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U. S. GEOGRAPHICAL SURVEYS WEST OF THE ONE HUNDREDTH MERIDIAN.
1ST LIEUT. GEO. M. WHEELER, CORPS OF ENGINEERS, U. S. ARMY, IN CHARGE.

REPORTS

UPON

ARCHÆOLOGICAL AND ETHNOLOGICAL COLLECTIONS FROM VICINITY OF
SANTA BARBARA, CALIFORNIA, AND FROM RUINED PUEBLOS OF
ARIZONA AND NEW MEXICO, AND CERTAIN INTERIOR TRIBES.

BY

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AND LUCIEN CARR, ASSISTANT CURATOR PEABODY MUSEUM.

WITH APPENDIX OF INDIAN VOCABULARIES,

REVISED AND PREPARED BY ALBERT S. GATSCHET.

IN TWO PARTS, WITH TWO APPENDIXES.

ILLUSTRATED BY A FRONTISPIECE, SKETCH, 20 PLATES, AND 185 TEXT CUTS.

BEVERANCE, M.S.; YARROW, H.C. NOTES UPON HUMAN CRANIA
AND SKELETONS. #14002

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ENGINEER DEPARTMENT, U. S. ARMY.

REPORT

UPON

✓
UNITED STATES GEOGRAPHICAL SURVEYS

WEST OF THE ONE HUNDREDTH MERIDIAN,

IN CHARGE OF

FIRST LIEUT. GEO. M. WHEELER,

CORPS OF ENGINEERS, U. S. ARMY,

UNDER THE DIRECTION OF

BRIG. GEN. A. A. HUMPHREYS,

CHIEF OF ENGINEERS, U. S. ARMY.

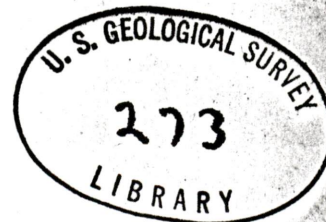
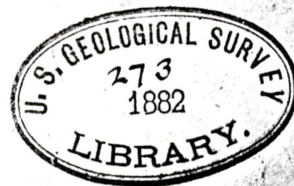
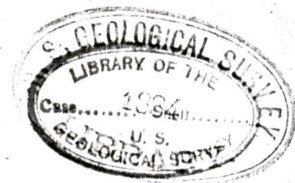
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NOTES UPON HUMAN CRANIA AND SKELETONS COLLECTED BY THE EXPEDITIONS OF 1872-'74.

BY MARK SIBLEY SEVERANCE AND DR. H. C. YARROW.

959, 964*. *Cranium, with the skeleton of a pappoose*, from a rock-grave, Beaver, Utah. On a hill-side east of Beaver is a collection of Indian graves of recent construction, half way up from the plain on which the town lies to the top of a barren hill of volcanic nature. These graves are formed of piles of lava rock, heaped to great size, and presenting somewhat irregular forms on the declivity where they are built. No particular shape nor direction could be discriminated, and no theory deduced as to their probable erection with axes directed toward a definite point of the compass. They were mere piles of irregular stones thrown together as any wild tribe would be likely to throw them for the concealment of property or the preservation of their dead. A growth of stunted cedars covers the hill-side on which they lay, and supplied the material for a part of their interior construction, as described below. Westward from the site of the graves is a long view across the valley, in which Beaver stands, to a rough range of sierras bounding the plain on the west and to receding mountains beyond—a picturesque outlook for this rude aboriginal burying-field.

The first grave opened was about 10 feet long, 8 feet wide, and 6 feet high, with the longitudinal axis pointing nearly north and south, and the

* These numbers refer to the Catalogue of the Army Medical Museum, and also to the following table of measurements.

general rounded form of a mound. Two feet below the top was found a layer of cedar trunks and boughs, somewhat regularly placed, inserted in the sides of the grave and supporting the superposed stones, which were of various sizes, from those of a few pounds to those of a quarter of a ton in weight. A space about 6 feet long, 4 feet broad, and 4 feet deep had been left below these cedar boughs, and in this were found the two skeletons numbered 959 and 964 in the Army Medical Museum catalogue, being those of a pappoose and a squaw, respectively. A buffalo-robe enveloped the skeletons, which still retained much of the clothing in which the bodies were buried. Around the skeletons, outside of the buffalo-robe, was a heterogeneous collection of tin pans, tin cups, knives, forks, spoons, blankets, and other articles of domestic use, with a looking-glass and carefully disposed piece of vermilion, for personal adornment in the Happy Hunting Ground.

