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BY HARLAN I. SMITH.

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INTRODUCTION.

The following pages contain the results of archaeological investigations carried on by the writer for the American Museum of Natural History from May to August, 1903,¹ in the Yakima Valley between Clealum of the forested eastern slope of the Cascade Mountains and Kennewick, between the mouths of the Yakima and Snake Rivers in the treeless arid region, and in the Columbia Valley in the vicinity of Priest Rapids. My preliminary notes on the archaeology of this region were published in *Science*.² Definite age cannot be assigned to the archaeological finds, since here, as to the north, the remains are found at no great depth or in soil the surface of which is frequently shifted. Some of the graves are known to be of modern Indians, but many of them antedate the advent of the white race in this region or at least contain no objects of European manufacture, such as glass beads or iron knives. On the other hand, there was found no positive evidence of the great antiquity of any of the skeletons, artifacts or structures found in the area. The greater part of the area was formerly inhabited by Sahaptian speaking people, including the Yakima, Atanum, Topinish, Chamnapum, and Wanapum, while the northern part of it was occupied by the Piskwans or Winatshmpui of the Salish linguistic stock.³

Near North Yakima we examined graves in the rock-slides along the Yakima and Naches Rivers; a site, where material, possibly boulders, suitable for chipped implements had been dug and broken with pebble hammers, on the north side of the Naches about one mile above its mouth; pictographs on the basaltic columns on the south side of the Naches River to the west of the mouth of Cowiche Creek; petroglyphs pecked into basaltic columns in Selah Canon; ancient house sites on the north side of the Naches River near its mouth, and on the north side of the Yakima River below the mouth of the Naches; remains of human cremations, each surrounded by a circle of rocks on the point to the northwest of the junction of the Naches

¹ A brief report of the operations of this expedition appeared in the *American Museum Journal*, Vol. IV, No. 1, pp. 12-14, January, 1904. It was slightly revised and appeared in *Science* N. S. Vol. XIX, No. 484, pp. 579-580, April 8, 1904, and *Records of the Past*, Vol. IV, Part 4, pp. 119-127, April 1905.

² N. S. Vol. XXIII, No. 588, p. 551-555, April 6, 1906. Reprinted in the *Seattle Post Intelligencer* for March, 1906, the *Scientific American Supplement*, Vol. LXII, No. 1602, September 15, 1906, and in the *Washington Magazine*, Vol. I, No. 4, June 1906. Abstracted in the *Bulletin of the American Geographical Society*, May, 1906.

³ Mooney, Plate LXXXVIII.

and Yakima Rivers; recent rock-slide graves on the eastern side of the Yakima River above Union Gap below Old Yakima (Old Town); the surface along the eastern side of the Yakima River, as far as the vicinity of Sunnyside; graves in the domes of volcanic ash in the Ahtanum Valley near Tampico; and rock-slide graves in the Cowiche Valley.

We then moved our base about thirty miles up the Yakima River to Ellensburg. Mr. Albert A. Argyle examining the surface along the western side, en route. From Ellensburg, rock-slide graves and human remains, surrounded by circles of rocks, as well as a village site upon the lowland, were examined near the mouth of Cherry Creek. A day spent at Clealum failed to develop anything of archaeological interest in that vicinity, except that a human skeleton had been removed in the sinking of a shaft for a coal mine.

From Ellensburg we went to Fort Simcoe by way of North Yakima and near the Indian Agency observed circles of rocks, like those around the cremated human remains near North Yakima, and a circular hole surrounded by a ridge, the remains of an underground house. Crossing the divide from Ellensburg and going down to Priest Rapids in the Columbia Valley, no archaeological remains were observed except chips of stone suitable for chipped implements which were found on the eastern slope of the divide near the top and apparently marked the place where material for such implements, probably float quartz, had been quarried. On the western side of the Columbia, on the flat between Sentinal Bluffs and the river at the head of Priest Rapids, considerable material was found. This was on the surface of the beach opposite the bluffs and on a village site near the head of Priest Rapids. Graves in the rock-slides, back from the river about opposite this site, were also examined. Some modern graves were noticed in a low ridge near the river, a short distance above the village site. Crossing the Columbia, some material was found on the surface of the beach and further up, petroglyphs pecked in the basaltic rocks at the base of Sentinal Bluffs were photographed.

The writer wishes to acknowledge his indebtedness to Mr. D. W. Owen of Kennewick for information, for permission to examine his collection, to make notes and sketches of specimens in it, and for presenting certain specimens;¹ to Mr. Frank N. McCandless of Tacoma for permission to study and photograph the specimens² in his collection containing part of the York collection in the Ferry Museum, City Hall, Tacoma; to Mr. Louis O. Janeck of 415 North 2nd. St., North Yakima for information and for per-

¹ See Figs. 10, 39, 42, 56, 57, 107 and 124.

² See Figs. 35, 45, 79, 100 and 113.

mission to study and photograph the specimens ¹ in his collection as well as for supplementary information since received from him; to Hon. Austin Mires of Ellensburg for information and permission to study and photograph specimens ² in his collection; to Mrs. O. Hinman of Ellensburg for permission to photograph specimens ³ in her collection; to Mrs. J. B. Davidson of Ellensburg for information and permission to study her collection and to make drawings of specimens ⁴ in it, and for the pipe shown in Fig. 106; to Mr. W. H. Spalding of Ellensburg for permission to photograph specimens ⁵ in his collection; to Mrs. Jay Lynch of Fort Simcoe, for information and permission to photograph specimens ⁶ in her collection; to Mr. W. Z. York of Old Yakima for permission to sketch and study specimens ⁷ in his collection, and to others credited specifically in the following pages. The accompanying drawings are by Mr. R. Weber and the photographs are by the author, unless otherwise credited.

GEOGRAPHICAL DESCRIPTION.

Clealum is situated on the Yakima River, at a point on the Northern Pacific Railway, 122 miles east of the humid, heavily forested coast at Puget Sound. Although situated not over 154 miles from Copalis, on the ocean at the western edge or furthest limit of the temperate humid coast country, the summers are hot and dry and the winters severe. It is 1909 feet above the sea level and far enough towards the summit of the Cascade Mountains, that marks the line between the humid coast and the arid almost treeless interior, to find considerable moisture and many trees.

Ellensburg is situated near the eastern side of the Yakima River, 25 miles below Clealum, at an altitude of 1512 feet above the sea level and in the wide somewhat flat Kittitas Valley which was, in former geologic times, a lake bottom. The river flows rapidly and its low banks at places are high enough to form gravel bluffs. The surrounding country is arid and there is no natural forest growth.

Cherry Creek, one of a number of small streams on this side of the river, flows through the eastern part of this valley, and empties into the Yakima

¹ See Figs. 19, 20, 27, 28, 31, 33, 34, 46, 58, 60, 61, 63, 64, 65, 66, 67, 69, 81, 108, 109, 120 and 125.

² See Figs. 4, 5, 14, 15, 16, 24, 25, 32 and 44.

³ See Figs. 30, 36 and 116.

⁴ See Figs. 8, 47 and 106; see also p. 25.

⁵ See Figs. 11 and 59.

⁶ See Figs. 73, 119, 127 and 128.

⁷ See Figs. 26, 29, 104, 110, 111 and 112.

River about one mile below Thrall on Section 31, Town 17, North of Range 19 East. Here, the river enters Yakima Canon which cuts through Ump-tanum Ridge and the western foothills of Saddle Mountains. There are some pines in this canon.

Selah Creek flows through Selah Canon from the east and empties into the Yakima, about one mile above Selah at the northwest corner of Section 16, Town 14, north of Range 19 East. This is in a broad valley below Yakima Canon. At the time of our visit, however, the lower portion of this creek was dry. Wenas Creek empties into the Yakima from the west, nearly opposite Selah.

North Yakima is on the western side of the Yakima River, about two miles below the mouth of the Naches, which empties into the Yakima from the west, immediately below where the latter breaks through Yakima Ridge. This break is called the Gap or the Upper Gap. North Yakima is at an altitude of 1067 feet above the sea level. The soil of the valley is made up of a rich volcanic ash and the region is arid and practically treeless except on the banks of the rivers and creeks or where irrigation has been successfully practised. The climate in most respects resembles that of the southern interior of British Columbia, lying to the north, but in general, there is less vegetation except on irrigated land.

Cowiche Creek flows from the southwest and empties into the south side of the Naches, at a point about three miles above its mouth.

Tampico is situated on Section 17, Town 12, north of Range 16 East, on the north side of Ahtanum Creek, which flows nearly east along the base of the north side of Rattlesnake Range and empties into the Yakima at Union Gap or Lower Gap, below Old Yakima.

Fort Simcoe is located in a cluster of live oak trees, on one of the branches of Simcoe Creek, which flows in an easterly direction and empties into the Toppenish River, a western feeder of the Yakima. This place is at an altitude of 937 feet above the sea level and is surrounded by 'scab' land. Going west from Fort Simcoe, up the slopes of the Cascade Mountains, a mile or so, one notices timber in the valleys, and as one proceeds still further up the mountains, the timber becomes thicker and of greater size. This is the beginning of the forest, which at the west side of the Cascades becomes so remarkably dense. To the east of Fort Simcoe, however, no trees are seen, except in the bottoms along the streams, while on the lower reaches of the Yakima and on the banks of the Columbia, east of here, there are absolutely no trees.

Kennewick is located on the western side of the Columbia River about six miles below the mouth of the Yakima. It is opposite Pasco, which is about three miles above the mouth of Snake River. The place is only 366

feet above the sea level and except where irrigation has been practised, there are no trees in sight, the vegetation being that typical of the desert among which are sagebrush, grease-wood and cactus. Lewis and Clark, when here on their way to the Pacific Coast, October 17, 1805,¹ saw the Indians drying salmon on scaffolds for food and fuel. Captain Clark said, "I do not think [it] at all improbable that those people make use of Dried fish as fuel. The number of dead Salmon on the Shores & floating in the river is incredible to say * * * how far they have to raft their timber they make their scaffolds of I could not learn; but there is no timber of any sort except Small willow bushes in sight in any direction."

Sentinal Bluffs is the name given to both sides of the gap where the Columbia River breaks through Saddle Mountains. It is a short distance above the head of Priest Rapids. Crab Creek empties into the Columbia from the east on the north side of these mountains. On the western side of the river, between the Bluffs and the head of Priest Rapids, there is a flat place of considerable area, portions of which the Columbia floods during the winter. Going northwest from here to Ellensburg, the trail leads up a small valley in which are several springs surrounded by some small trees. One ascends about 2000 feet to the top of the divide and then descends perhaps 1000 feet into the Kittitas Valley.

ARCHAEOLOGICAL SITES.

At Clealum, we found no archaeological remains, except a single human skeleton unearthed in the sinking of a shaft for a coal mine. Here, however, our examination of the vicinity was limited to one day, and it is possible that a more thorough search might bring to light archaeological sites. Specimens from the vicinity of Clealum are unknown to the writer, although there are a number of collections from the vicinity of Ellensburg, Priest Rapids, Kennewick and other places lower down. The abundance of specimens on the surface near Priest Rapids and Kennewick in proportion to those found near North Yakima and Ellensburg, suggests that the high parts of the valley were less densely inhabited and that the mountains were perhaps only occasionally visited. It would seem possible that the prehistoric people of the Yakima Valley had their permanent homes on the Columbia, and possibly in the lower parts of the Yakima region. This is indicated by the remains of underground houses, some of which are as far up as Ellensburg. These remains are similar to those found in the Thompson River region, where such

¹ Lewis and Clark, III, p. 124.

houses were inhabited in the winter. The people of the Yakima area probably seldom went up to the higher valleys and the mountains, except on hunting expeditions or to gather berries, roots and wood for their scaffolds, canoes and other manufactures. If this be correct, it would account for the scarcity of specimens upon the surface along the higher streams, since all the hunting parties, berry, root and wood-gathering expeditions were not likely to leave behind them so much material as would be lost or discarded in the vicinity of the permanent villages. Spinden states¹ that in the Nez Perce region to the east of the Yakima country, permanent villages were not built in the uplands, although in a few places where camas and kouse were abundant, temporary summer camps were constructed.

In the vicinity of Ellensburg, we found no archaeological specimens except the chipped point mentioned on page 163, but this may be due in part to the modern cultivation of the soil and to the fact that the irrigated crops, such as are grown here, hide so much of the surface of the ground. A search along portions of the level country west of the town and even in such places as those where the river cuts the bank, failed to reveal signs of house or village sites. In Ellensburg, I saw a summer lodge, made up of a conical framework of poles covered with cloth and inhabited by an old blind Indian and his wife. East of the city, near the little stream below the City Reservoir was another summer lodge made similarly, but among the covering cloths was some matting of native manufacture. The remains of an underground house, possibly 30 feet in diameter were seen to the east of the Northern Pacific Railway, between Ellensburg and Thrall.

On the little bottom land along the western side of Cherry Creek, near its mouth, at the upper end of Yakima Canon, we found objects which show that the place had been a camping ground. This is immediately south of where an east and west road crosses the creek on the farm of Mr. Bull. On this village site were found the specimens catalogued under numbers 202-8213 to 8222, of which two are shown in Plate II, Fig. 12, and Fig. 52. The opposite side of this stream strikes one of the foothills of the uplands, the western extension of Saddle Mountains. On the top of this foothill, which overlooks the above mentioned village site, were a number of burials marked by circles of rocks.² In the rock-slide on the side of this hill, between these circles and the village site below, were a number of graves which are described in detail under numbers 99-4326-4332 and 202-8223-8258 on pages 164 to 166. Some of the objects found, many of which are recent and show contact with the white race, are shown in Figs. 71a, 72, 74, 78, 80, 82-86, 90-92, 95, and 96.

¹ Spinden, p. 178.

² See 99-4325, page 163.

On the western side of the Yakima, about opposite the above-mentioned village site, a rock-slide appears at the head of Yakima Canon. In it are a number of rock-slide graves marked by sticks.

In Selah Canon, on the north side of Selah Creek, about a mile and a half above where it empties into the Yakima are three groups of petroglyphs pecked into the vertical surface of the low basaltic cliffs of the canon wall. Two of these groups (Plate XII) are upon eastern faces of the rock, while the one shown in Fig. 1, Plate XIII, is upon a southern exposure. In the rock-slide on the south side of Selah Canon, about three quarters of a mile above the Yakima or about half way between these petroglyphs and the Yakima, were found a number of graves, one of them marked by a much weathered twig. These were the only archaeological remains seen by us in Selah Canon, although we examined it for at least two miles from its mouth.

On the north slope of Yakima Ridge, near its base, at a point where the Moxee Canal and the river road turn and run west along the base of the ridge or about southeast of the largest ranch there, possibly two miles northeasterly from the Gap, were a number of scattered graves covered with rock-slide material. About one quarter of a mile west from here, a little west of south of the ranch, was a large rock-slide, covering a short northerly spur of the ridge. This is shown from the southwest in Plate VII. It is about three quarters of a mile northeast from where the Yakima River, after flowing through bottom lands, strikes the base of the Yakima Ridge. In this slide were a large number of shallow parallel nearly horizontal ditches below each of which is a low ridge or terrace of the angular slide-rock. Among these terraces, as shown in Fig. 2 of the plate, were a few pits surrounded by a low ridge, made up of jagged slide-rock, apparently from out of the pits. It was naturally larger at the side of the pit towards the bottom of the slide. In none of these did we find human remains or specimens. Some of them are larger than similar pits that we found to be rock-slide graves. Their close resemblance to graves found to have been disturbed, part of their remains being scattered near by and to other graves, as they appeared after our excavations, suggests that these pits are the remains of such rock-slide graves from which the bodies have been removed by the Indians possibly since the land became the property of the United States Government. On the other hand, these pits remind us of rifle pits, though it does not seem probable that they would be built in such a place for that purpose and there is no local account of the site having been used for such pits. This rock-slide is particularly interesting because of the terraces into which most of its surface had been formed. The character of the rock-slide material is such that one may walk over these for some little time without noticing them, but once having been noticed, they always force themselves upon the attention. Standing near the top

of the slide, they remind one of rows of seats in a theatre. Each terrace begins at the edge of the slide and runs horizontally out around its convex surface to the opposite side. Some of them are wider than others. They resemble the more or less horizontal and parallel terraces formed by horses and cattle while feeding on steep slopes. The Yakima Ridge has been so terraced by stock in many places and over large areas. However, there is no vegetation on the rock-slide to entice stock and the difficulty of walking over the cruelly sharp rocks as well as the presence of rattlesnakes would seem sufficient to cause both cattle and horses to pass either below or above it. The outer edge of each terrace is probably little lower than the inner edge, but viewed from the slope it seems so, and this suggests that these terraces may have been entrenchments, though it would seem that they would be useless for such a purpose since one can easily reach the land above from either side. Moreover, it would not seem necessary to make parallel entrenchments down the entire slope. That they were made to facilitate the carrying of the dead to the rock-slide graves is possible but not probable. It seems unlikely that they could have been made for the seating of spectators to overlook games or ceremonies; for the sharpness of the rocks would make them very uncomfortable.

There is a much higher rock-slide on the east side of a small steep ravine near where the Yakima River flows close to the base of the ridge, about a mile northeast of the Naches River or Upper Gap. Near the top of this slide, possibly three hundred feet above the river, were similar pits larger than those just described. Two or three of these were bounded along the edge towards the top of the slide by an unusually wide terrace. Near the bottom of this slide were graves ¹ (Nos. 1 and 2) which are described in detail on page 153. Grave No. 1 was in the base of the rock-slide as shown in the figure and was indicated by a cedar stick projecting from a slight depression in the top of the heap of rock-slide material covering it. It was on a slight terrace about eighty feet above the river, and commanded a view over the valley of the Yakima to the north. The presence of the brass tube shown in Fig. 75 suggests that this grave is not of great antiquity. Grave No. 2 was in the same rock-slide about fifty feet down the ravine or to the north, and about forty feet above the Moxee flume. It was indicated by a hole in a pile of rock, like an old well. It was found to contain nothing, the remains having been removed. On the south side of the Yakima Ridge, near the bridge over the Yakima, at the Upper Gap, rock-slide graves are said to have been disturbed during the construction of the flume which carries the waters of the Moxee ditch around the western end of the Yakima Ridge, and

¹ See Fig. 3, Plate vi from the north of west.

during the gathering of stone on this point for commercial purposes. Some of these graves are said to have been above the flume.

Here and there, near the base of the ridge from this point easterly for about a mile, were found small pits, such as one shown in Fig. 1, Plate VIII. Apparently, these were rock-slide graves from which the human remains had been removed, either by the Indians in early times or more recently by visitors from the neighboring town of North Yakima. Possibly some of them are old cache holes. One of these graves near the top of a small rock-slide above the flume contained a human skeleton and is shown in Fig. 2, Plate VIII. Below these graves, on the narrow flat between the base of the ridge and the Yakima River at a point about three quarters of a mile below the Upper Gap at the mouth of the Naches River, were discovered a number of small pits each surrounded by a low ridge of earth which were probably the remains of cache holes made by the Indians during the last twenty years. On this flat, close to the river were two pits surrounded by a circular ridge which indicated ancient semi-subterranean house sites, further described on page 51.

