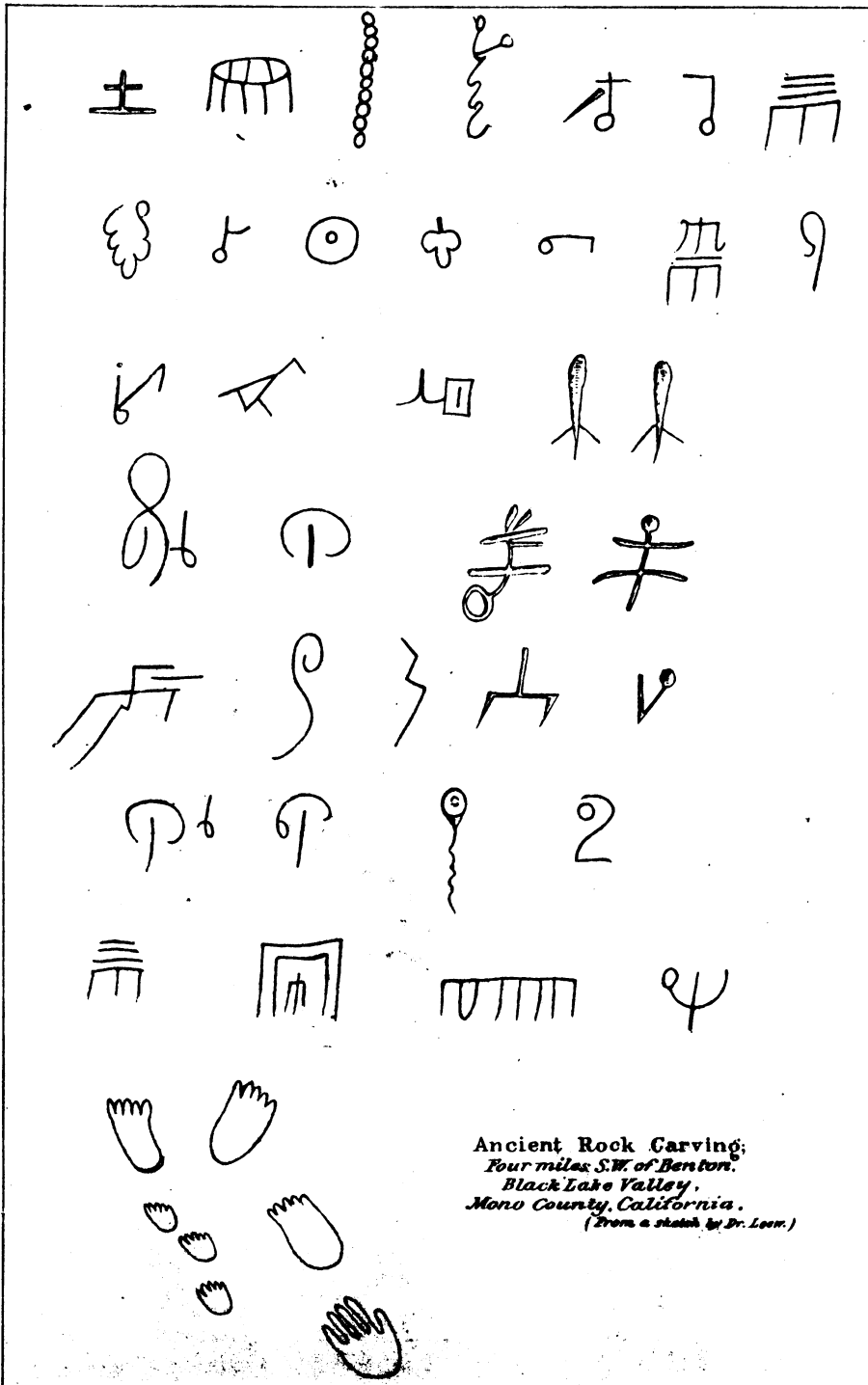
The Indians say that it was a mystery with their fathers who made these inscriptions. The rocks upon which they are seen lie regularly upon each other; and the true order of sequence of the symbols cannot be ascertained. The latter are from 3 to 5 inches high.

The Chinese-resembling symbols in the inscription are the following:

- | | | | |
|-----------|-------------------------------------------------------------------------------------|----------|--------------------------------------------------------------------------------------------------------------------------|
| No. 1. -- |  | = to, | the earth. |
| No. 2. -- |  | = shau, | the hand, (contracted form.) |
| No. 3. -- |  | = shi, | an omen. |
| No. 4. -- |  | = min, | a cave, a house. |
| No. 5. -- |  | = kwang, | a desert, and  , kan, the clothing. |

The direction of the feet at the bottom of the page giving the description is exactly toward the northwest.

About 20 miles farther south from this locality exist two other similar inscriptions, according to Mr. Richard Decker, aforementioned.



Ancient Rock Carving;
 Four miles S.W. of Benton.
 Black Lake Valley,
 Mono County, California.
 (From a sketch by Dr. Loam.)