The skeleton of the squaw lay underneath, on its back, with the feet pointing nearly directly to the west, and head slightly declined on its left side; this declination was evidently merely a result of superposition, the weight of the pappoose on the breast serving to deflect the head from the upright position. The covering of the skeleton of the squaw had mostly fallen to decay, while that of the pappoose was comparatively well preserved. The pappoose, from the nature of its burial, was the most interesting skeleton secured. It lay, tightly swathed in a wicker-hood peculiar to the Indians, on its back on the breast of the squaw, with feet pointing westward like the squaw's. A neat little pillow, 6 inches long by 4 wide, and about an inch thick, lay under its head, within the hood. A blue and white checked cotton shirt, covered its body, and a red flannel blanket, of originally fine texture, enwrapped the whole skeleton. A string of blue and white beads was about its neck, with a couple of nickel cents suspended on a string. I regret to state that this small coinage was stolen from the hood, as it lay outside my tent door in Beaver. My impression is that one of the cents bore the date of 1856, so recent a date that the story of the Mormons, to the effect that the skeletons were those of Pah-Utes, who had died from natural causes, appears entirely worthy of credence. The imperfect preservation of the wicker-hood and the envelopes of the

pappoose rendered it difficult to transport it intact as found, and the decay of the epiphyses and other tender parts of the skeleton marred its symmetry. The cranium is believed to be perfect.

960. *Mummified cranium*, of unknown tribe and date, secured in Gunnison, Central Utah, by Mr. Francis Klett, of the expedition of 1872, from a rock-grave on a hill-side west of Gunnison, similarly constructed to those near Beaver. The bones of the skeleton were too much scattered for collection.

961. *Unknown skull*, from Camp Apache, Arizona, secured by Mr. G. K. Gilbert, geologist, during the expedition of 1871.

962. *Miscellaneous bones*, from ancient mounds, Provo, Utah. Provo, a prosperous Mormon town, lies fifty miles south of Salt Lake City, on a broad plain between the Wahsatch Mountains and Utah Lake. West of the town, on its outskirts and within three or four miles of the lake, are many mounds, of various construction and in different states of preservation. Mormon farmers have leveled some of them, plowed into others on the edges, and removed from others the rich soil for use elsewhere; in no case has there been a special attempt at exploring them. Those examined were on low ground, almost on a level with the lake and with Provo River, a mile distant on the north. Overflows from both the river and the lake sufficient to inundate the area of country occupied by the mounds are not at all unlikely to have occurred during the long lapse of time since the building of the mounds, though at the present time the climatic character of the region is such that overflows are of rare occurrence; not infrequent to a mild degree, however, after the melting of the snows in the lofty Wahsatch Range, from which Provo River issues. This fact of periodic overflows is mentioned as bearing on the question of the origin and use of the mounds in which the miscellaneous bones of No. 962 were obtained. Mounds of various sizes and shapes, in different parts of the plain, were dug into and examined, and these miscellaneous bones found at all depths, and in every mound entered, scattered without order, and without evidence of careful arrangement or systematic distribution. Some of the larger bones were found near the skeleton numbered 965.

963. *Cranium, with part of the skeleton of a Pah-Ute brave*, from a rock-

grave, Beaver, Utah. The particulars of the burial and finding of this skeleton differ but little from those attaching to Nos. 959 and 964, already described. The Mormons give *Nabbynunck* as the name of this brave.

The rock-pile, from one end of which the skeleton was taken, was about 25 feet long, 20 feet broad, and 10 feet high, with the longitudinal axis pointing north-northeast. It lay on the same hill-side, about 5 feet above the grave of the pappoose and squaw already mentioned, the lower edges of the two graves merging into each other. The southwestern corner alone was opened, and the same character of structure discovered as in Nos. 959 and 964; cedar trunks and boughs supported the rocks and inclosed the open space in which the skeleton was found. The body lay on its right side, with knees slightly bent and feet pointing in a northwest direction. Decomposed clothing, an old gun-barrel fallen from its stock, a bridle bit of Spanish make, several bullets, a cloth containing a mass of red paint, and other relics were found near the skeleton.

965. *Cranium, with part of a skeleton*, found in the outer edge of an ancient mound, Provo, Utah, about a foot below the level of the surrounding fields. Of unknown date and tribe.