It is said, that above the flume at a point about a mile and a half below the Upper Gap, rock-slide graves, some of which were marked by pieces of canoes were excavated by school boys. The writer was also informed by small boys that near the top of the ridge immediately above here, they frequently found chipped points for arrows but on examination discovered only chips of stone suitable for such points, the boys either having mistaken the chips for points or having collected so many of the points that they were scarce.

On the west side of the Yakima, at the Upper Gap, there is a raised flat top or terrace that overlooks the mouth of the Naches River to the southeast. Here were a number of circles made up of angular rocks. Within each we found the remains of human cremations. Unburned fragments of the bones of several individuals with shell ornaments were often present in a single circle.¹

Continuing westward, along the slope of the ridge, cut along its southern base by the Naches River, at a point about one and a quarter miles west of the mouth of the river, a small ravine cuts down from the top of the ridge. This has formed a little flat through the middle of which it has again cut down towards the river. East of this ravine on the flat is a circle of angular rocks such as are found scattered over the ridge. This circle no doubt marks a house site, the interior having been cleared of stone and the circle of rocks probably having been used to hold down the lodge covering.² To

¹ See p. 142 and Fig. 1, Plate ix.

² See p. 15 and Fig. 1, Plate iv.

the west of the ravine, where the flat is somewhat higher than to the east, there are the remains of two semi-subterranean houses. Each of these is represented by a pit surrounded by a ridge of earth, and on the top, are large angular rocks.¹ At a point where the ridge meets this flat, close to the western side of the ravine was a slight depression in a small rock-slide which marked what seemed to be a grave, but which, on excavation, revealed nothing. Still further westward at a point probably two miles above the mouth of the Naches River and overlooking the stream at an altitude of perhaps 250 feet, we found scattered over the ground along the eastern summit of a deep ravine, the first one west of the house sites above mentioned, numerous small chips of material suitable for chipped implements. These became more numerous as we proceeded northward up the eastern side of the ravine for a distance of about a quarter of a mile. Here we came upon the small quarry in the volcanic soil, shown in Fig. 1, Plate III. Immediately to the west of the pit was a pile of earth, apparently excavated from it.

On the top of this heap of soil and among the broken rock to the south and east of it, were found several water-worn pebbles, used as hammers in breaking up the rock, as indicated by the battered condition of their ends (p. 58). We saw no other water-worn pebbles on the surface of the ridge, but they were numerous in the gravel of the bottom-lands subject to the overflow of the rivers. It would seem that these pebbles were brought up from the river below for use as hammers. Scattered to the south of the pit were found large fragments of float quartz material containing small pieces of stone suitable for chipped implements but made up mainly of stone which was badly disintegrated. Lying on the slope of the ravine were many small fragments of this same stone which were clear of flaws.

It would seem that a mass of float quartz much of which was suitable for chipped implements had been found here. It had been excavated, leaving the pile of earth and then broken up with the river pebbles which were left behind with the waste. Probably there were fairly large pieces of the material, suitable for chipped implements, that were carried away while small pieces were left lying about a pile of unsuitable material. In other words, it would seem that these specimens mark a place for the roughing out of material for chipped implements.² On the same side of the river, on the side of a rather low ridge or table-land overlooking it, at a point about twelve miles above its mouth, are some rock-slides. Here it is said that graves have been found. They were probably typical rock-slide graves. On a point of land perhaps fifty feet above these and a few hundred feet to

¹ See p. 52 and Fig. 2, Plate iv.

² See p. 20.

the north, Master James McWhirter pointed out a grave on his farm. It was then surrounded by a ring made up of water-worn pebbles, apparently brought up from the river. He stated that an attempt had been made to excavate it which possibly accounts for the pebbles being in a circle rather than a heap over the grave. This grave was found to contain a slab of wood, shell ornaments, probably modern, and an adult skeleton, No. 12 (7), 99-4320, p. 156.

There are a number of painted pictographs on the vertical faces of the basaltic columns, facing north on the south side of the Naches River, immediately to the west of the mouth of Cowiche Creek. These are below the flume and may be reached from the top of the talus slope which has been added to by the blasting away of the rock above, during the construction of the flume. In fact, debris from this blasting has covered part of the pictographs. Some of the pictures are in red, others in white and there are combinations of the two colors.¹ Local merchants have defaced these pictographs with advertisements.

In the Cowiche Valley, there are several rock-slide graves, but these seem to have been rifled. Northeast of the fair grounds at North Yakima, the remains of an underground house are said to exist. A short distance east of Tampico, about 18 miles above the mouth of the Ahtanum, on the north side of the river and east of the road from the north where it meets the river road and immediately across it from the house of Mr. Sherman Eglin, was a grave located in a volcanic dome left by the wind, which Mr. Eglin pointed out to us. The site is about 600 feet north of the north branch of the Ahtanum and about fifteen feet above the level of the river. A pile of rocks about eight feet in diameter covered this grave, No. 25, p. 160. On the land of Mr. A. D. Eglin, between the above-mentioned grave and Tampico on the north side of the road were seen the signs of two graves, destroyed by plowing. Near here, an oblong mound six or eight inches high and ten feet wide by eight feet long, supposedly covering a grave, marked by a stone on the level at each side and each end, 12 and 16 feet apart respectively was reported by Mr. Eglin's son. A little distance further north and up the slope of the land, were a number of volcanic ash heaps left by the wind. The surrounding land is what is locally known as "scab land." In some of these knolls, graves have been found and one which has been explored is shown in Fig. 2, Plate ix. It is located near the pasture gate, and was marked by a circle of stones as shown in the figure. On excavating, nothing was found. It is possible that the remains were entirely disintegrated. Graves in rock-slides on hill sides, and a village site near this place were

¹ Further described under the subject of art on p. 119 and shown in Plates xiv-xvi.

reported by Mr. Eglin's son. Along the north side of Ahtanum Creek between Ahtanum and Tampico, below the rim rock of the uplands parallel to the creek are a number of rock-slide graves.

On the western side of Union Gap, through which the Yakima River flows, below the mouth of Ahtanum Creek, a short distance below Old Yakima, on a little flat or terrace projecting from the south side of Rattle Snake Range is a modern Indian cemetery surrounded by a fence. To the east of Union Gap, on the northwestern slope of Rattle Snake Range, we examined some rock-slide graves which had been made since the advent of objects of white manufacture. A mile or so south of Union Gap not far from the uplands to the east of the river was a ridge of earth extending north and south nearly parallel with the river road. This, however, I believe may be the remains of some early irrigation project. On the west side of the Yakima River about two miles south of Union Gap was seen a summer lodge made by covering a conical framework with mats.

At Fort Simcoe, immediately south of the Indian agency, on the north edge of the "scab land," overlooking a small ravine, is a large pit surrounded by an embankment of earth, the remains of a semi-subterranean house. Perhaps an eighth of a mile south of this, on higher "scab land" was a rather low long mound upon which were several piles of stone that probably marked graves. This mound was lower and more oblong than the usual dome in which such graves were made. Mrs. Lynch, who pointed these out has excavated similar piles at this place and found them to mark graves. We were informed that chipped implements were frequently found along the Yakima River at a point near Prosser. Above Kennewick, while digging a flume, a number of graves were discovered, from which Mr. Sonderman made his collection. Some of these graves contained modern material (p. 111).

On the surface of the western beach of the Columbia at Kennewick and on the flat land back of it we found chips of material suitable for making chipped implements, and a large pebble, probably a net sinker.¹ These, together with the fact that Mr. D. W. Owen has also frequently found specimens here, suggest that this place was an ancient camping ground. That Lewis and Clark saw Indians here and in the vicinity, as well as that the Indians still camp here on the beach of the river, sheltered from the wind by the bank and depending upon the river driftwood for their fuel, strengthens this suggestion. Specimens have been found on the large island in the Columbia at the mouth of the Yakima. (See p. 64.) At a point four miles below Kennewick or perhaps a mile below a point opposite the mouth

¹ See p. 30.

of the Snake, a grave which contained material of white manufacture is said to have been discovered by a man while hauling water up the bank of the Columbia.

Schoolcraft states¹ that there was an earthwork on the left bank of the Lower Yakima on the edge of a terrace about fifteen feet high a short distance from the water. This terrace was banked on either side by a gully. This consisted of two concentric circles of earth about eighty yards in diameter by three feet high, with a ditch between. Within were about twenty "cellars", situated without apparent design, except economy of room. They were some thirty feet across, and three feet deep. A guide stated that it was unique and made very long ago by an unknown people. Outside, but near by, were other "cellars" in no way differing from the remains of villages of the region. What may be an earthwork near by is described by Schoolcraft² as follows: "The Indians also pointed out, near by, a low hill or spur, which in form might be supposed to resemble an inverted canoe, and which he had said was a ship." Schoolcraft suggests a possible relation of this to the mounds of the Sacramento Valley and continues:—

"In this connection may also be mentioned a couple of modern fortifications, erected by the Yakamas upon the Sunkive fork. They are situated between two small branches, upon the summits of a narrow ridge some two hundred yards long, and thirty feet in height, and are about twenty-five yards apart. The first is a square with rounded corners, formed by an earthen embankment capped with stones; the interstices between which served for loop-holes, and without any ditch. It is about thirty feet on the sides, and the wall three feet high. The other is built of adobes, in the form of a rectangle, twenty by thirty-four feet, the walls three feet high, and twelve to eighteen inches thick, with loop-holes six feet apart. Both are commanded within rifle-shot by neighboring hills. They were erected in 1847 by Skloo, as a defence against the Cayuse. We did not hear whether they were successfully maintained, accounts varying greatly in this respect. In the same neighborhood Captain M'Clellan's party noticed small piles of stones raised by the Indians on the edges of the basaltic walls which enclose these valleys, but were informed that they had no purpose; they were put up through idleness. Similar piles are, however, sometimes erected to mark the fork of a trail. At points on these walls there were also many graves, generally made in regular form, covered with loose stones to protect them from the cayotes, and marked by poles decorated with tin cups, powder-horns, and articles of dress. During the summer the Indians for the most part live in the small valleys lying well into the foot of the mountains. These are, however, uninhabitable during the winter, and they move further down, or to more sheltered situations. The mission which, in summer, is maintained in the A-tá-nam valley, is transferred into that of the main river." ³

¹ Schoolcraft, VI, p. 612.

² Schoolcraft, VI, p. 613.

³ Cf. also Bancroft, IV, p. 736; Stevens, pp. 232-3; Gibbs, (a), pp. 408-9.

After passing the top of the divide, to the left of the trail from Ellensburg to Priest Rapids, chips and fragments of variegated float quartz suitable for chipped implements were found. This apparently marked a place where a fragment of float rock had been broken up, but fine fragments were hardly numerous enough to indicate that the place had been a shop site, or at least a large one. The quantity of material broken up, judging from the amount of refuse, was small. On the western side of the Columbia, at the base of the basaltic rocks where they meet the bottom-land, perhaps a mile from the river were rock-slide graves in the talus slope. At the head of Priest Rapids, the river turns towards the west and then southward, flowing close to the southern end of this escarpment. On the flat, at the very head of Priest Rapids, the river, during high water had washed out the remains of a village or camp site, where pestles and animal bones were numerous. A short distance above this, in a low ridge near the river were some modern graves some of which were marked with sticks at the head and foot. The bodies, judging from the mounds of earth, were laid full length and many, if not all of them, judging from the size of the head and foot sticks, were placed with the feet towards the east. Perhaps a mile above here near the home of Mr. Britain Everette Craig, several large and deep pits, the sites of ancient semi-subterranean houses were seen. Above and near his house, the river had washed out what was apparently a village site, and perhaps a few graves. Here was found the small fresh water shell heap, shown in Fig. 1, Plate v, and the pile of flat oval pebbles which probably marked a cooking place, shown in Fig. 2. On the west beach of the Columbia at Sentinal Bluffs perhaps another mile further up the river, notched sinkers and other indications of a camp or fishing ground were found.

On the eastern side of the river near the head of Priest Rapids some material was found on the surface of the beach where the floods of the river had uncovered it. A mile or more above here, pecked on the basaltic columns of Sentinal Bluffs, which may be seen in both figures of Plate v were a number of petroglyphs, shown in Plate xi and described on page 121. Those shown in Fig. 1, photographed from the west, are on the columns to the east of the road, blasted through the rocks at this point, and perhaps fifteen feet from the river. Those in Fig. 2, photographed from the north, are to the west of the road on the columns which rise abruptly from the river. Some specimens and indications of habitation were found scattered between this point and the mouth of Crab Creek, the bed of which was dry in most places when we visited it.

RESOURCES.

The resources of the prehistoric people of the Yakima Valley, as indicated by the specimens found in the graves and about the village sites, were chiefly of stone, copper, shell, bone, antler, horn, feathers, skin, tule stalks, birch bark and wood. They employed extensively various kinds of stone for making a variety of objects. Obsidian,¹ glassy basalt or trap, petrified wood, agate, chalcedonic quartz with opaline intrusions, chert and jasper were used for chipping into various kinds of points, such as those used for arrows, spears, knives, drills and scrapers. According to Spinden,² obsidian was used in the Nez Perce region to the east where it was obtained from the John Day River and in the mountains to the east, possibly in the vicinity of the Yellowstone National Park. The people of the Yakima Valley may have secured it from the Nez Perce. As on the coast, objects made of glassy basalt were rare here, although it will be remembered that they were the most common among chipped objects in the Thompson River region.³ Mr. James Teit believes that glassy basalt is scarce in the Yakima region and that this is the reason why the prehistoric people there did not use it extensively. Some agate, chalcedony and similar materials were used in the Thompson River region, but while there is a great quantity of the raw material of these substances there, the Indians say that the black basalt was easier to work and quite as effective when finished. Several small quarries of float quartz had been excavated and broken up to be flaked at adjacent work shops, p. 16. River pebbles were made into net sinkers, pestles, mortars, hammerstones, scrapers, clubs, slave killers, sculptures, and similar objects, and were also used for covering some of the graves in the knolls. Serpentine was used for celts and clubs; lava for sculptures. Slate was used for ornamental or ceremonial tablets steatite for ornaments and pipes, though rarely for pestles and other objects; and impure limestone for pipes. Fragments of basaltic rock were used for covering graves in the rock-slides and in some of the knolls. Places on the basaltic columns and cliffs served as backgrounds upon which pictures were made, some being pecked,⁴ others painted.⁵ No objects made of mica or nephrite were found. Siliceous sandstone was made into pestles, pipes and smoothers for arrow-shafts, but the last were rare. Copper clay, white earth and red ochre were not found, but red and white

¹ See Fig. 5 and 202-8141, p. 154.

² Spinden, p. 184.

³ Smith, (d) p. 132 and 135 (c) p. 407

⁴ See Plates XI-XIII.

⁵ See Plates XIV-XVI.

paint were seen on the basaltic cliffs and Mrs. Lynch reports blue paint from a grave near Fort Simcoe (p. 117).

Copper was used for beads, pendants and bracelets. While all of this copper may have been obtained by barter from the whites, yet some of it may have been native. Copper, according to Spinden, was probably not known to the Nez Perce before the articles of civilization had reached that region, but he states that large quantities of copper have been taken from graves and that the edges of some of the specimens are uneven, such as would be more likely to result from beating out a nugget than from working a piece of cut sheet copper.¹ The glass beads, iron bracelets,² and bangles,³ the brass rolled beads,⁴ brass pendant⁵ and the white metal inlay,⁶ which we found, all came from trade with the white race during recent times and do not belong to the old culture.

Shells of the fresh water unio, in a bed five or six feet in diameter and two or three inches thick, at the Priest Rapids village site and described on p. 34 indicate that this animal had been used for food. Shells of the little salt water clam (*Pectunculus* 202-8388, Fig. 88), haliotis (202-8234b, 8252, 8255, 8386, Figs. 89-92), dentalium (202-8178, 8156, 8163, 8173, 8177-9, 8184, 8186-89, 8192-3, 8233, 8241, 8253, 8389, Figs. 74, 117, and 118) olivella (202-8393, Fig. 87), and oyster (202-8170, Fig. 94) which were made into various ornaments must have been obtained from the coast. No shells of *Pecten caurinus* were found.

Deer bones were seen in great numbers in the earth of a village site at the head of Priest Rapids where they probably are the remains of cooking. Animal bones were made into points for arrows or harpoon barbs, awls and tubes that were probably used in gambling. Fish bones (202-8387) found in the village sites suggest that fish were used for food. No bones of the whale were found.

Antler was used for wedges, combs and as material upon which to carve. Horns of the Rocky Mountain sheep were used for digging-stick handles. Mountain sheep horns were secured by the Nez Perce who lived to the east of the Yakima region, and were traded with Indians westward as far as the Lower Columbia.⁷ No objects made of teeth were found although a piece of a beaver tooth (202-8189) was seen in grave No. 21, and Mrs. Lynch reports elk teeth from a grave near Fort Simcoe (p. 119). Pieces of

¹ Spinden, p. 190.

² See Fig. 96.

³ See Figs. 85 and 86.

⁴ See Fig. 75.

⁵ See Fig. 84.

⁶ See Fig. 128.

⁷ Spinden, p. 223.

thong, skin, fur, and feathers of the woodpecker, all of which were probably used as articles of wearing apparel, were found in the graves preserved by the action of copper salts or the dryness of the climate.

Wood was used as the hearth of a fire drill¹ and for a bow, a fragment of which is shown in Fig. 114. Sticks which had not decayed in this dry climate, marked some of the graves in the rock-slides (p. 140). Charcoal was also found in the graves and village sites. A fragment of birch bark, tightly rolled (202-8392) was found in a grave; roots were woven into baskets;² rushes were stitched and woven into mats.³

THE SECURING OF FOOD.

Points Chipped out of Stone. Many implements used in procuring food were found. In general, they are similar in character to those found in the Thompson River Region.⁴ The most numerous perhaps, were points of various sizes and shapes, made by chipping and flaking, for arrows, knives and spears. Many of these are small and finely wrought and most of them are of bright colored agates, chalcedonies and similar stones. As before mentioned, several small quarries of such material with adjacent workshops were found. A very few specimens were made of glassy basalt, and it will be remembered (p. 21) that this was the prevailing material for chipped implements in the Thompson River region to the north, where there was perhaps not such a great variety of material used.⁵ In the Nez Perce region to the east, according to Spinden, a great variety of forms of arrow points chipped from stone of many kinds is found,⁶ and the extreme minuteness of some of them is noteworthy. The war spear sometimes had a point of stone, usually lance-shaped, but sometimes barbed.⁷ He further states that iron supplanted flint and obsidian at an early date, for the manufacture of arrow-heads.⁸

No caches of chipped implements were found in the Yakima region. Judging from the collections which I have seen, I am under the impression that chipped points are not nearly so numerous in this region as they are near The Dalles and in the Columbia Valley immediately south of this area,

¹ See Fig. 38.

² See Fig. 17.

³ See Fig. 70-72.

⁴ Smith, (d) p. 135; and (c) p. 408.

⁵ *Ibid.*

⁶ Cf. Spinden, Figs. 10-22, Plate VII.

⁷ Spinden, p. 227.