Northwest of Provo, on the level fields mentioned in describing No. 962, half way from the town to Utah Lake, is a field containing a number of mounds more or less perfectly preserved; some are entirely untouched, except on the outer edges, where the Mormons' grain patches encroach upon them; others have been almost completely leveled with the surrounding field. The skull had been dug up by a farmer while engaged in digging the shallow irrigating ditch, and presented to Lieutenant Wheeler on his arrival in Provo. Guided to the spot where it was exhumed by the farmer himself, digging was commenced where he directed, and the remainder of the skeleton was brought to light after a few minutes' work. Mounds 1 and 2 are higher and less disturbed than Nos. 3, 4, 5, and 6, which are almost entirely demolished. The excavation made in mound No. 1 was continued for about 12 feet from the outer limit, with a breadth of about 8 feet. The mound was 45 feet in width, 60 feet in length, and 10 feet high in the middle. A few pieces of pottery and broken bones were also found. Across the shallow ditch, and only a few inches below the surface of the

ground, the remainder of the skeleton was discovered, with many bones of animals scattered near it in the soil. The skeleton was apparently lying on its right side, with feet pointing about northwest. There was not a remnant of clothing nor a trinket to testify to the age of its burial.

It is proper in this connection to remark that the Mormons tell of an Indian battle about twenty years ago between two rival bands very near this field of mounds, and of their opening the old mounds in order to bury their own braves who fell in this fight. This may be true or not. If so, the position of this skeleton on the very edge of the mound, and so lightly covered, might point to its belonging to one of these recently-killed Indians rather than to those of a more ancient date. The Utes and Mormons coincide in their entire ignorance of the origin of these mounds, which are scattered numerously through Utah. The former say that their oldest men remember them in youth, and that their fathers had told them nothing in regard to them. The fact of this recent fight and probable utilizing of the old mounds for modern burial is mentioned for the sake of candor, and for the perfect understanding of all the facts in the case, rather than to cast doubt upon the antiquity of this particular skeleton.

1171. *Cranium of unknown race.*—This specimen was found in 1869 at the abandoned town of Gran Quivira, seventy miles west of Fort Stanton, New Mexico. Tradition ascribes to the Spaniards the building of this town, and states it was abandoned by them on account of an Indian insurrection, and that the town was built of cut and hewn stones and not of the ordinary brick adobes. The remains of a carefully constructed aqueduct are still to be seen, and it evinces, from the skillfulness of its workmanship, a higher order of civilization than that possessed by either the Indians or the present race of New Mexicans. It has been rumored that at the abandonment of this town much treasure was buried, and several attempts have been made to recover it, but without success as far as known. Secured by Dr. J. Symington, and presented to Dr. J. T. Rothrock.

1172, 1173. *Crania of Mexicans* removed from near foundation of the old cathedral of Santa Fé, N. Mex. In removing a part of the foundation wall of the old cathedral to make way for that of the new edifice a number of skeletons and crania were exposed, and the two specimens in

question were secured by Prof. E. D. Cope and Dr. H. C. Yarrow. They are supposed to be very old.

1174. *Cranium of Pedro, an Apache Indian*.—This individual was the leader of the massacre at old Camp Grant, Arizona, in the spring of 1874. His head was brought into the San Carlos Agency three or four months after by Indian scouts. Collected by Dr. J. T. Rothrock.

1175. *Cranium, supposed of Ute Indian*.—Found on divide 20 miles south of Colorado Springs, Colo., by Dr. F. F. Gatchell, and by him presented to Dr. H. C. Yarrow.

1176. *Cranium of Apache Indian*, secured at Camp Bowie, Arizona, by Dr. Freeman, and by him presented to Dr. J. T. Rothrock.

1177. *Part of cranium of supposed Ute Indian*.—Collected at Pagosa Springs, Colo., by Mr. C. E. Aiken.

1178. *Cranium of supposed ancient Pueblo Indian*, from a burial-place without the walls of a fortified town, discovered three miles east of the town of Abiquiu, N. Mex., in the valley of the Chama River. See page 362 for description of this town. Collected by Dr. H. C. Yarrow, Prof. E. D. Cope, and R. H. Ainsworth.

1179. *Skeleton*, almost complete, from same locality as last. This specimen is the most interesting of any exhumed, for the reason that it was found *in situ*, face downward, the head to the south. No coffin or surrounding of stones had been used to inclose the body, but just above it were found the remains of funereal urns, in which had been placed charcoal, and the bones of small mammals and birds, showing clearly that food had been prepared for the journey to another land. No ornaments of any kind were found in this grave. It is interesting to note the peculiar flattening of the occiput in this specimen. Collected by the same persons as the preceding specimen.

It is greatly to be regretted that the crania of three other skeletons could not be secured. The bones were found as they were originally placed, but the crania had dropped out from the sides of the arroyas and were probably covered with a *débris* of perhaps 20 feet in thickness. A number of skeletons of very young children were discovered, but in such conditions as to prevent removal.

Measurements of crania noted on the preceding pages, taken at the Army Medical Museum.

Tribe.	Sex.	Museum number.	Capacity.	Length.	Breadth.	Breadth of frontal.	Height.	Index of—				Length of—				Zygomatic diameter.	Facial angle.	Name of collector.	Remarks.			
								Breadth.	Height.	Foramen magnum.	Frontal arch.	Parietal arch.	Occipital arch.	Longitudinal arch.	Circumference.					Frontal.	Parietal.	Occipital.
Pah-Ute.....		959	.....	150	122	100	.....	813	.....	.....	238	296	183	301	428	99	98	150	90	M. S. Severance.....	Child; imperfect.	
Do.....		960	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Klett.....	Mummified; hair on.	
Unknown (from Camp Apache).		961	1435	177	153	122	127	864	718	412	290	341	237	367	516	116	135	174	.....	G. K. Gilbert.....	Imperfect; weather-worn.	
Pah-Ute.....		962	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. S. Severance.....	Bones; none of cranium.	
Do.....		963	1435	171	145	119	132	848	772	386	295	337	228	356	502	120	130	180	138	77	do.....	Skeleton complete.
Do.....	♀	964	1185	171	137	109	131	801	766	415	284	309	225	347	494	121	114	175	129	79	do.....	Do.
Unknown (from Provo, Utah).		965	1145	160	138	117	122	862	762	394	283	306	207	324	476	115	122	165	126	77	do.....	Do.
Pah-Ute.....	♂	966	1350	180	135	118	133	750	739	383	292	313	235	360	506	117	127	183	140	80	H. C. Yarrow.....	Wah-Ker; Ute chief.
Do.....	♂	967	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	do.....	Boy; imperfect.
Do.....		968	1070	164	132	102	114	805	695	439	248	303	202	323	460	106	123	153	102	.....	do.....	Child.
Do.....		969	1450	178	146	118	129	820	725	404	288	320	231	347	513	123	124	189	.....	80	do.....	Do.
Do.....		970	1240	180	135	114	125	750	694	433	283	297	232	353	504	122	129	173	135	75	do.....	Do.
Do.....		971	1085	170	134	107	127	788	747	406	275	303	223	333	470	117	123	163	129	77	do.....	Do.
Do.....		972	1150	171	129	108	126	754	737	409	269	299	235	340	482	113	123	166	130	75	do.....	Do.
Do.....		1016	.....	178	.....	109	.....	.....	.....	.....	.....	.....	.....	.....	119	128	.....	.....	.....	.....	J. T. Rothrock.....	Imperfect.
Do.....		1017	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	122	.....	.....	.....	.....	.....	do.....	Do.
Navajo.....		1085	1450	180	146	124	135	811	750	411	304	329	229	370	517	133	136	181	135	79	H. C. Yarrow.....	Do.
Do.....		1086	1560	187	142	120	145	759	775	417	307	333	245	388	521	125	130	182	143	83	do.....	Do.
Do.....		1087	1230	172	140	115	138	814	802	395	291	325	232	356	492	115	123	180	136	77	do.....	Do.
Apache.....		1088	.....	160	145	116	127	906	794	344	280	317	204	333	481	116	122	160	.....	.....	do.....	Imperfect; time-worn.
Unknown.....		1171	1280	175	137	113	138	783	789	423	300	332	227	361	495	126	130	169	135	79	J. T. Rothrock.....	From Gran Quivira, N. Mex.
Mexican.....		1172	1300	176	140	117	133	795	756	455	288	327	240	365	505	120	137	175	.....	73	H. C. Yarrow and E. D. Cope...	From Santa Fé, N. Mex.
Do.....		1173	1370	181	136	109	143	751	790	420	291	336	262	370	510	126	135	183	132	77	do.....	Do.
Apache.....	♂	1174	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. Rothrock.....	Broken; Arizona.
Ute (supposed).....		1175	1565	193	144	123	.....	746	.....	.....	313	345	248	401	548	143	144	.....	.....	.....	H. C. Yarrow.....	Imperfect; from Colorado Springs, Colo.
Apache.....		1176	.....	169	156	129	136	923	805	462	306	348	235	.....	518	120	133	170	.....	72	J. T. Rothrock.....	Imperfect and time-worn.
Ute (supposed).....		1177	.....	178	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	121	130	.....	.....	.....	.....	C. E. Aiken.....	Imperfect; left vertical half wanting.
Pueblo (ancient).....		1178	1215	151	138	110	.....	914	.....	.....	271	349	195	341	456	115	126	153	100	89	H. C. Yarrow, E. D. Cope, and R. H. Ainsworth.	Imperfect; child.
Pueblo.....		1179	1380	153	156	128	142	1,020	928	333	316	370	238	338	506	115	130	163	123	82	do.....	Do.