⁸ Spinden, p. 190.

and perhaps not even as numerous as in the Thompson River country to the north. We found no fantastic forms such as were rather common in the Thompson River country.¹ It will be remembered² that the art of chipping stone was not extensively practised on the coast of British Columbia or Washington, no specimens having been found in that area north of Vancouver Island except at Bella Coola, where only two were discovered. They were frequent at Saanich and in the Fraser Delta and became still more common as one approached the mouth of the Columbia on the west coast of Washington where, on the whole, they seem to resemble, especially in the general character of the material, the chipped points of the Columbia River Valley in the general region from Portland to The Dalles.

The range of forms and sizes is well shown in Figs. 1 to 6 and in Plates I and II.³ The specimen shown in Fig. 1 is very small, apparently made from a thin flake of chalcedony that has not been much chipped. Its edges



Fig. 1 (202-8369).
Chipped Point made
of Chalcedony. From
the surface, near the
head of Priest Rapids.
½ nat. size.

are slightly serrated and it was found on the surface near the head of Priest Rapids. Deeply serrated points are found in the Nez Perce region to the east, but they are unusual.⁴ The one shown in Fig. 2 is also made of chalcedony and is from the same place. It is larger and the barbs are not so deep. The specimen shown in Fig. 3, chipped from white chalcedony was found at the same place and may be considered as a knife point rather than as an arrow point. The one shown in Fig. 4 is made of petrified wood and has serrated edges.

It was found at Priest Rapids and is in the collection of Mr. Mires. Fig. 5 illustrates a point with a straight base chipped from obsidian, one of the few made of this material that have been found in the whole region. This is also from Priest Rapids in the collection of Mr. Mires. The straight based arrow-head is very common in the Nez Perce region.⁵ The specimen shown in Fig. 6 is leaf shaped, the base being broken off. It is made of chert, was collected at Wallula near the Columbia River in Oregon by Judge James Kennedy in 1882 and is in the James Terry collection of this Museum. Plate I shows a rather large and crudely chipped point made of basalt, from the surface near the head of Priest Rapids on the bank of the Columbia River. The second is made of red jasper and the third of white chert. They were found near the head of Priest Rapids, the latter also on

¹ Smith, (d) p. 136; and (c) p. 409.

² Smith, (b), p. 437; (a) p. 190; (e) p. 564; and (f), p. 359.

³ Photographs by Mr. Wm. C. Orchard.

⁴ Cf. Spinden, Fig. 16, Plate VII.

⁵ Cf. Spinden, Fig. 14, Plate VII.

the bank of the river. These three specimens may be considered as finished or unfinished spear or knife points. The specimens shown in Plate II are more nearly of the average size. The first is made of buff jasper and was found on the surface at Kennewick. It is slightly serrated. The second is made of brownish fissile jasper and was found in grave No. 10 (5) in a rock-slide near the mouth of the Naches River. The third, chipped from mottled quartz was found in grave No. 28 (21) near the skull in a rock-slide about three miles west of the mouth of Cowiche Creek. The fourth of white quartzite is also from grave No. 28 (21) near the skull. The breadth of the base of these last two specimens and the notches would facilitate their being fastened very securely in an arrow-shaft, while the basal points would probably project far enough beyond the shaft to make serviceable barbs.



Fig. 2.



Fig. 3.

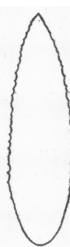


Fig. 4.

Fig. 2 (202-8364). Chipped Point made of Chalcedony. From the surface, near the head of Priest Rapids. $\frac{1}{2}$ nat. size.

Fig. 3 (202-8336). Chipped Point made of White Chalcedony. From the surface, near the head of Priest Rapids. $\frac{1}{2}$ nat. size.

Fig. 4. Serrated Chipped Point made of Petrified Wood. From Priest Rapids. $\frac{1}{2}$ nat. size. (Drawn from a sketch. Original in the collection of Mr. Mires.)

The fifth specimen, chipped from brown chert was found among the refuse of a fire in grave No. 1, in a rock-slide of the Yakima Ridge. The sixth is made of glassy basalt and is remarkable for having two sets of notches. It is rather large, which suggests that it may have served as a knife point. It is from the head of Priest Rapids and was collected and presented by Mrs. J. B. Davidson. Double notched arrow points are found in the Nez Perce region.¹ The seventh is chipped from pale fulvous chalcedony and is from the surface at the same place. The eighth is chipped from similar material and was found near by. The ninth is made of opaline whitish chalcedony and is from the same place. The tenth is chipped from yellow agate, and somewhat resembles a drill, while the eleventh is of brown horn stone, both of them being from the surface near the head of Priest Rapids.

¹ Cf. Spinden, Fig. 15, Plate VII.

The twelfth which is chipped from clove brown jasper was found on the surface of the Cherry Creek camp site near Ellensburg. The thirteenth is made of reddish white chert and was found on the surface near the mouth of Wenas Creek. The fourteenth is of pale yellow chalcedony and comes from the surface near the head of Priest Rapids. Most of these specimens seem to be suitable for arrow points, although some of them probably served for use as knives.

Points Rubbed out of Stone. No points rubbed out of stone have been found in this region, although it will be remembered that two such points

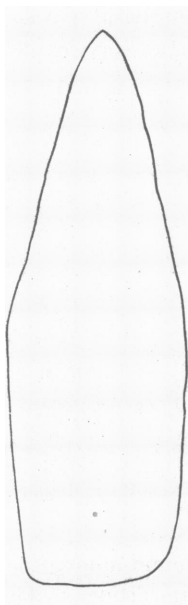


Fig. 5.

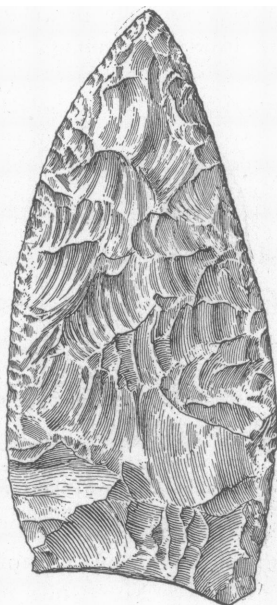


Fig. 6.

Fig. 5. Chipped Point made of Obsidian. From Priest Rapids. $\frac{1}{2}$ nat. size. (Drawn from a sketch. Original in the collection of Mr. Mires.)

Fig. 6. (T-21184, H-180.) Fragment of a leaf-shaped Point made of Chert. From Wallula near the Columbia River, Oregon. Collected by Judge James Kennedy in 1882. $\frac{1}{2}$ nat. size.

were found in the Thompson River region¹ and were thought to represent an intrusion from the coast where they were common as in the Fraser Delta² at both Port Hammond and Eburne where they are more than one half as numerous as the chipped points, and at Comox³ where at least seven of this

¹ Smith, (c), p. 409.

² Smith, (a), pp. 141 and 143.

³ Smith, (b), p. 308.

type to three chipped from stone were found. They were also found at Saanich,¹ where they were in proportion of nineteen to twenty-four, near Victoria² and on the San Juan Islands.³

Points Rubbed out of Bone. Points rubbed out of bone which were so common on the coast everywhere, but rare in the Thompson River country are still more scarce here. Only ten specimens from the whole region can be identified as clearly intended for the points or barbs of arrows, harpoon heads or spears. The types are shown in Figs. 7 to 12. The first was found in the west, northwest part of grave No. 10 (5) in a rock-slide about a half mile above the mouth of the Naches River. It is nearly circular in cross section, 31 mm. long with a point only 6 mm. in length and was apparently intended for a salmon harpoon head, similar to those used in the Thompson River region⁴ both in ancient and modern times but which are much more common on the coast. The specimen shown in Fig. 8 is circular in cross section and was seen in the collection of Mrs. Davidson. It is from Kennewick and is of the shape of one of the most frequent types of bone points found in the Fraser Delta.⁵ The specimen shown in Fig. 9 was found with three others in grave No. 1 in a rock-slide of the Yakima Ridge. This and two of the others were scorched. They are circular in cross section and sharp at both ends but the upper end is much the more slender. The point shown in Fig. 10 somewhat resembles these, but it is slightly larger and tends to be rectangular in cross section except at the base. It was found with a similar specimen in a grave on the Snake River, five miles above its mouth, and was collected and presented by Mr. Owen who still has the other specimen. Diagonal striations may still be seen on its much weathered brown surface. These were probably caused by rubbing it on a stone in its manufacture. A slightly different type of bone point is shown in Figs. 11 and 12. These seem to be barbs for fish spears such as were found in the Thompson River region,⁶ among both ancient and modern specimens. The one shown in Fig. 11 has traces of the marrow canal on the reverse. It was found in the Yakima Valley below Prosser and is in the collection of Mr. Spalding. While the specimen shown in Fig. 12 is from the surface near the head of Priest Rapids.

Bone points and barbs were used in the Nez Perce region to the east, where three types of spears with bone points were known, two of them at least being similar to those found in the Thompson River region to the

¹ Smith, (b), p. 332.

² P. 357 and 358, *ibid.*

³ P. 380, *ibid.*

⁴ Smith, (c), p. 410; Teit, (a), Fig. 231.

⁵ Cf. Smith, (a), Fig. 13h.

⁶ Smith, (c), p. 410; Teit, (a), Fig. 232.

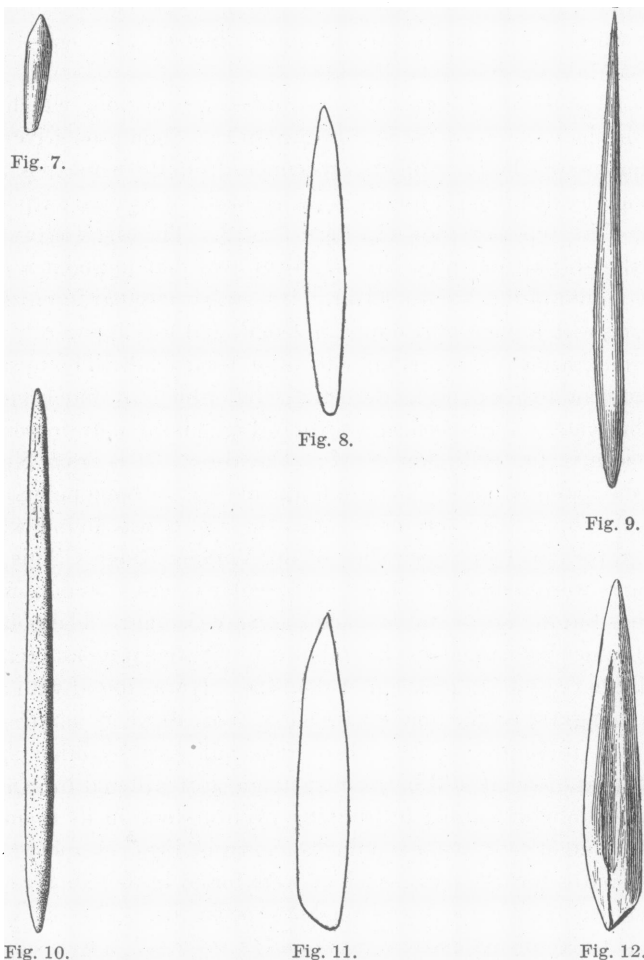


Fig. 7 (202-8165). Point made of Bone. From the W., N. W. part of grave No. 10 (5) in a rock-slide about half a mile above the mouth of Naches River. $\frac{1}{2}$ nat. size.

Fig. 8. Point made of Bone. From Kennewick. $\frac{1}{2}$ nat. size. (Drawn from a sketch. Original in the collection of Mrs. Davidson.)

Fig. 9 (202-8143). Scorched Point made of Bone. From grave No. 1 in a rock-slide of the Yakima Ridge. $\frac{1}{2}$ nat. size.

Fig. 10 (20.0-1468). Point made of Bone. Found in a grave on an island in the Snake River, five miles above its mouth. $\frac{1}{2}$ nat. size. (Collected and presented by Mr. Owen.)

Fig. 11. Point or Barb made of Bone. From the Yakima Valley below Prosser. $\frac{1}{2}$ nat. size. (Drawn from a sketch. Original in the collection of Mr. Spalding.)

Fig. 12 (202-8381). Point or Barb made of Bone. From the surface, near the head of Priest Rapids. $\frac{1}{2}$ nat. size.

north.¹ The war spears sometimes had a point of bone, usually lance-shaped, but sometimes barbed.²

Bows. The only information which we have regarding bows is from the specimen shown in Fig. 114. The object seems to be a fragment of a bow which was lenticular in cross section although rather flat. It is slightly bent and the concave side bears transverse incisions. (p. 125.) The specimen was found in grave No. 10 (5) in a rock-slide about one hundred and fifty feet up the slope on the north side of the Naches River, about half a mile above its mouth. The presence of several perishable objects in the grave suggest it to be modern, but no objects of white manufacture were found. This is the only object indicating the sort of bow used in this region and with the exception of the chipped points previously described, some of which were undoubtedly for arrows, is the only archaeological object tending to prove the use of the bow. It will be remembered³ that fragments of a bow of lenticular cross section ornamented with parallel irregularly arranged cuneiform incisions, were found in a grave near Nicola Lake in the Thompson River region and that pieces of wood, some of which may have been part of a bow, were found in a grave at the mouth of Nicola Lake; also that pieces of wood found at Kamloops resemble a bow of the type shown in Fig. 220 of Mr. Teit's paper on the present Thompson Indians.⁴

In the Nez Perce region to the east, war clubs with heads made of unworked river boulders, according to Spinden,⁵ were sometimes used in killing game and such may have been the case in this region.

Snares. Fragments of thongs, skin, fur and woodpecker feathers merely suggest methods of hunting or trapping which are not proven by any of our finds. It is barely possible although not probable that the bone tubes considered to have been used in gambling and illustrated in Figs. 97 and 98 and also the perforated cylinder of serpentine shown in Fig. 99 may be portions of snares. Traps and snares of various kinds were common among the Indians of the larger plateau area of which this is a part.⁶

Mr. J. S. Cotton informs me that in the vicinity of Mr. Turner's home, Section 6, Town north 18, Range 40 east, on Rock Creek, about six miles below Rock Lake, and in the vicinity of the graves described on p. 140 and the so-called fort mentioned on p. 82, there is a long line of stones running from Rock Creek in a southeasterly direction across the coule to a small draw on the other side. This chain of rocks is about five miles long. The stones

¹ Spinden, p. 189 and Fig. 5⁸, 10, 11.

² Spinden, p. 227.

³ Smith, (c), p. 411.

⁴ Teit, (a), Fig. 216.

⁵ Spinden, p. 188 and 227, also Fig. 5⁵.

⁶ Lewis, p. 182.

have evidently sunk into the ground and show signs of having been there a long time. They have been in the same condition since about 1874 when first seen by the whites, even the oldest Indians claiming to know nothing about them. According to Lewis, game was surrounded and driven in by a large number of hunters or was run down by horses, in the great area of which this is part.¹ It seems altogether probable that a line of stone heaps may have been made to serve either as a line of scarecrows, possibly to support flags or similar objects, which would have the effect of a fence to direct the flight of the game or as a guide to enable the hunters to drive the game towards a precipice where it would be killed, or a corral where it would be impounded.

Notched Sinkers. Sinkers for fish nets or lines were made of disk-shaped river pebbles. A pebble and the different types of sinkers are shown in Fig. 13. These were numerous on the surface of the beach of the Columbia River near the head of Priest Rapids. They have two or four notches chipped from each side in the edges. When there are two, the notches are usually at each end; when there are four, they are at the end and side edges. Sometimes, the notches are so crudely made that the edge of the pebble is simply roughened so that a string tied about it at this place would hold. One of these sinkers from Priest Rapids was seen in Mr. Mires' collection.

Grooved Sinkers. Some large thick pebbles have grooves pecked around their shortest circumference. They may have been used as canoe smashers or anchors, but seem more likely to be net sinkers. Two of these are shown in Figs. 14 and 15. They are from Priest Rapids and are in the collection of Mr. Mires. Both are battered along the lower edge, from the groove on the left to within a very short distance of it on the right and over a considerable portion of the edge of the top. In the second specimen, this battering forms a considerable groove on the lower edge, but a groove only the size of those shown in the illustration on the upper edge. This battering suggests that they may have been used as hammers, but the battered ends of hammers are not often grooved. There are certain grooves pecked on one side of each which seem to be of a decorative or ceremonial significance and are consequently discussed on p. 132 under the section devoted to art. The first specimen is made of granite or yellow quartzite with mica, the second is of granite or yellowish gray quartz with augite and feldspar. One specimen similar to these two, but without any decoration or grooving (202-8116) was found by us on the beach at Kennewick as was also a large pebble grooved nearly around the shortest circumference (202-8332) at Priest Rapids. One object of this type made of a boulder but grooved around the longest

¹ Lewis, p. 182; Ross, (a), p. 316; De Smet III, p. 1026; Lewis and Clark, IV, p. 371.

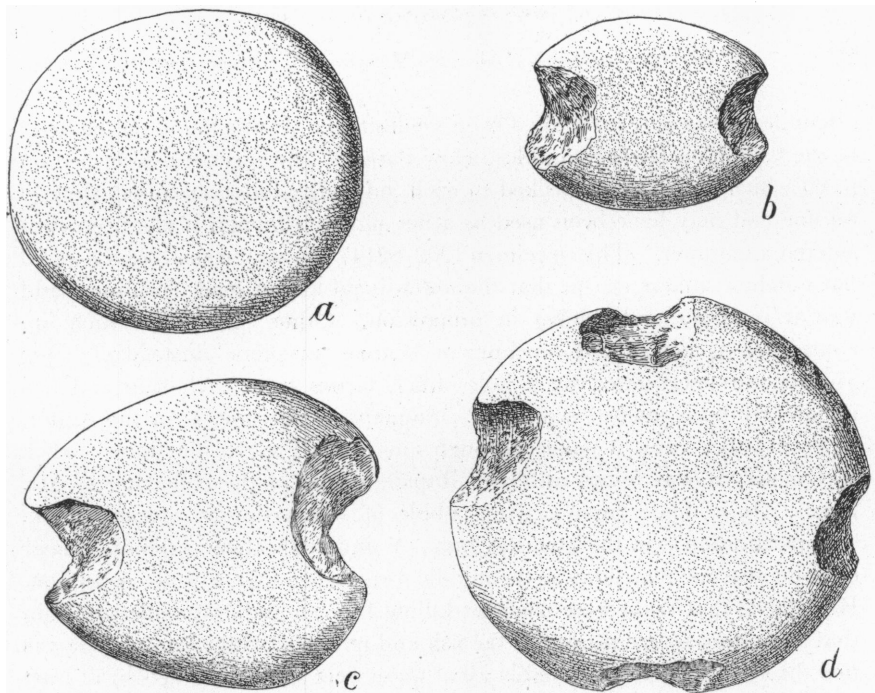


Fig. 13.

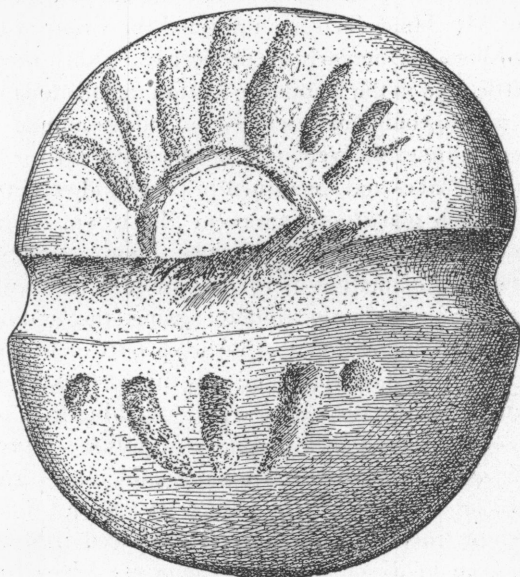


Fig. 14.

Fig. 13 *a* (202-8296), *b* (202-8318), *c* (202-8313), *d* (202-8330). Pebble and Net Sinkers made of Pebbles. From the surface of the bank of Columbia River, near the head of Priest Rapids. $\frac{1}{2}$ nat. size.

Fig. 14. Sinker, a Grooved Boulder bearing a Design in Intaglio. From Priest Rapids. $\frac{1}{2}$ nat. size. (Drawn from photograph 44536, 9-2. Original in the collection of Mr. Mires.)

circumference was seen in Mr. Owen's collection. It was found on the bank of the Columbia River two miles below Pasco. The specimen described on p. 60 which has a notch pecked in each side edge and is battered slightly on one end may have been used as a net sinker, although it has been considered a hammer. This specimen (202-8214) in a way resembles the small flat notched sinkers except that the notch is pecked instead of chipped and that it is larger and thicker in proportion. Other specimens which are considered as net sinkers, anchors or "canoe smashers" instead of being grooved; are perforated by a hole which tapers from each side and has apparently been made by pecking. Sometimes this hole is in the center, while in other cases it passes through one end. Fig. 16 illustrates such a specimen. It was found at Priest Rapids and is in the collection of Mr. Mires. It is made from a river pebble of yellowish-gray volcanic rock. The perforation is in the broadest end. A similar specimen perforated near one end and one pierced near the middle were seen in Mr. Owen's collection. He believes that these were used for killing fish, an Indian having told him that such stones were thrown at the fish and retrieved with a cord which was tied through the hole. Probably all of these were sinkers for nets or at least anchors for the ends of nets, set lines or for small boats.

Sinkers were not seen by us among archaeological finds in the Thompson River region but Mr. James Teit has informed the writer of their use there on both nets and lines, particularly on the former. Nets, excepting the bag net, were very little used in the Kamloops-Lytton region along the Thompson River and that may account for a scarcity of sinkers among archaeological finds. Nets were more extensively used on the Fraser River, but were very much used near large lakes and consequently one would expect to find sinkers in the vicinity of such places as Kamloops, Shushwap, Anderson, Seaton, Lillooet, Nicola, Kootenay and Arrow Lakes. Now, as the Shushwap generally made little bags of netting in which they put their sinkers to attach them to nets, this would greatly militate against the finding of grooved, notched or perforated sinkers in the Shushwap part of this region. They probably thought this method was more effective or took up less time than notching, grooving or perforating stones, and attaching lines to them. It is unknown which of these methods is the most primitive. Unworked pebbles, chosen for their special adaptation in shape, and others grooved or perforated were used in some parts of the interior of British Columbia for sinkers which were not enclosed in netting. Unworked pebbles attached to lines have been seen in use among the Thompson River Indians by Mr. Teit who sent a specimen of one to the Museum.¹ These were of various

¹ Teit, (a), Fig. 234.

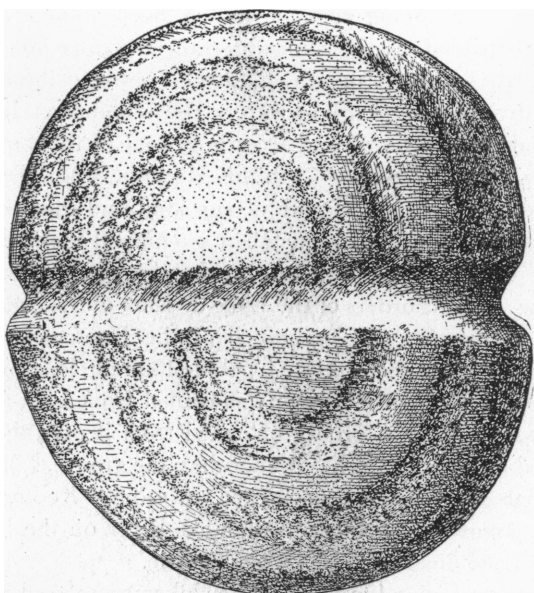


Fig. 15.

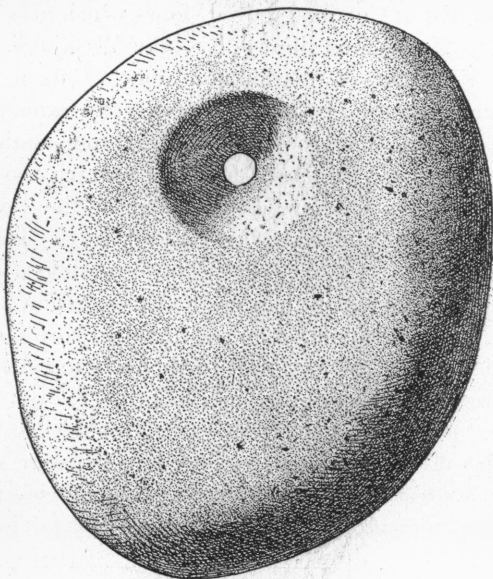


Fig. 16.

Fig. 15. Sinkers, a Grooved Boulder bearing a Design in Intaglio. From Priest Rapids. $\frac{1}{2}$ nat. size. (Drawn from photograph 44536, 9-2. Original in the collection of Mr. Mires.)

Fig. 16. Sinkers, a Perforated Boulder. From Priest Rapids. $\frac{1}{2}$ nat. size. (Drawn from photograph 44535, 9-1. Original in the collection of Mr. Mires.)

shapes, some of them being egg-shaped. A deeply notched oval pebble was found on the site of an old semi-subterranean winter house on the west side of Fraser River at the mouth of Churn Creek in the country of the Fraser River division of the Shushwap. The Thompson Indians said it had been intended for a war ax and accordingly one of them mounted it in a handle. It is now cat. No. 16-9073 in this Museum. Mr. Teit believes the stone to be too heavy for a war club of any kind and that possibly it may originally have been a sinker, although it is chipped more than necessary for the latter. In 1908, he saw a perforated sinker found near the outlet of Kootenay Lake, on the borders of the Lake division of the Colville tribe and the Flat-bow or Kootenay Lake branch of the Kootenay tribe. It was made of a smooth flat water-worn beach pebble 132 mm. long by 75 mm. wide and 25 mm. thick. The perforation was drilled from both sides near the slightly narrower end and a groove extended from it over the nearest end where it formed a notch somewhat deeper than the groove. Mr. Teit heard that several such sinkers had been picked up around Kootenay Lake and also along the Arrow Lakes of the Columbia River on the borders of the Shushwap and Lake divisions of the Colville tribe.

In the Nez Perce region ¹ to the east, no sinkers were used with fish lines, but roughly grooved river boulders were employed as net sinkers.² A grooved sinker has been found at Comox, grooved stones which may have been used as sinkers occur at Saanich, on the west coast of Washington and the lower Columbia. On the coast of Washington some of them have a second groove at right angles to the first which in some cases extends only half way around; that is, from the first groove over one end to meet the groove on the opposite side. One of the specimens found at Saanich was of this general type. Perforated specimens have been found in the Fraser Delta,³ at Comox,⁴ at Saanich,⁴ Point Gray,⁴ Marietta,⁴ at Gray's Harbor and in the Lower Columbia Valley. On the whole, however, sinkers are much more numerous in the Yakima region than on the Coast. The fish bones which were found, as mentioned under resources, tend to corroborate the theory that the notched, grooved and perforated pebbles were net sinkers and that the bone barbs were for harpoons used in fishing.

Shell Heaps. Small heaps of fresh water clam shells, as before mentioned among the resources of the region on p. 22, were seen; but these being only about five feet in diameter and two or three inches thick are hardly comparable to the immense shell heaps of the coast. These fresh water

¹ Spinden, p. 210.

² Spinden, pp. 188 and 211.

³ Smith, (a), Fig. 22.

⁴ Smith, (b), p. 311, 338, 362, 369.

shells were probably secured from the river near by, where such mollusks now live. Shell fish probably formed only a small part of the diet of the people although dried sea clams may have been secured from the coast by bartering. The objects made of sea shell mentioned among the resources of this region as probably secured from the coast through channels of trade, suggest that the same method was employed for obtaining certain food products from a distance. In fact, Lewis and Clark inform us that the tribes of this general region carried on considerable trade with those of the lower Columbia. Shell heaps of this character, however, are found in the Nez Perce region. Spinden¹ states that no shell heaps except of very small size are found, but occasionally those of a cubic foot or more in size are seen in the loamy banks of the rivers, noting a few near the junction of the South and Middle forks of Clearwater River, and also near the confluence of the North fork with the Clearwater. These seem to be the remains of single meals that had been buried or cast into holes.

Digging Sticks. The gathering of roots is suggested by the presence of digging stick handles. One of these (Fig. 126) is made of the horn of a rocky mountain sheep and was secured from an Indian woman living near Union Gap below Old Yakima. The perforation, near the middle of one side for the reception of the end of the digging stick, is nearly square but has bulging sides and rounded corners. The smaller end of the object is carved, apparently to represent the head of an animal. Similar handles, some of them of wood, others of antler and with perforations of the same shape, were seen in Mr. Janeck's collection. It will be remembered that such digging stick handles made of antler were found in the Thompson River region among both archaeological finds and living natives,² the archaeological specimens being of antler, the modern handles of wood or horn.

The digging stick was one of the most necessary and characteristic implements of the Nez Perce region to the east, the handle consisting of a piece of bone or horn perforated in the middle for the reception of the end of the digging stick, or, according to Spinden, an oblong stone with a transverse groove in the middle lashed at right angles to the stick.³ No archaeological specimens which are certainly digging stick handles were found on the coast.

No sap scrapers such as were collected in the Thompson River region⁴ were identified and they have not been recognized among specimens from the coast.

Basketry. The gathering of berries as well as of roots is suggested by

¹ Spinden, p. 177.

² Smith, (d), p. 137; (c), p. 411; Teit, (a), p. 231.

³ Spinden, p. 200, Fig. 33, Plate VII.

⁴ Smith, (c), p. 411.

fragments of baskets which have been found. One of these is shown in Fig. 17.

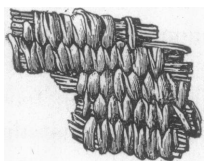


Fig. 17 (202-8161). Fragment of Coiled Basket of Splint Foundation and Bifurcated Stitch From grave No. 10 (5) in a rock-slide about half a mile above the mouth of Naches River. $\frac{1}{2}$ nat. size.

It was found in grave No. 10 (5) in a rock-slide about a half mile above the mouth of the Naches River. It is coiled with splint foundation and bifurcated stitch. Judging from other baskets of the same kind, it was probably once imbricated. This type of basketry is widely distributed towards the north and with grass foundation is even found in Siberia.¹ Commonly the coiled basketry in the Nez Perce region to the east was made with bifurcated stitch,² by means of a sharpened awl which was the only instrument used in weaving it. Some were imbricated, although this style has not been made for many years, and only a few of the older natives remember women who could make them.³ Some similar basketry of a finer technique was found with this fragment.

PREPARATION OF FOOD.

Mortars. Mortars made of stone for crushing food, such as dried salmon, other meat and berries, were not uncommon in this region and pestles of the same material were numerous. Flat oval pebbles were found scattered on

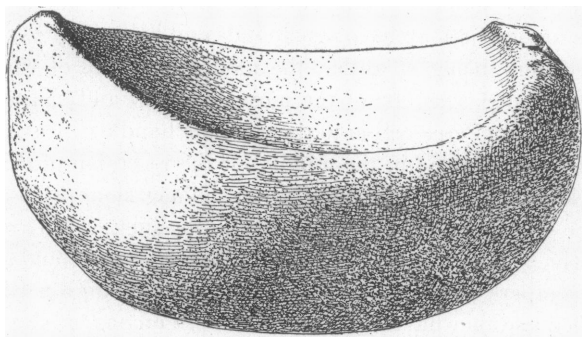


Fig. 18 (202-8394). Fragment of a Mortar made of Stone. From among covering boulders of grave No. 42 (4) of adult in sand at the western edge of Columbia River about twelve miles above the head of Priest Rapids. $\frac{1}{2}$ nat. size.

¹ Jochelson, p. 632.

² Spinden, 194.

³ Spinden, p. 193.

the surface of a village site on the west bank of the Columbia at the head of Priest Rapids, and were probably used as lap stones or as objects upon which to crush food. A somewhat circular one (202-8295) about 230 mm. in diameter has a notch, formed by chipping from one side, opposite one naturally water-worn, which suggests that it may have been used as a sinker; but it seems more likely that it was simply an anvil or lap stone. Similar pebbles were used in the Thompson River region,¹ some of them having indications of pecking or a slight pecked depression in the middle of one or both sides. In the Nez Perce region to the east, basketry funnels were used in connection with flat stones for mortars. These funnels were of rather crude coil technique.² Another specimen (202-8292b) found at the same place is merely a water-worn boulder somewhat thinner at one end than at the other, the surface of which apparently has been rubbed from use as a mortar or milling stone. A few large chips have been broken from the thinner edge.

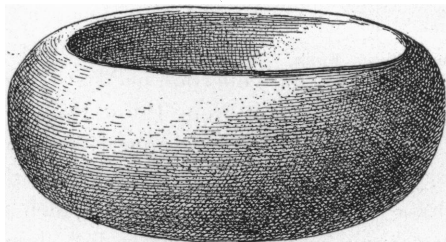


Fig. 19. Mortar made of Stone. From the Yakima Reservation near Union Gap. $\frac{1}{4}$ nat size. (Drawn from photograph 44455, 2-4. Original in the collection of Mr. Janeck.)

Still another specimen (202-8294) from here is a fragment of a pebble only 120 mm. in diameter with a saucer-shaped depression about 10 mm. deep, in the top.

A somewhat disk-shaped pebble of gray lava 295 mm. in diameter with a saucer-shaped depression in the top and a large pecked pit in the bottom (20.0-3344) was collected at Fort Simcoe by Dr. H. J. Spinden. A fragment of a mortar about 190 mm. in diameter with a nearly flat or slightly convex base and a depression 50 mm. deep in the top (202-8293) was found on the surface near the head of Priest Rapids and another fragment nearly twice as large, the base of which is concave over most of its surface and shows marks of pecking, apparently the result of an attempt to make it either quite flat or concave like many other mortars that have a concavity in each side, is shown in Fig. 18. It was found among the covering boulders of the grave

¹ Smith, (d), p. 139.

² Cf. Spinden, p. 194.

of an adult, No. 42(4), in the sand at the western edge of the Columbia River about twelve miles above the head of Priest Rapids. The mortar shown in Fig. 19, is hollowed in the top of a symmetrical, nearly circular pebble and has a convex base. It was found on the Yakima Reservation near Union Gap and is in the collection of Mr. Janeck.¹ This reminds us of a similar mortar found in the Thompson River region,² but such simple mortars made from pebbles are rarely found in the Nez Perce region to the east.³ The

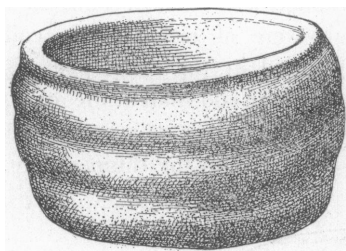


Fig. 20. Mortar made of Stone. From the Yakima Reservation near Union Gap. $\frac{1}{2}$ nat size. (Drawn from photograph 44455, 2-4. Original in the collection of Mr. Janeck.)

mortar shown in Fig. 20 also from the same place and in the same collection has a nearly flat base and three encircling grooves.⁴ These grooves find their counterpart in four encircling incisions on the little mortar found in the Thompson River region.⁵

The specimen shown in Fig. 116, which may be considered as a dish rather than a mortar, was seen in the collection of Mrs. Hinman who obtained it from Priest Rapids. It is apparently of sandstone, 150 mm. in diameter, 50 mm. high, the upper part being 38 mm.

high and of disk shape with slightly bulging sides which are decorated with incised lines,⁶ the lower part being also roughly disk shaped 64 mm. by 76 mm. in diameter by about 12 mm. high with slightly convex bottom and edges curved out to the base of the upper part. There is a disk shaped dish in the top 100 mm. in diameter by 12 mm. in depth.⁷

The animal form shown in Fig. 125 bears a mortar or dish in its back. The object is 203 mm. in length, 88 mm. high and 113 mm. wide. The length of the bowl is 88 mm., the width 70 mm., and the depth 38 mm. The object is made of porous lava and was secured from an Indian who claimed to have found it in a grave near Fort Simcoe on the Yakima Reservation two miles below Union Gap which is immediately below Old Yakima.⁸

It seems strange that so many of the mortars are broken since they would

¹ Museum negative no. 44455, 2-4.

² Smith, (c), Fig. 342.

³ Spinden, Figs. 20 and 22, Plate vi.

⁴ Museum negative no. 44455, 4-2.

⁵ Smith, (c), Fig. 343.

⁶ See p. 125.

⁷ Museum negative no. 44537, 9-3.

⁸ Here reproduced from photographs 44452, 2-1, 44455, 2-4, and 44503, 6-4 and the original which is catalogue no. 36 in the collection of Mr. Janeck.

be hard to break. It will be remembered that one of the broken mortars came from a grave and it may be that the others were on or in graves but had been removed in some way. My general impression is that mortars are much more numerous among archaeological finds both in this region and in the interior of British Columbia than on the coast.

Pestles. In addition to the probable use of pestles with flat stones or mortars with basket funnels, some of them, especially where nearly flat or concave on the striking head as in the Thompson River region to the north and on the coast may also have been used as hammers for driving wedges, splitting wood and like industries, if indeed they were not made solely for the latter uses. Some of the pestles differ from those found either to the north or on the coast, many of them being much longer, although Mr. James Teit informs me that very long pestles are occasionally found in the Thompson River region. He has seen four, and heard of one or two more. One two feet long was found in the Nicola Valley about 1905. One of the pestles of the Yakima Valley has a top in the form of an animal hoof, as is shown in Fig. 124. Others like animal heads are shown in Figs. 31, 33-35. The range of forms of pestles is shown in Figs. 21 to 35. The specimens shown in Figs. 22 to 28 inclusive are apparently all of the shorter type, while those shown in the remaining figures are variations of the longer type. By far the greater number of pestles, about forty, are of the type shown in Fig. 21, and of these two thirds come from the vicinity of Priest Rapids. They are merely natural pebbles, all more or less of suitable size, shape and material, which have been used as pestles until one end has become flattened. Some of them are also flattened on the top, the battered ends often giving the only indication that they were used. Such as were not of exactly the right form for grasping have had their excrescences or the more projecting surfaces removed by pecking. A few of these objects seem to have been made from small basaltic columns, the corners of which have been pecked into a more suitable shape. Some of them have been pecked so that they taper gradually from the small upper end to the base. The specimen considered as a "slave-killer" and shown in Fig. 69, may have been used as a pestle. Simple short cylindrical or conoid pebbles, only slightly changed from their natural form, are used for pestles in the Nez Perce region to the east.¹

A pebble 559 mm. long by 152 mm. wide and 114 mm. thick, with rounded corners and ends, found by Mr. John Lacy near the Yakima River in North Yakima, has longitudinal grooves pecked in three sides to where they begin to round over to form the end, and a similar groove, except that

¹ Cf. Spinden, Figs. 1-4, and 8, Plate VIII.

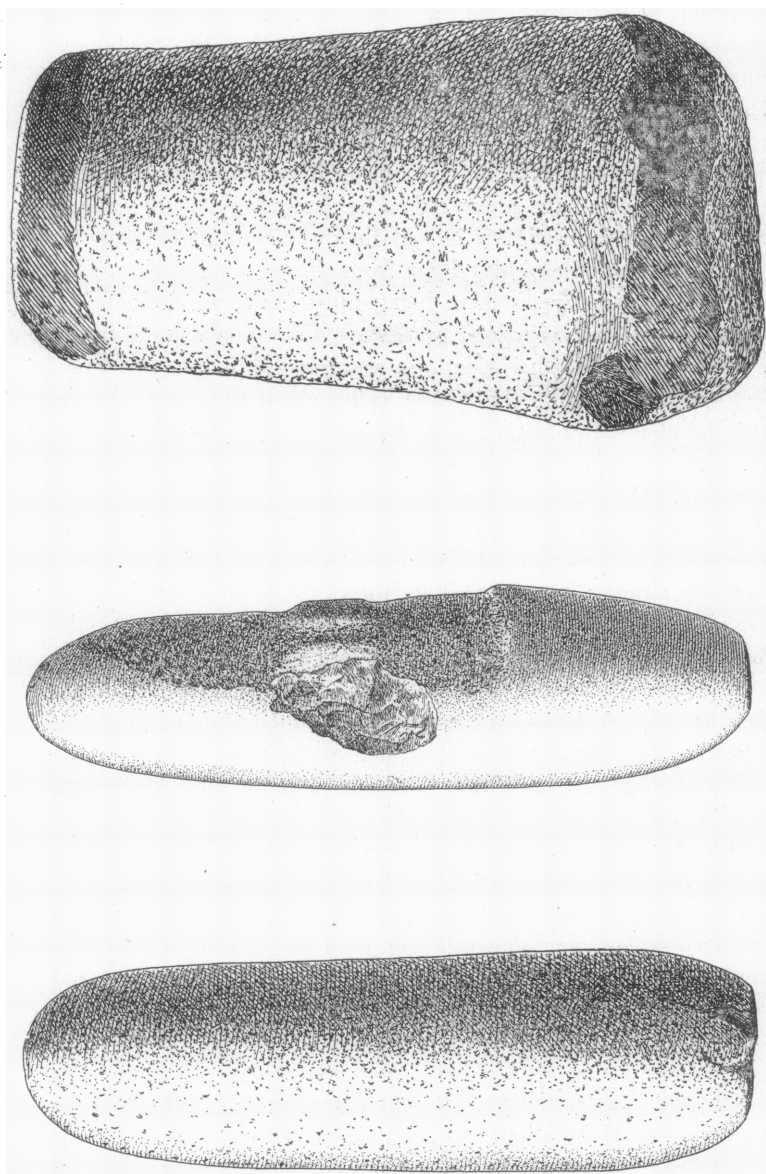


Fig. 21.

Fig. 22.

Fig. 23.

Fig. 21 (202-8281). Pestle made of Stone. From the surface, near the head of Priest Rapids. $\frac{1}{4}$ nat. size.
 Fig. 22 (202-8283). Pestle pecked from Stone. Probably unfinished. From the surface, near the head of Priest Rapids. $\frac{1}{4}$ nat. size.
 Fig. 23 (202-8399). Pestle pecked from Stone. Probably unfinished. From the surface, eight miles above the head of Priest Rapids.
 $\frac{1}{4}$ nat. size.

it is only about 101 mm. long, in the middle of the fourth side.¹ These grooves were probably made as part of a process of grooving and battering down the intervening ridges in order to bring the specimen into a desired form. Similarly grooved pebbles found on the northern part of Vancouver Island were explained to Professor Franz Boas as having been implements in such process of manufacture. So far as I am aware, Prof. Boas' announcement of this at a meeting of the American Association for the Advancement of Science was the first explanation of the sort of grooving or fluting of specimens found in northwestern America. One similar large specimen (20.0-3343) found at Lewiston, Idaho, in the Nez Perce region by Dr. H. J. Spinden, bears two longitudinally pecked grooves in addition to pecking on much of its surface. A yellowish gray boulder about 349 mm. long, nearly circular in sections and with rounded ends, from Priest Rapids, bears a pecked groove 82 mm. long by 31 mm. wide and 6 mm. deep across the middle of one side. This may have been made to cut it into the length desired for a pestle.² This specimen is much too large to be considered as the handle of a digging stick, similar to the object from the Nez Perce region considered as such by Spinden.³

The object shown in Fig. 22, one of those from the surface near the head of Priest Rapids, judging from the battered end, has apparently been used as a pestle, yet it is still apparently in process of manufacture into a form somewhat like that shown in Fig. 27. The pecking at the top is possibly the result of an attempt to remove that portion of the rock, while the transversely pecked surface seems to be a beginning towards the formation of the shaft of the pestle, whereas the longitudinal groove between these two surfaces was necessary to reduce an excrescence on the rim of what was apparently intended to be the knob at the top of the pestle. If this supposition be true, when finished, this object would have a large striking head resembling more in shape and size those of the pestles of the region near The Dalles than any yet found in this region. The specimen shown in Fig. 23 is much more clearly an unfinished pestle. The ends are pecked flat and the entire middle section has been pecked, apparently to reduce it to the desired size of the shaft. It seems that the striking head of this specimen, when finished, would be rather short. It was found on the surface eight miles above the head of Priest Rapids.

The pestle shown in Fig. 24 has a conoid body with no striking head and in this respect resembles the pestles of the Thompson River country;⁴ but

¹ In the collection of Mr. Janeck and Museum negative nos. 44453, 2-2 and 44501, 6-2.

² In the collection of Mr. Mires, and Museum negative no. 44534, 8-12.

³ Cf. Spinden, Plate VII, Fig. 33.

⁴ Smith, (c), Fig. 341.

the top is roughly disk-shaped, being neither hat-shaped nor in the form of an animal head, as are most pestles of the Thompson region nor is it exactly of the shape of the typical pestles of northern and western Vancouver Island.¹ The material is a soft gray stone which shows the marks of the pecking by means of which it was shaped.

Fig. 25 illustrates a pestle, the top of which is broken off. There are two grooves encircling the somewhat cylindrical striking head. The material

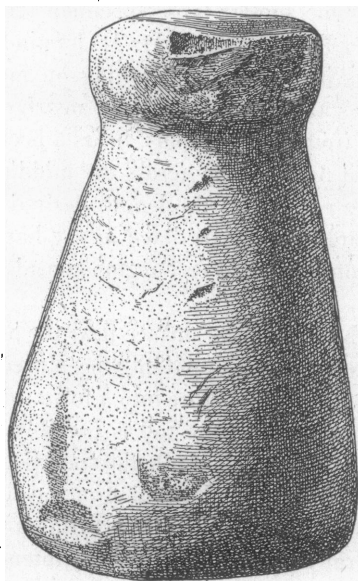


Fig. 24.

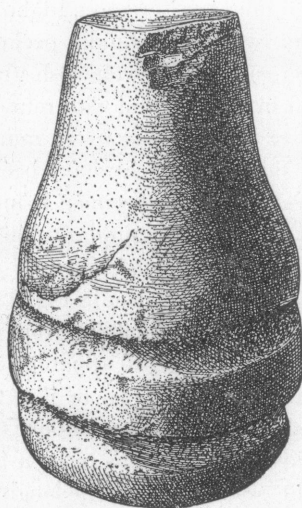


Fig. 25.

Fig. 24. Pestle made of Stone. From Priest Rapids. $\frac{1}{2}$ nat. size. (Drawn from photograph 44535, 9-1. Original in the collection of Mr. Mires.)

Fig. 25. Pestle made of Stone. From Priest Rapids. $\frac{1}{2}$ nat. size. (Drawn from photograph 44535, 9-1. Original in the collection of Mr. Mires.)

is a light blue hard porphoritic rock. These two specimens are from Priest Rapids.² The pestle shown in Fig. 26 is from the Yakima River, five miles below Old Yakima. It has a hat-shaped top and a cylindrical striking head a little larger at the top than at the bottom, is somewhat like the typical pestles of the Thompson River region,³ and is in the collection of Mr. York. Another has a slightly wider brim to the hat-shaped top, a body concave in outline and the striking head is larger at the top than at the bottom, while a

¹ Smith, (b), Fig. 126a.

² In the collection of Mr. Mires, and Museum negative no. 44535, 9-1.

³ Smith, (d), p. 138.

third has a medium sized brim, a body bulging in the middle and a long cylindrical striking head. The last two specimens are in the collection of Mr. Janeck, and are from the Yakima Valley within eight miles of North Yakima.¹

The specimen shown in Fig. 27 was found in a grave with beads and resembles the typical pestles of Lytton except that it has no nipple on the top, which is of the shape of the tops of the typical pestles of northern and western Vancouver Island. Another of nearly the same shape but less regular was found on the surface of the Yakima Valley within eight miles of North Yakima. A third specimen 234 mm. long, also found within the above mentioned limits, is made of a concavely flaring pebble. A groove is pecked part way around near the top as if to carve the knob and begin the reduction of the top of the shaft. There is also a pecked surface on one side near the base, apparently the beginning of an attempt to form a striking head by first removing irregularities. The one shown in Fig. 28 was found within eight miles of North Yakima and is of rather unusual shape, having a short striking head of the shape of the typical pestles of northern and western Vancouver Island. The slightly bulging body and exceedingly small, nearly flat knob at the top are entirely different from those of the pestles usually found in any of this area, or the country adjacent to it on the north and west. These four specimens are in the collection of Mr. Janeck.²

There are found in the Nez Perce region³ short pestles with dome-shaped tops, cylindrical bodies and rather long striking heads of the form of triangular or quadrangular prisms with rounded corners slightly larger at the top than at the bottom⁴ and such pestles with hat-shaped tops, although one has a flat top, slightly expanding shafts and long striking heads, larger at the top than at the bottom.

Fig. 29 is the first of those showing the longer type of pestle from the Yakima region. This specimen was found at Satus on the Yakima Reservation near Old Yakima and is in the collection of Mr. York. The top is somewhat spherical and the body elongated. Its conoid shape may class it with the one shown in Fig. 24. It somewhat reminds us of the pestles of the Santa Catalina Islands of California, but until we have a more definite knowledge of the forms in the vast intervening area, this resemblance must be considered as merely a coincidence, especially since long simple conoid pestles are found in the Nez Perce region to the east.⁵ A somewhat similar

¹ Museum negative no. 44454, 2-3.

² Museum negative no. 44454, 2-3.

³ Cf. Spinden, Figs. 11, 19, 21, 23, Plate VI; also Plate VIII, Figs. 10, 11.

⁴ Spinden, p. 186, Plate VIII, Fig. 9.

⁵ Cf. Spinden, Plate VI, Figs. 8-10, Plate VIII, Fig. 6.

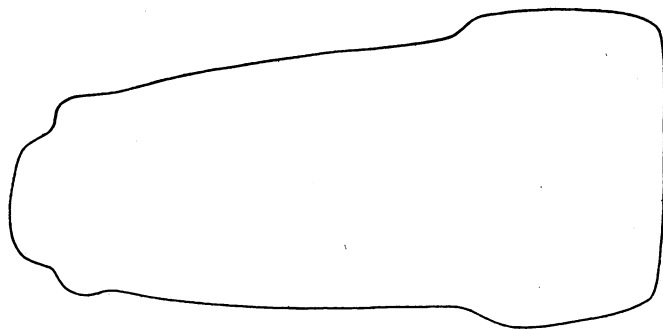


Fig. 26.

Fig. 26. Pestle made of Stone. From Yakima River five miles below Old Yakima. $\frac{1}{2}$ nat. size. (Drawn from a sketch. Original in the collection of Mr. York.)

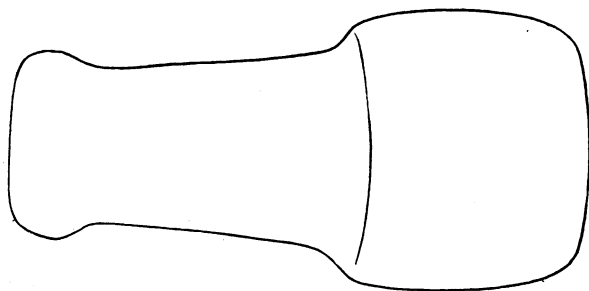


Fig. 27.

Fig. 27. Pestle made of Stone. From a grave in the Yakima Valley. About $\frac{1}{2}$ nat. size. (Drawn from photograph 44454, 2-3. Original in the collection of Mr. Janeck.)

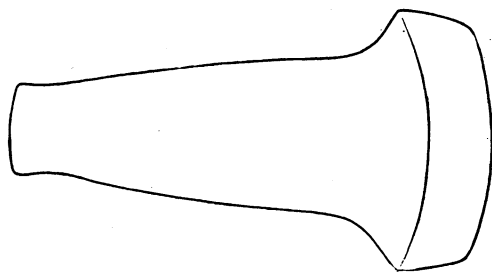


Fig. 28.

Fig. 28. Pestle made of Stone. From the surface in the Yakima Valley within eight miles of North Yakima. About $\frac{1}{2}$ nat. size. (Drawn from photograph 44454, 2-3. Original in the collection of Mr. Janeck.)

pestle in Mr. York's collection is 408 mm. long, and has a tapering body, circular in sections, a knob at the top about the size of the base and a convex striking face. It was found at Fort Simcoe.

The pestle shown in Fig. 30 is made of sandstone, was found at Priest Rapids and is in the collection of Mrs. Hinman. The shaft is a long cylinder, expanding somewhat towards the base which is only slightly convex. Like the preceding, it has no striking head. It has a hemispherical top, is unusually large and is decorated with an encircling line of circles and dots. There is also a circle and dot in the top. This decoration is again mentioned in the consideration of art on p. 130.¹

The pestle shown in Fig. 31 is 355 mm. long. It has a conoid body perhaps more pronounced than the one shown in Fig. 29 but much less typical than the one shown in Fig. 24. The top is apparently intended to represent an animal head. It is made of very hard breccia and well polished. At each side of the lower part of the body is a design made by four parallel zigzag grooves, further discussed on p. 132. It was found in the Yakima Valley, and is in the collection of Mr. Janeck.² A pestle figured by Spinden, as from the Nez Perce Indians,³ is somewhat similar to this in that it has a knob protruding slightly to one side, but there is a notch or groove made longitudinally in the top of this knob.

The pestle shown in Fig. 32 might perhaps be considered as a war club. It was found at Priest Rapids and is in the collection of Mr. Mires. The top is somewhat flat and smoothed. There is a groove around the specimen near this end. From here it constricts gradually to the lower end which is broken off. It was made from a triangular piece of gray basalt, probably a column, the natural angles and parts of the faces of which have been reduced by pecking.⁴

The specimen shown in Fig. 33 from the Yakima Valley, is in the collection of Mr. Janeck and is 630 mm. long. The top apparently represents an animal head indicated by three nipples the larger of which is interpreted as representing the nose, the others as indicating the ears. The body is of circular cross section and expands evenly to a cylindrical striking head 70 mm. in diameter by 76 mm. long.⁵

A long pestle with a knob at the top which is divided into four pyramidal or dome-shaped nipples was found at Five Mile Rapids on Snake River and was seen in Mr. Owen's collection. The next figure represents a stone pestle

¹ Museum negative no. 44537, 9-3.

² Museum negative no. 44502, 6-3.

³ Spinden, Fig. 7, Plate VIII.

⁴ Museum negative no. 44534, 8-12.

⁵ Museum negative no. 44502, 6-3.

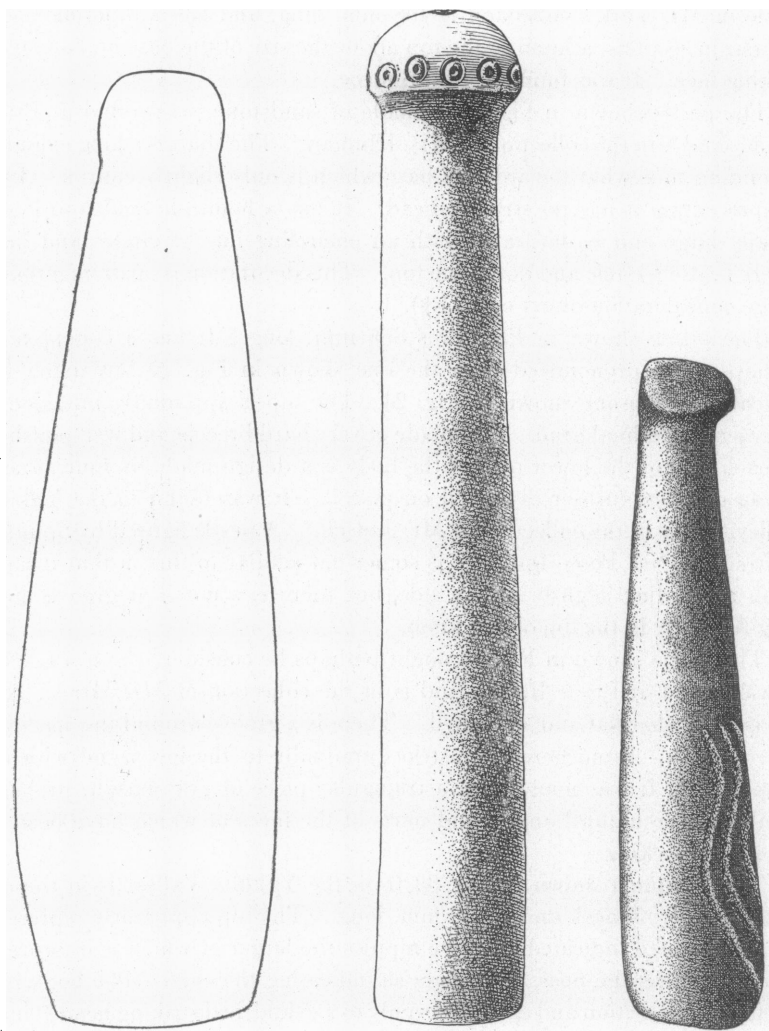


Fig. 29.

Fig. 30.

Fig. 31.

Fig. 29. Pestle made of Stone. From Satus on the Yakima Reservation near Old Yakima. $\frac{1}{2}$ nat. size. (Drawn from a sketch. Original in the collection of Mr. York.)

Fig. 30. Pestle made of Sandstone. From Priest Rapids. $\frac{1}{2}$ nat. size. (Drawn from photograph 44537, 9-3. Original in the collection of Mrs. Hinman.)

Fig. 31. Pestle made of Stone. From the Yakima Valley. $\frac{1}{2}$ nat. size. (Drawn from photograph 44502, 6-3. Original in the collection of Mr. Janeck.)

of somewhat similar shape but more specialized. It was found in the Yakima Valley and is in the collection of Mr. Janeck. It is 590 mm. long. The top is roughly the form of the fustrum of a cone, being circular in cross section and gradually expanding downward, but it is somewhat celt-shaped, the sides for some distance being ground off nearly flat. They approach each other more closely towards the front than they do towards the back. In each of these surfaces there is an incision which represents one side of an animal's mouth and a pecked dot indicating an eye. The tip of the nose is broken off. Across the curved part behind the flat surfaces or on the back of this animal head are four incisions. Below this portion the object is circular in section until near its middle, or 178 mm. from the top, where there is a band roughly sub-pentagonal in section with rounded corners 88 mm. long. Following this band it is nearly cylindrical, being 57 mm. in diameter for 178 mm. until it expands suddenly into the striking head which is unusually bulging, 108 mm. long by 64 mm. in diameter.¹

The object 498 mm. long shown in Fig. 35 is made of steatite, material seemingly unsuited by its softness for a pestle, and may possibly be a war club. Mr. McCandless, in whose collection it is, calls the material a soft sandstone which he says is found at the head of the Wenatchie River. He says the specimen is from Lake Chelan and that he obtained it from a man above Wenatchie on the Columbia River. This man told him that he secured it from Chief Moses' tribe on Lake Chelan, and that the Indians there call it a war club and a family heirloom. The upper end is of the form of a truncated pyramid with two flat sides, two bulging edges and rounded corners. It shows peck marks and is engraved as described under art, on p. 124, and is said by the Indians to represent the head of a snake. The shaft is circular in cross section and gradually enlarges towards the base where it suddenly constricts. The specimen has been polished by the natural sand blast.²

The noise of the women at one of the Nez Perce villages, pounding roots, reminded Lewis of a nail factory.³ Beyond the Nez Perce country which bounds this area on the east, according to Spinden,⁴ the use of stone pestles disappears until the region of the Great Lakes is reached, but I have seen pestles in collections in Wyoming which are said to have been found in that state.

Rollers. Another class of specimens considered as pestles or rollers is shown in Figs. 36 and 37. These do not seem to have been used as pestles.

¹ Museum negative no. 44502, 6-3.

² Museum negative no. 44507, 6-8.

³ Lewis and Clark, V, p. 16.

⁴ Spinden, p. 187.

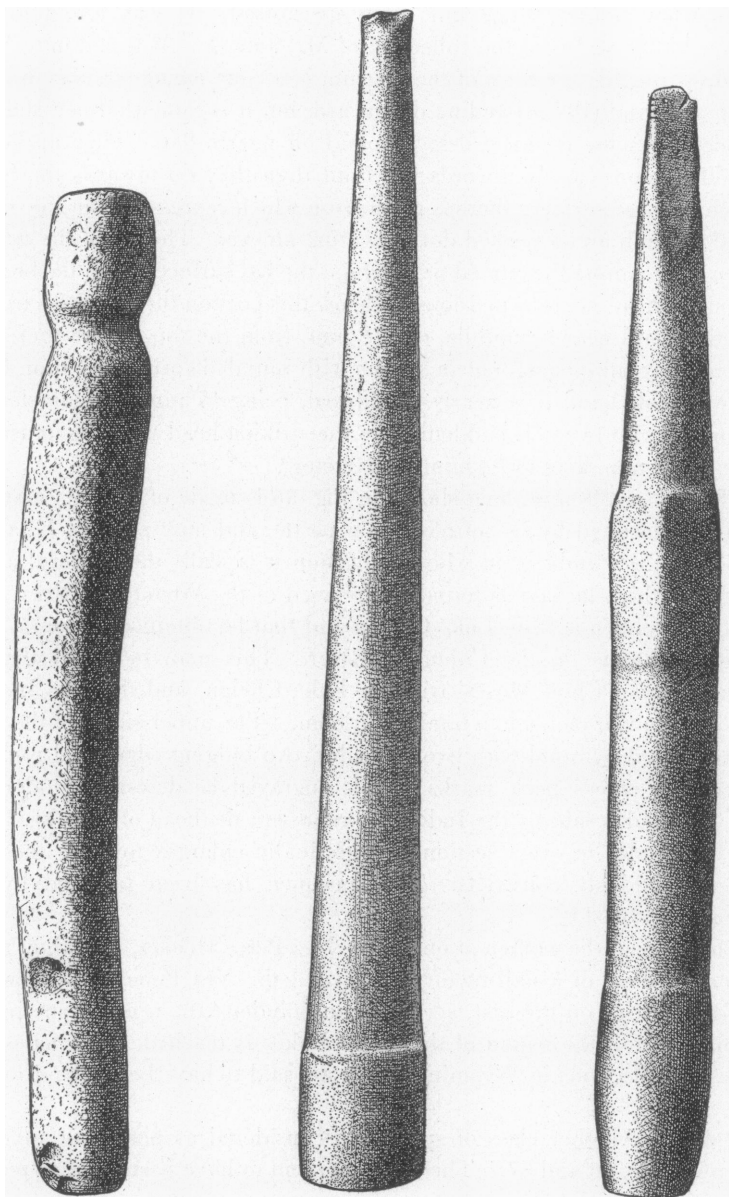


Fig. 32.

Fig. 33.

Fig. 34.

Fig. 32. Pestle made of Stone. From Priest Rapids. $\frac{1}{2}$ nat. size. (Drawn from photograph 44534, 8-12. Original in the collection of Mr. Mires.)

Fig. 33. Pestle made of Stone. From the Yakima Valley. $\frac{1}{2}$ nat. size. (Drawn from photograph 44502, 6-3. Original in the collection of Mr. Janeck.)

Fig. 34. Pestle made of Stone. From the Yakima Valley. $\frac{1}{2}$ nat. size. (Drawn from photograph 44502, 6-3. Original in the collection of Mr. Janeck.)

The one shown in Fig. 36 from Priest Rapids is in the collection of Mrs. Hinman. The convex ends of this cylindrical form present the natural surface of a pebble and they are not battered. The material is a yellowish quartzite or closely allied rock. It is 457 mm. long, 75 mm. in diameter and the entire cylindrical surface has been pecked apparently to bring it to

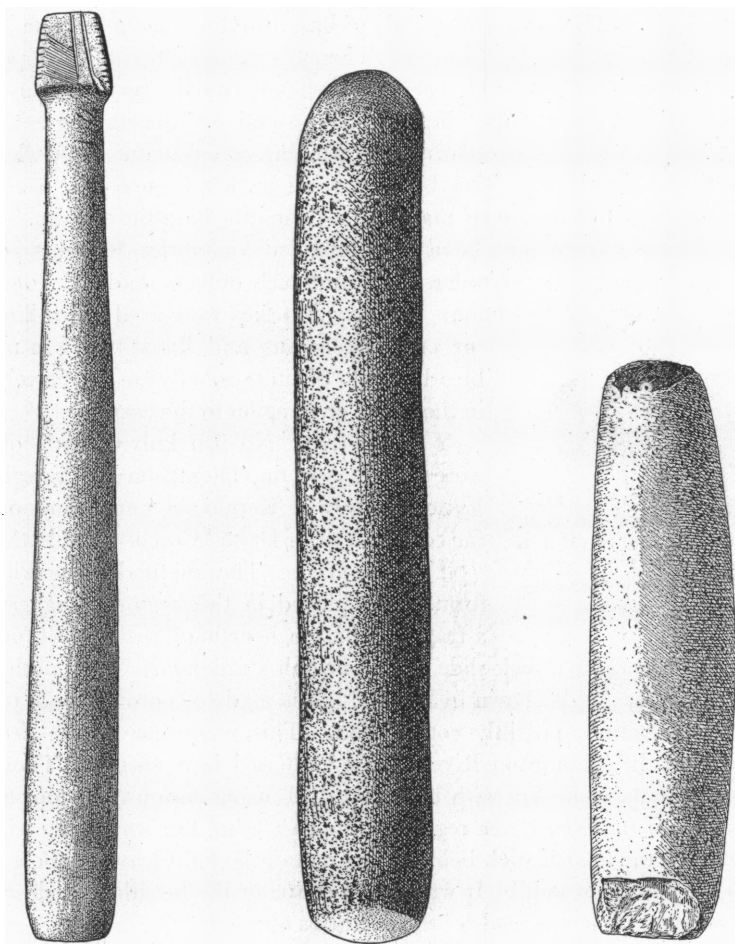


Fig. 35.

Fig. 36.

Fig. 37.

Fig. 35. Pestle made of Steatite. From Lake Chelan. $\frac{1}{4}$ nat. size. (Drawn from photograph 44507, 6-8. Original in the collection of Mr. McCandless.)

Fig. 36. Pestle or Roller made of Stone. From Priest Rapids. $\frac{1}{4}$ nat. size. (Drawn from photograph 44537, 9-3. Original in the collection of Mrs. Hinman.)

Fig. 37 (202-8197). Pestle or Roller made of Stone. From the surface, about one mile east of Fort Simcoe. $\frac{1}{4}$ nat. size.

form. If it had been used as a pestle the ends would show the signs of battering or grinding. The cylindrical surface does not seem to show any signs of its having been used as a roller or grinder. It may possibly be a pestle in process of manufacture although it seems very strange that so much work should have been expended on the cylindrical surface in a region where natural pebbles very nearly of this shape were common.¹ The specimen shown in Fig. 37 is apparently made of basalt and was found on the surface about a mile east of Fort Simcoe. The ends are considerably chipped and one of them has apparently been somewhat battered since. If the object were used as a pestle the chipping of the ends is unusually great. The cylindrical surface has been formed by pecking except in one place where the natural surface shows. This bit of natural surface is such that it suggests the specimen to have been made of a prismatic basaltic column. While these two specimens may have been intended for pestles, it seems possible that they were made for rollers. Several such objects made of stone were seen in Mr. Owen's collection. He says that they were used like rolling pins for crushing camas and kouse roots in making bread. Both of these roots were extensively used in the Nez Perce region to the east.²

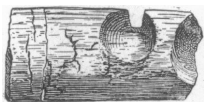


Fig. 38 (202-8157). Fragment of Hearth of Fire Drill. From Grave No. 10 (5) in a rock-slide about half a mile above the mouth of Naches River. $\frac{1}{2}$ nat. size.

Fish Knives. No fish knives made of slate were found, as in the Thompson River region, at Lytton,³ rarely at Kamloops,⁴ and commonly on the coast at Fraser Delta,⁵ Comox,⁶ and Nanaimo.⁷

Fire Making. The method of making fire formerly employed in this region is suggested by a fragment of the hearth of a fire drill found in grave No. 10 (5) in a rock-slide about one half a mile above the mouth of the Naches River and is shown in Fig. 38. It is made of porous wood, of light cellular structure, possibly cottonwood. This is similar to the fire drill hearths of the Thompson River region,⁸ where I have seen the Thompson River Indians make fire with the palm drill, using cottonwood root for the hearth. In the Nez Perce region to the east, also, fire was made with the palm drill, the hearth stick being of the root of the light leaved willow or the stem of "smoke wood." It was of the shape of the hearth here described. The twirling stick was made of the dead tips of red fir.⁹

¹ Museum negative no. 44537, 9-3.

² Spinden, pp. 201-203.

³ Smith, (d), p. 140.

⁴ Smith, (c), p. 414.

⁵ Smith, (a), p. 159.

⁶ Smith, (b), p. 315.

⁷ P. 345, *ibid.*

⁸ Teit, (a), p. 203.

⁹ Spinden, p. 200.

Caches. A number of small circular holes about four feet in diameter, encircled by a slight ridge, as mentioned on p. 15, were seen which are possibly the remains of ancient food caches. The Nez Perce Indians in the region to the east referred to a field at Kamiah, near the mouth of Lawyer's Creek which has the appearance of being "hilled" like an old hop field, as being the site of winter cache pits.¹

Boiling. Natural pebbles were plentiful in the river bottoms near the village sites. Such were no doubt used in boiling food in baskets or boxes, as fragments of burned and cracked pebbles were also found while pottery was entirely absent. These facts suggest that it was the custom to boil the food in baskets or even in boxes as on the coast to the west. This idea is strengthened by the fact that in the Nez Perce region to the east, watertight coiled baskets were regularly used in cooking.² We may naturally suppose that roasting before open fires was also customary in this region. No fireplaces such as were probably used in this area and are found in the Nez Perce region,³ were recognized by us, although beds of clam shells previously mentioned, may indicate the sites of ancient hearths.

HABITATIONS.

Semi-subterranean House Sites. Sites of ancient semi-subterranean winter houses, modern lodges and what may possibly have been a shell heap were seen and photographed by us in this region. Two of the examples of the remains of semi-subterranean house sites found here, as shown in Fig. 2, Plate IV, had stones on top of the surrounding embankments. Although on the top of the embankments of the remains of similar underground winter houses in the Thompson River region,⁴ we saw no stones other than those of the soil. I am informed by Mr. James Teit that such are occasionally to be found there also, but that these stones are generally found only in those places where boulders were removed during the excavation for the houses. He was told that it was the custom to place these boulders around the base of the house. Two semi-subterranean winter house sites, as mentioned on pp. 7 and 15, may be seen on the flat along the north side of the Yakima River about a mile below the mouth of the Naches. One of these may be seen in Fig. 2, Plate III.⁵ There are water-worn boulders in and on the

¹ Spinden, p. 181.

² Spinden, pp. 190 and 194.

³ Spinden, p. 178.

⁴ Smith, (d), p. 140 and Fig. 2, Plate XIII; (c), p. 414.

⁵ Museum negative no. 44517, 7-7 from the north. Negative no. 44518, 7-8 shows the same from the northwest.

embankments surrounding them. These boulders were probably uncovered during the excavation for the house. The holes are situated within twenty-five feet of the river and between it and the Yakima Ridge which rises by perpendicular cliffs, almost immediately behind these winter house sites. In fact, the photograph reproduced in the figure was taken from the hill side north of the pit and just up stream from the cliffs. They are on a little terrace about three feet high which gives them the appearance of having been connected by a ridge. The hole shown in the figure measured from the top of the ridge was nine feet deep. The top of the bank measured at points on the flat between it and the river, up stream from it, and between it and the hill, was four feet, two feet, and two feet, four inches, respectively. Averaging these measurements, the height of the embankment above the level is thirty-three and one third inches. The hole was so near the level of the river, and was so deep that when we visited it on June 18, 1903, which was during high water, the waters of the Yakima had soaked through the terrace and were about two feet deep in the bottom of the hole where it was about eight feet in diameter, measuring north and south. Measuring in the same direction the diameter of the top of the hole from points inside of the surrounding ridge was twenty-two feet, from points on top thirty-three feet, from points outside forty-seven feet, and from points outside of the wash from the ridge fifty-one feet. These measurements give us twelve and a half feet as an approximate width of the ridge or fourteen and a half feet if we measure from the bottom of the wash. The two sites mentioned on pp. 7 and 16 were also examined and photographed by us. One is plainly shown from the north of west in Fig. 2, Plate IV. They are located on a high terrace on the north side of the Naches River about one and a half miles above its mouth. There are angular rocks on each encircling ridge. Some of the large angular rocks found on the embankment of this ridge, may also have been dug out during the excavation for the house if such rocks are found under the surface of the soil in this terrace. Similar rocks are scattered about on the surface so thickly that it must have been necessary to remove a number of them from the site where the house was to stand and possibly others that were scattered about may have been put up around the base of the house in order to clear the immediate vicinity especially since many of them are disagreeably sharp angular fragments.¹

Measuring the site best shown in the figure, east and west, the level floor inside the extreme wash from the ridge is nine feet in diameter, the rocks fallen from the ridge thirteen feet, the inner edge of the ridge 20 feet, the

¹ These two sites are represented by Museum negatives nos. 44481, 4-6 reproduced in the figure; 44491, from the west; and 44492, 5-5 nearer from the west.

points on the top of the embankment, twenty-five and a half feet; the outside of the rocks, thirty feet; the extremes of the embankment thirty-five feet. These measurements north and south are respectively, nine feet, thirteen and a half feet, sixteen and a half feet, twenty-one feet, twenty-five and a half feet and thirty-three feet. Judging from these measurements, the original dimensions were probably thirty feet by twenty-five and a half feet over all, twenty-five and a half feet by twenty-one feet for the top of the embankment, twenty by sixteen and a half feet for the inside of the embankment and sixteen and a half feet by fifteen feet for the bottom of the floor. These measurements are also east and west and north and south respectively. The present depth of the hole below the top of the rocks is twenty-nine inches and from the top of the earth embankment is twenty-six and twenty-one inches. The measurements were taken east and west and north and south respectively. The slope of the hill from north to south and its attendant wash, of course, affect the north and south measurements, while the east and west measurements are probably near the original dimensions. Contiguous to this hole on the south, or in the sage brush to the right in the figure, is the other site. It is on the slope of the hill and not so clearly shown in the Plate. This hole measures ten and a half feet by eleven feet across the level floor inside; thirteen by fourteen feet inside of the rocks; nineteen by eighteen feet at the top of the embankment twenty-three by twenty-three feet outside of the rocks; and twenty-seven by twenty-six feet outside of the embankment; fourteen and eighteen inches in depth from the top of the rocks and ten and twelve inches from the top of the earth, the measurements being taken east and west and north and south respectively.

Mr. G. R. Shafer informed me that there were holes, the remains of old houses on the flat in the Naches Valley, twelve miles above the Nelson Bridge which crosses the river a short distance above the mouth of Cowiche Creek. At Fort Simcoe, immediately south of the Indian agency, on the north edge of "scab land" overlooking a small ravine as mentioned on p. 8, is a large pit surrounded by an embankment of earth, the remains of a winter house site. This hole is so deep and the embankment is so high that both Mrs. Lynch and the Indians call it a fort. About fifteen miles above Kennewick on the eastern side of the Columbia River, according to Mr. D. W. Owen, there were the remains of hundreds of semi-underground winter houses and we saw several large and deep sites immediately below Mr. Craig's house above Priest Rapids as mentioned on page 20.

A semi-subterranean winter house, with an entrance through the roof, seen by Lewis and Clark ¹ on the north side of the Columbia near the mouth

¹ Lewis, p. 185; Lewis and Clark, IV, p. 280.

of White Salmon River, was uninhabited at that time (1805). As described, it does not differ from the winter house of the Thompson Indians. The Chinook, so far as we know, never erected such houses. The pit of an underground house, according to Clark¹ was found among the Nez Perce. Gibbs² mentions what were probably similar pits on the Lower Yakima. Kane³ describes a somewhat similar house used by the Walla Walla but much ruder. Such houses were used by the Klamath.⁴

Not far from the ranch of Mr. Frank Turner on Rock Creek about six miles below Rock Lake on Section 6, Town 18 north, Range 40 east in the country locally known as "The Rocks," there are two pits that are supposed to be the remains of houses which with other remains (pp. 29, 82, 140) have been in their present condition since about 1874 when they were first seen by the whites. Both the pioneers and the old Indians are said to know nothing about them. Mr. Turner's place is best reached from Sprague on the Northern Pacific Railroad, although his Post Office is Winona. My information regarding these two pits is from Mr. J. S. Cotton, then in charge of cooperative range work in Washington.

It is quite possible as pointed out by Lewis⁵ that the introduction of the buffalo skin covered lodge which probably came after the advent of the horse into this region, had something to do with the apparent scarcity of the semi-subterranean winter house in the Yakima region in historic times, the buffalo skin lodge possibly having taken the place of the earth-covered dwellings.

The so-called cremation circles near Cherry Creek and near the mouth of the Naches which were mentioned on pp. 12 and 15 and described on pp. 163 and 157, may be the remains of small houses of the type of semi-subterranean winter house sites that were made especially as grave houses. As before mentioned, this type of semi-subterranean circular lodge is found as far north as the Thompson River country, and I have seen one site on the prairie near Rochester, Thurston Co., probably of this type. In the Nez Perce region to the east, remains that appear like those of semi-subterranean houses consisting of ridges of earth about a foot above the general level of the ground, surrounding a circular pit, from three to five feet deep, measuring from the top of the ridge; and about seventy feet in diameter, are found near the mouth of Tammany Creek on the east bank of Snake River, a few miles above Lewiston. The site may be identified with Hasutin.⁶ The place

¹ Lewis and Clark, V, p. 35.

² Gibbs, (a), p. 409.

³ Kane, p. 272.

⁴ Gatschet, pp. 177, 124; Abbott in the Pacific Railroad Report, VI, p. 69.

⁵ Lewis, p. 186.

⁶ Spinden p. 179.

is known to have been used as a camp until about 1878, especially during the season of lamprey eel fishing. These house rings are in several groups. A little charcoal, some unio shell, flint chips, a digging stick with a bone handle, glass beads and other objects are reported to have been found in them. Somewhat similar house rings about twenty-five feet in diameter were found on the south bank of the Middle fork of Clearwater River, near the town of Kooskia. Spinden¹ refers to Lewis and Clark² for evidence of considerable antiquity for the circular house rings in this Nez Perce region. They mention one as being about thirty feet in diameter with a rim over three feet high and the floor sunken four feet below the surface of the ground or seven feet below the top of the rim. The Mountain Snakes, according to Ross³ never used underground houses.

At the site near Kooskia there is another type of house site such as I have not seen in the Yakima, Thompson or Coast regions. Spinden describes them as long and narrow, about sixty to eighty-five feet long by eighteen feet wide. The interior is sunken from one to three feet and surrounded by well marked elevated rims. As a rule, these pits are not so deep or clearly marked as those of the circular type. The axis of the house is parallel with the river. He states that these house sites have not been used for a long time and that trees, some of which are eighteen inches in diameter grow directly out of them. Excavation revealed a number of fireplaces about twelve feet apart along the axis of these houses suggesting that they were communal lodges.⁴ We discovered no indications of communal dwellings in the Yakima region.

Circles of Stones (Summer House Sites). A circle of stones which marked a small lodge site was examined and photographed. The stones were no doubt cleared from the interior and all or part of these possibly with others, were no doubt used to hold down the lodge covers. Although I saw no such circle of stones in the Thompson River region I am informed by Mr. Teit that they are occasionally to be seen there and that they represent old lodge sites. The circle of stones above-mentioned as described on p. 15 was found on a terrace somewhat lower than the one on which were situated the remains of the two semi-subterranean houses described on p. 52. This terrace is a few yards down stream from the one on which they stand, and is separated from it by a small ravine. The site is a little further down the stream and towards the southeast. It is shown in Fig. 1, Plate IV,⁵ from

¹ Spinden, p. 197.

² Lewis and Clark, V, p. 33.

³ Ross, (b), II, p. 117.

⁴ Spinden, p. 197.

⁵ Museum negative no. 44482, 4-7 from the north.

the point on the hillside a few feet above it to the north, shown on the lower end of the slope in Fig. 2, Plate IV and in negative nos. 44491, 5-4, and 44492, 5-5. This circle of stones on the level ground was made up of angular rocks such as are scattered on the immediate surface. It measures ten by eleven feet in diameter inside; fifteen by seventeen feet from the top of the circle; and twenty-two by twenty-three feet over all. The top of the highest stones was from fourteen to twelve inches above the middle of the space enclosed which as before stated, seemed to be on a level with the outside, all measuring being east to west and north to south respectively. Among the rocks was found a chipped piece of jasper or brown chalcedony.

No saucer-shaped depressions were seen in the Yakima region, although it is quite probable that they formerly existed and have been obliterated by weathering. It will be remembered that such saucer-shaped depressions are often made by sweeping out the summer lodges in the Thompson River region ¹ and that they marked the sites of such houses.

Two summer lodges photographed ² by us near Ellensburg which were mentioned on page 12 and the one seen below Union Gap down stream from Old Yakima, resemble those of the Thompson River region to the north. It will be remembered that mat covered tipis are found in the Nez Perce region to the east.³ Lewis and Clark ⁴ mention but one buffalo skin lodge among the Nez Perce in 1806 and that was apparently reserved for special occasions, but a few years later this type of lodge had practically supplanted the mat lodge among that tribe and was in common use among all the interior Salish and Sahaptin tribes. The mat houses of the Yakima are mentioned by Gibbs in the Pacific Railroad Reports.⁵

A pile of stones shown in Fig. 2, Plate V ⁶ and mentioned on p. 20 as uncovered by the wash of the flood waters of the Columbia, was seen on the bottom-lands on the western side of the Columbia, south of Sentinel Bluffs and within a hundred feet north of the house of Mr. Britain Everette Craig. It is possible that this may have been a house hearth or ancient cooking place, although the presence of human bones among these stones, suggests that it was a grave covered with flat oval river pebbles. Near by, uncovered by the same wash, was a small patch of fresh water unio shells shown from the west

¹ Smith, (c), p. 405.

² Summer lodge, covered with cloth, Japanese matting and Indian matting July, 1903; East of Ellensburg. Museum negatives no. 44523, 8-1 from the southeast; no. 44524, 8-2, from the west; and no. 44525, 8-3 a nearer view; and summer lodge covered with cloth, July 1903, in the northern part of Ellensburg, Museum negative no. 44526, 8-4 from the east.

³ Spinden, Fig. 6, Plate x.

⁴ Lewis and Clark, V, p. 16.

⁵ Gibbs, (a), I, p. 407.

⁶ Museum negative no. 44530, 8-8 from the southwest

of south in Fig. 1, Plate v.¹ This was probably kitchen refuse. The little pits, each encircled with a slight embankment made up of the soil thrown out in making it, p. 15, are probably the remains of food caches near the houses.

TOOLS USED BY MEN.

A number of objects which seem to be tools intended to be used by men are found in this region. Among these may be mentioned a wedge, hammer-stones, a celt, a hand-adze, drills, scrapers, and an arrow-shaft smoother.

Wedges. Wedges made of antler were not frequently found by us as in the Thompson River region,² although according to Lewis, elk horn wedges or chisels were used for splitting wood in the general plateau region of which this is a part.³ One specimen, however (202-8378b), was found on the surface near the head of Priest Rapids, which is apparently a longitudinal fragment of a wedge broken off at the top and cut by longitudinal grooving along one edge, the other edge being a portion of the surface of the wedge formed by cutting convexly across the antler. The specimen is bleached from exposure on the surface. Another wedge, shown in Fig. 39, was found on the surface near the Columbia River below the mouth of the Snake. It is made of antler which has since been bleached from exposure on the surface of the ground.

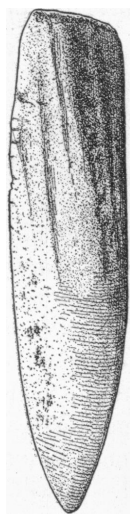


Fig. 39 (20.0-1464). Wedge made of Antler. From the surface near the Columbia River, below the Mouth of the Snake. $\frac{1}{2}$ nat. size. (Collected and presented by Mr. Owen.)

The top was partly cut off and then broken across, while one side edge shows where the antler was grooved lengthwise for over half its length, from the inner surface and then broken out. This shows that the process of cutting up pieces of antler in this region was similar to that employed in cutting both antler and nephrite, in the Thompson River region and on the coast of British Columbia and Washington. It has since been battered. One side shows the nearly flat outer surface of part of the antler, the other has been cut off to form the wedge, which is constricted towards the point so that it assumes a somewhat spatulate form. This specimen is twisted, until the

¹ Museum negative no. 44531, 8-9 from the west of south.

² Smith, (d), p. 141; (c), p. 414.

³ Lewis, p. 186.

point is in a plane about 45° from the poll. It was collected by Mr. Owen who believes it to have been used as a spatula for grinding paint upon the surface of a rock. Wedges made of elk antler are common in the Nez Perce region where they are said to have almost completely supplanted celts.¹

Although no wedges were found by us in the Yakima Valley proper, and we can mention only these two specimens in the whole Yakima region yet it seems probable that they were here used and for the same purposes as in the Thompson River region to the north, the Nez Perce area to the east and on the coast to the west for splitting timber, for cutting firewood and for general carpenter work. Perhaps their relative scarcity here, as compared with the Thompson and the Nez Perce country, may be explained by supposing that wooden wedges, such as are more common than antler wedges on the coast, and which may have decayed were here used more than those made of antler.

While the stone hammers or pestles with convex bases, which are described on p. 39 *et seq.* were probably largely used for crushing food and other material; yet some of them and those with concave bases, were undoubtedly sometimes used as hammers for driving wedges, setting stakes, pinning out skins and for similar purposes.

Hammerstones. The deeply pitted hammer, such as is found in the Mississippi Valley, was not seen here, and it will be remembered ² that they were not found in the Thompson River region. Tough pebbles, however, were used for pounding. At the quarry shop mentioned on p. 16, we found a number of pebbles that were evidently used in breaking up the material out of which to make chipped implements. One of these (202-8129) is merely a water-worn pebble, 73 mm. long, an edge of which has been broken off, and a sharp corner shows signs of its having been used as a hammer, as it has been battered and shows where one large chip has come off. It will be remembered that in the vicinity of the shop where the specimen was found, pebbles were rarely if ever seen, although the surface of the ground was covered with weathered fragments of volcanic rock. Another specimen (202-8127) found at the same place, shown southeast of the quarry pit, in Fig. 1, Plate III, is 155 mm. long and of a rather irregular cross section. The ends are battered and fractured from use. Apparently it may have been held between the two hands and used in breaking off large pieces of material. A longer hammer pebble, bearing the same catalogue number, and found at the same place, shows on the top of the quarry dump to the left centre in Fig. 1, Plate III. It is about 270 mm. long. In cross section it tends to be

¹ Spinden, pp. 182 and 189, Fig. 57.

² Smith, (d), p. 142; (c), pp. 415 and 440, Fig. 38.

triangular with rounded corners. The ends are battered and long slivers have been broken off. The specimen shown in Fig. 40 is from the same place, shorter, but similar in that the section is sub-triangular and that each end is both battered and slivered. Other battered pebbles and fragments slivered from them were found at the same place. The hammerstone shown in Fig. 41 was found on the surface near the head of Priest Rapids. It is an oval pebble, nearly twice as wide as it is thick, of yellowish brown color, which has been used for a hammer, as is indicated by the battered and chipped condition of its ends.

Another specimen, shown in Fig. 42, is made of a hard, dark green or bluish, water-worn pebble. It was found in the Snake River Valley, twenty miles above the mouth of the river, and is in the collection of Mr. Owen. Both ends are battered and the margins of the battered surfaces are chipped. Mr. Owen says such objects were used in pecking pestles, mortars, and similar implements into shape. Fig. 43 illustrates one of these hammerstones, found on the surface at Kennewick. It is a part of a pebble

of tough dark blue material, apparently glassy basalt. One side edge and one end have been chipped and show large scars on each side of the side edge and several on one side of the top. Near the middle of one side, and opposite it on the other side edge, there are signs of pecking which suggest an attempt at grooving. The lower corner of the pebble shows signs of having been used as a hammer for pecking. A small spatulate pebble slightly curved (202-8215), found at the same place, is battered entirely around the edge of its larger end and in one place on the side of the narrow end. The battering has given it a smooth surface in places which suggests that it was used for pecking, rather than chipping. A large, rather flat, oval pebble (202-8213) from the same place has large chips off from both sides of its edge in three places, three fourths of its edge being so chipped. This seems more likely to be a hammerstone used for chipping.

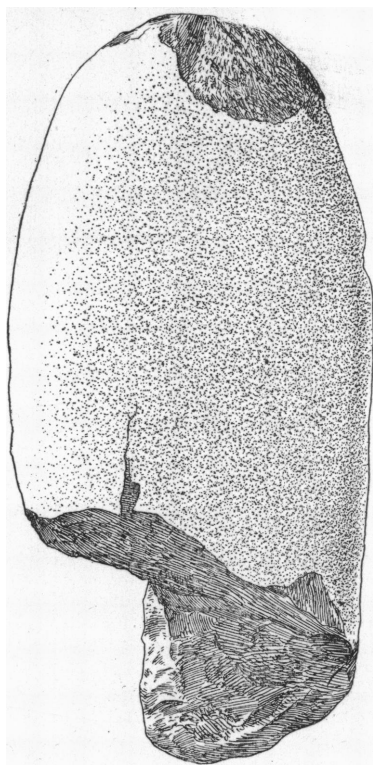


Fig. 40 (202-8128). Hammerstone. From quarry on north side of Naches River about two miles above its mouth. $\frac{1}{2}$ nat. size.

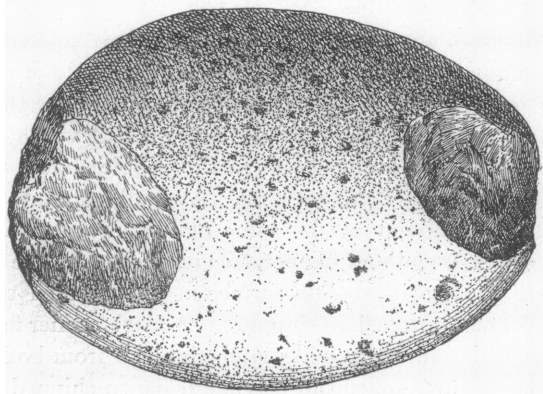


Fig. 41.

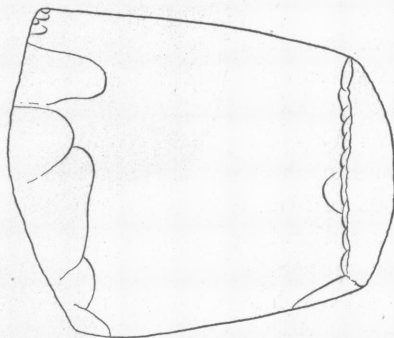


Fig. 42.

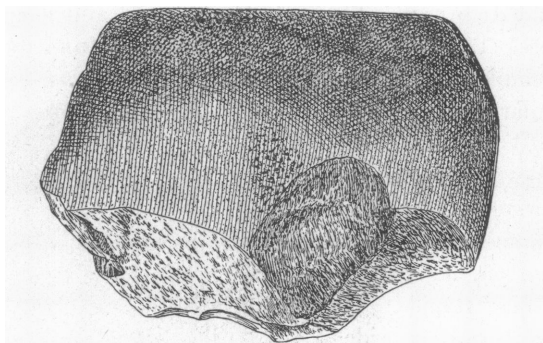


Fig. 43.

Fig. 41 (202-8292a). Hammerstone. From the surface, near the head of Priest Rapids, $\frac{1}{2}$ nat. size.
 Fig. 42. Hammerstone made of a Hard, Water-worn Pebble. From Snake River Valley twenty miles above its mouth. $\frac{1}{2}$ nat. size.
 (Drawn from a sketch. Original in the collection of Mr. Owen.)
 Fig. 43 (202-8119). Hammerstone. From the surface, Kennewick, $\frac{1}{2}$ nat. size.

The long, narrow, oval pebble, shown in Fig. 44, is about 140 mm. long, of a yellow, volcanic, coarse-grained rock, and is in the collection of Mr. Austin Mires of Ellensburg. This was found at Priest Rapids. The top is battered and slightly chipped, the other end has been battered to a rather flat edge, and this battered surface extends one half way up one side of the specimen and two thirds of the way up the other.¹ A large flat oval pebble (202-8214), found on the Cherry Creek camp site, has a notch pecked in each side edge and is battered slightly on one end. It may have been notched for hafting as a hammer, or for use as a net sinker, but the battered end suggests the former use. These pebbles which have been used as hammerstones, remind us of the unbattered pebbles found with pieces of glassy basalt in certain caches near Kamloops.² Pebbles used as hammerstones are also found in the Nez Perce region to the east³ and according to Lewis stone hammers were used for splitting wood in the general plateau region of which this is a part.⁴

A pebble, oval in outline and in cross section (202-8303), found on the surface of the bank of the Columbia River, near the head of Priest Rapids, is battered on one side edge near the middle in a way that suggests that the place was for the reception of the end of a handle. The lower edge is battered and the top has a large chip off of each side. It was probably used as a hammerstone. Another flat oval pebble of lava (202-8305) found at the same place, is chipped on both sides of the entire edge; but the edge is not sharp, apparently having been dulled by scraping, the natural sand blast or weathering. A disk or sub-oblong-shaped pebble (202-8304) also found at the same place is chipped from one side only across the entire edge at a slight bevel so that it has a nearly flat edge. The high places of the edge are smoothed as if from its use in pecking, yet it does not seem to have been much used for such a purpose or to need to have been chipped into disk form for that use.

None of the pebbles which were notched and supposed to be net sinkers, as mentioned on p. 30 and that were found in this region, show battered ends or appear as if they had been used as hammers. On the other hand, some of the grooved pebbles described as net sinkers are battered, p. 30. It will be remembered⁵ that no notched hammers or those grooved entirely around, like those found here, were found in the Thompson River region, although a pebble which had been notched or grooved on two edges was

¹ Museum negative, no. 44534, 8-2

² Described by Smith, (c), p. 415.

³ Spinden, p. 188.

⁴ Lewis, p. 186; Lewis and Clark, III, p. 124.

⁵ Smith, (c), p. 415.

found and figured as a hammer.¹ Nor was the grooved stone maul used by the Nez Perce to the east according to Spinden² although many specimens are found on the Umatilla in northern Oregon to the south.³

Celts. Celts made of stone such as were common in the Thompson River region⁴ were not found by us in the Yakima region; but one typical specimen

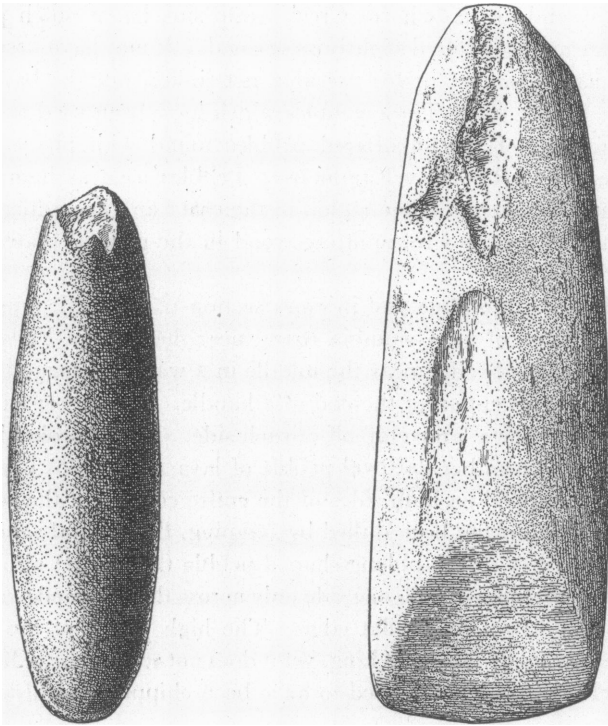


Fig. 44.

Fig. 45.

Fig. 44. Hammerstone made of a Close-Grained Yellow Volcanic Pebble. From Priest Rapids. $\frac{1}{2}$ nat. size. (Drawn from photograph 44534, 8-2. Original in the collection of Mr. Mires.)

Fig. 45. Celt made of Serpentine. From an Indian at Ellensburg. $\frac{1}{2}$ nat. size. (Drawn from photograph 44507, 6-8. Original in the collection of Mr. McCandless.)

which apparently resembles the celts found on Puget Sound, more than it does those found in the Thompson River region is shown in Fig. 45. It may be seen in the collection of Mr. McCandless who secured it from an Indian

¹ *Ibid.*, Fig. 347.

² Spinden, p. 188.

³ Lewis, p. 186; Lewis and Clark, III, p. 124.

⁴ Smith, (d), p. 142; (c), p. 415.

at Ellensburg. This celt is made of serpentine and is 190 mm. long.¹ A similar specimen, in the same collection, resembles this one but shows grooves along the side edges by means of which it was cut out. There is a celt made of green serpentine, only about 3 mm. thick in the collection of Mr. Owen, but it was found at Umatilla, Oregon.

Celts of jadeite (?) narrow and oblong were found on Snake River above Lewiston in the Nez Perce region to the east.² Spinden states that these were evidently acquired by trade from natives of the northwest coast and that they have been cut by grooving and breaking. Also, that this method and material was not employed by the Nez Perce who considered the objects to have been used as wedges. I am inclined to believe, therefore, that these more nearly resemble the celts of the Thompson River country³ than they do those of the coast. At least one celt of this general style has been found near Lake Chelan lying between the Thompson River region and both the Yakima and Nez Perce regions. It is a long stone celt and was found in an ancient grave on the bank of the Chelan River near the house of Hon. Amos Edmunds, of Chelan, Washington. In the graves of this group, according to Mr. C. G. Ridout, who cooperated with Mr. Edmunds in excavating at this place, and from whom all of our information on this specimen was obtained, stone knives and skinning and scraping tools were found. This celt is of a mottled green "marble resembling onyx" (probably serpentine or nephrite) 400 mm. long, 47 mm. wide and 15 mm. thick. It is slightly concave on the two sides, while one side edge is flat and the other is concavely bevelled. The poll is of the natural unworked stone and judging from the drawing furnished by Mr. Ridout, was broken off. It is raggedly diagonal. The cutting edge is sharpened by long convexly ground surfaces of nearly equal size and curve. The bevel of the side edge suggests that the material for the celt was cut out by grooving and breaking as was the case in the Thompson River region, where the celts showed similar traces of grooving.⁴ It is true that similar grooving may be seen on celts from the Coast, but in that region the celts are short, while in the Thompson River area they are long like this one and the material is more often of the mottled green color than on the coast. The specimen is owned by Mr. Edmunds and is in the collection of Mr. Ridout.

No pieces of antler or other material which may possibly have served as celt hafts were found in this region, although it will be remembered that one specimen, thought possibly to have been such, was found at Kamloops in the

¹ Museum negative no. 44507, 6-8.

² Spinden, p. 182 and Figs. 1, 2, Plate ix.

³ Smith, (c), Fig. 349.

⁴ Cf. Smith, (c), Fig. 349.

Thompson River¹ region, another in the Lillooet Valley² and that celt hafts made of antler were common on the coast at Port Hammond,³ Comox,⁴ Saanich,⁵ and Utsalady.⁶ A piece of antler (202-8378a), found on the surface near the head of Priest Rapids, is much bleached and shows signs of having been daubed with red paint. It consists of a piece which has been cut around below a fork with some sharp instrument and then broken off. The prongs seem to be simply broken off.

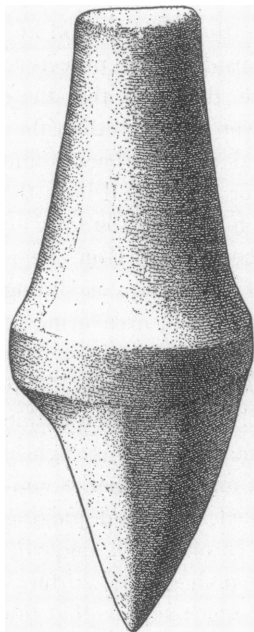


Fig. 46. Hand-Adze made of Stone. From the surface in an old burial ground of the Indians near the mouth of the Yakima River on McNeals Island. $\frac{1}{4}$ nat. size. (Drawn from photographs 44503, 6-4, 44452, 2-1. Original catalogue No. 25 in the collection of Mr. Janeck.)

Hand-Adze. Only one hand-adze has been found in this area, so far as I am aware. It is catalogue No. 25 in the collection of Mr. Janeck, made of stone and found near the surface of an old burial ground of the Indians near the mouth of the Yakima River on what is known as McNeals Island. This specimen is shown in Fig. 46, and is 165 mm. long, 228 mm. in greatest circumference which is around the part corresponding to the edge of the striking head of a pestle, 37 mm. in diameter at the top and 37 mm. along the edge of the blade. It is made of rock resembling diorite or diabase. The natural surface of the pebble from which it was made shows on the ridge of the striking head of the pestle-like part. The convex side of the celt-like part of the object is very smooth. This is apparently partly due to the fact that it presents the smooth natural surface of the pebble from which the object was made, and also to more or less friction which must have been received here when in use. It probably served as an adze. This specimen is perhaps the most ideal form of this type that I have seen, the upper end comparing closely to a pestle, with a slight indication of a knob at the top, a flaring body, and a short striking head, the sides of which extend as a ridge nearly if not entirely around the specimen. The celt-like part

is to one side of the axis, so that one side expands to meet the ridge above

¹ Smith, (c), Fig. 348, p. 415.

² Teit, (b), Fig. 66.

³ Smith, (a), Figs. 29 and 59.

⁴ Smith, (b), Fig. 107.

⁵ *Ibid*, Figs. 129-130.

⁶ *Ibid*, Fig. 157.

mentioned, forming a concavity; the other contracts to meet it forming a convex sweep from the cutting edge to the beginning of the body of the pestle-like part.¹ Such hand-adzes have been found at Portland, Columbia Slough about ten miles below Portland,² and Mr. E. D. Zimmerman of Philadelphia has informed me that there are five or six specimens of this type in his collection but the discovery of this specimen at McNeals Island marks the most eastern occurrence of this type, so far as I know at present.²

Whetstones. Whetstones, recognized as such, are rare in the Yakima region but a fragment (202-8217) of a sandstone pebble, which is apparently rubbed on the irregular sides was found on the surface of the little camp site, west of Cherry Creek, near Ellensburg. It probably served as a rough whetstone or for grinding implements into shape.

The cigar-shaped object made of friable stone, shown in Fig. 69, and considered on p. 81 as a war implement or "slave-killer," is suitable for use as a whetstone and may have been such. The object thought to be a whetstone shown in Fig. 120, is in the collection of Mr. Janeck, and is said to be from the Yakima Valley. It is made of friable slate; the top is broken off. It is 142 mm. long, 18 mm. wide and 6 mm. thick with rounded edges. The circle and dot design incised on the specimen is described on p. 131. It would seem that use as a whetstone would destroy the design.³ From the whole region, I have seen only these three specimens that can be considered as whetstones. This scarcity seems somewhat remarkable when we consider their abundance in the Thompson River region,⁴ and also on the coast at Port Hammond and Eburne in the Fraser Delta,⁵ Comox,⁶ North Saanich⁷ Victoria,⁸ New Dungeness,⁹ and Port Williams.¹⁰

Beaver teeth sharpened for use as knives, such as were found in the Thompson River region,¹¹ were not found by us in this whole area any more than in the Fraser Delta,¹² although they were present at Comox,¹³ and though not certainly identified at both Saanich¹⁴ and Burton.¹⁵ However,

¹ Museum negatives nos. 44452, 2-1 and 44503, 6-4.

² First mentioned on pp. 303-304, *Noteworthy Archaeological Specimens from Lower Columbia Valley*, by Harlan I. Smith, *American Anthropologist*, (N. S.) Vol. VIII, No. 2, April-June, 1906.

³ Museum negative no. 44503, 6-4.

⁴ Smith, (d), p. 144; (c), p. 417.

⁵ Smith (a), p. 167.

⁶ Smith (b), p. 312.

⁷ *Ibid.*, p. 339.

⁸ *Ibid.*, p. 360.

⁹ *Ibid.*, p. 389.

¹⁰ *Ibid.*, p. 392.

¹¹ Smith (d), p. 144; (c), p. 417.

¹² Smith (a), p. 168.

¹³ Smith (b), p. 318.

¹⁴ *Ibid.*, p. 346.

¹⁵ *Ibid.*, p. 398.

a beaver tooth was found (202-8189) in cremation rectangle No. 21 (16) on the flat overlooking the mouth of the Naches River. Objects that are considered as knife handles, such as were found at Lytton,¹ though not certainly at Kamloops² were absent here as in the Fraser Delta.³ Objects made of bone or antler and thought to have been used for flaking stone implements were also absent.

Drills. Drill points chipped from stone are perhaps less abundant in the Yakima country than in the Thompson River region⁴ to the north. They are found of various shapes in the Nez Perce region⁵ to the east but it will be remembered that they were not certainly identified among finds from the coast.⁶ The specimen shown in Fig. 47, was collected at the head of

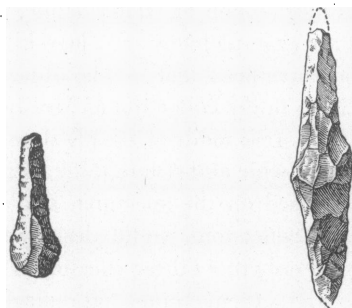


Fig. 47.

Fig. 48.

Fig. 47 (202-8398). Point for a Drill, chipped from Chalcedony. From the head of Priest Rapids. $\frac{1}{2}$ nat. size. (Collected by Mrs. J. B. Davidson.)

Fig. 48 (202-8370). Point for a Drill, chipped from Chert. From the surface, near the head of Priest Rapids. $\frac{1}{2}$ nat. size.

Priest Rapids, and presented by Mrs. J. B. Davidson of Ellensburg. It is chipped from a grayish chalcedony. The shaft is rather blunt at the end, possibly having been broken off, and is somewhat lozenge-shaped in cross section although one side has a less pronounced ridge than the other which causes the section to tend towards the sub-triangular. The base expands sidewise and is somewhat thinner at the end than at the shaft although it is thicker than the point. A point somewhat similar in shape, but 57 mm. long, chipped from white chalcedony, and found at Priest Rapids, was seen in the

¹ Smith (d), Fig. 50.

² Smith (c), p. 418.

³ Smith (a), p. 168.

⁴ Smith (d), p. 148; (c), p. 419.

⁵ Spinden, p. 185, Figs. 23-25, Plate VII.

⁶ Smith (a), p. 190; (b), p. 438.

collection of Mr. Austin Mires. Another drill point chipped from black trap, 48 mm. long, and also found at Priest Rapids, was seen in the same collection. The shaft expands sidewise into a base of the form of a truncated triangle which is rather thin. Fig. 48 shows a drill point chipped from reddish brown chert that was found on the surface near the head of Priest Rapids. The upper portion resembles the first-mentioned specimen and the lower part is somewhat similar to it but more lenticular in cross section. In other words, the implement is either double-pointed or it was intended to chip away the lower part. The lower point is so well chipped to form that it seems more likely to be a double-pointed drill.

Holes which have been drilled and apparently with such drills as these are seen in the stone objects shown in Figs. 34, 77, 81, 99, 105, 119. The shell object shown in Fig. 88 probably was broken; but in Figs. 76, 79, 90, 91, 93 and 94, the shell seems drilled and in Fig. 73 the antler is drilled.

Scrapers. For scraping and shaving, the objects shown in Figs. 49-52 would have been useful. One side of these consists of a large facet, as in the case of Fig. 50, or is but slightly chipped. This surface on the first two specimens shows the bulb of percussion, while on the fourth all signs of the bulb have apparently been obliterated by secondary chipping along a longitudinal third, probably done to flatten the side, although as this scraper was made from a fragment of a flake rather than from the whole flake it is possible that the bulb was not on this piece. In the third specimen the bulb does not show as the object was not made from a flake but from a thin piece of chalcedony which shows striations upon both surfaces suggesting that it may have been the filling or cast of a seam from which it has separated. The upper ends of the first two specimens are somewhat convex on this surface probably because of the bulb of percussion. The lower or wider ends, which are chipped to a scraping edge from the opposite side on all the specimens are somewhat concave or at least flat as in the third specimen. The other two are not so regular in outline, but are also chipped like a scraper at the broad end and the side edges. The specimen shown in Fig. 52 was found on the surface of the little camp site on Cherry Creek, near Ellensburg, and is of a waxy, yellowish brown chalcedony. It is shaped something like a gun flint.

There is a scraper 66 mm. long made of a greenish slate in the collection of Mrs. Davidson to whom it was presented by Mr. Owen. It is somewhat tongue-shaped and slightly concavo-convex. The base is broken while the curved edge is slightly chipped on the convex side to form an edge. The point is rather thin and has been somewhat rubbed. Red paint has been daubed on the specimen which suggests that it may have been found in a grave. It will be remembered that scrapers were found, although not so

frequently, in the Thompson River region ¹ to the north and that in the Nez Perce region to the east,² they are usually irregular in form, flat on one side and convex on the other. While their chief use may have been for skin scraping, they are found by experiment to be excellent implements for planing wood, and may well have served for the scraping down of arrow-shafts, spear-shafts, and for similar work.

Some of the chipped points described on p. 23 may have been used for knife points. Among these there are a number of specimens which were particularly suited for this use. The specimen shown in Fig. 6 may have served as a knife, possibly one used for ceremonial purposes although it may have been used as a spear point. These knives, being somewhat symmetrical

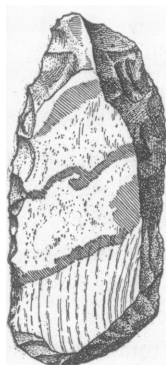


Fig. 49.

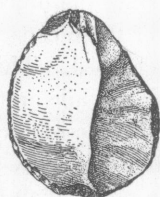


Fig. 50.

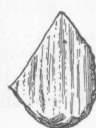


Fig. 51.



Fig. 52.

Fig. 49 (202-8371). Scraper chipped from Petrified Wood. From the surface, near the head of Priest Rapids. $\frac{1}{2}$ nat. size.

Fig. 50 (202-8372). Scraper chipped from Agate. From the surface, near the head of Priest Rapids. $\frac{1}{2}$ nat. size.

Fig. 51 (202-8373). Scraper chipped from Chalcedony. From the surface, near the head of Priest Rapids. $\frac{1}{2}$ nat. size.

Fig. 52 (202-8221). Scraper chipped from Chalcedony. From the surface of the Cherry Creek Camp Site near Ellensburg. $\frac{1}{2}$ nat. size.

differ from the one found at Kamloops ³ in the Thompson River region which was similar in shape to the knives used until recently by the Thompson River Indians.⁴ These knives from the Thompson River region are chipped much more from one side than from the other and have curved points. The specimen shown in Fig. 3 (202-8336) has an absolutely flat base which is apparently an unworked portion of the block from which the object was

¹ Smith (c), p. 418.

² Spinden, p. 185 and Fig. 56.

³ Smith (c), p. 418, Fig. 352d.

⁴ Teit, (a), Figs. 125-126.

chipped. It is possibly an unfinished arrow point, but its outline suggests that it is a knife point. The specimen shown in Fig. 2 is chipped from waxy red chalcedony. It has a straight end and one edge of the point is slightly more curved than the other, which together with the fact that one side is nearly flat suggests that it may have been one of those points which are considered to have been used for knives rather than for arrow or spear points. The specimen (202-8369) shown in Fig. 1 may have served either as the tip for an arrow or as a knife point, and it may be compared with the much more deeply serrated points found in the Thompson River region.¹

Arrow-shaft Smoothers. Arrow-shaft smoothers, made of coarse sandstone like those from the Thompson River region,² were not found by us in this area nor on the coast;³ but one of these grooved stones was seen in the collection of Mr. E. R. McDonald at Ellensburg. It was collected by Mr. Dick Williams, of the same place, who found it on the west bank of the Columbia River, twenty miles north of Priest Rapids, Kittitas County. It is made of a salmon-colored gritstone, and is of the usual type, semi-cylindrical with a longitudinal groove on the flat side, in this case a very small groove such as might occur if it had not been much used. In the Nez Perce region to the east,⁴ according to Spinden, there have been found an arrow-shaft smoother made up of two somewhat rectangular blocks of light tufa, each with a semi-cylindrical groove in one side and a soapstone object which he considers to be an arrow-shaft polisher, but I have considered this as a mat presser.

TOOLS USED BY WOMEN.

A number of implements were found which may have served for the preparation of skins and for sewing. Among these may be mentioned skin scrapers, awls, a needle, and a mat presser.

Scrapers Chipped from Stone. The scrapers chipped from stone, shown in Figs. 49 to 52, and considered among tools used by men on pp. 67-68, may possibly have been used on skins although they seem rather small for such a purpose. The specimen shown in Fig. 53, made from a flat circular pebble was found on the surface of the bank of the Columbia River, near the head of Priest Rapids. The edges are chipped in such a way that it has been brought somewhat to the form of a square. This object would serve

¹ Smith (d), Figs. 8 to 19; (c), Figs. 332 i-j and 334.

² Smith (d), p. 145; (c), p. 419.

³ Smith (a), p. 190; (b), p. 438.

⁴ Spinden, p. 187, Fig. 32, Plate VII.

well as a skin scraper if hafted in the split end of a stick and used like similar implements seen in use by us among the natives of the Thompson River region.¹ It resembles archaeological specimens from the same area.² In the Nez Perce region to the east³ a disk-shaped spall struck from a boulder was used for skin scraping. Another form, shown in Fig. 54, is chipped from a pebble, probably a flat circular one. Along one side, the surface of the pebble shows, but on the other it has been completely chipped away. In outline, the object is elliptical, but has a slight tendency to be pointed at each end. It is lenticular in section, with the edges jaggedly sharp. This reminds us of certain specimens found at Columbus and The Dalles, which have the same general shape, but are ground and polished, so that no signs of chipping remain on some of them. It seems probable that this specimen

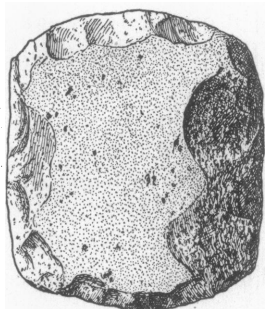


Fig. 53.



Fig. 54.

Fig. 53 (202-8302). Scraper chipped from a Flat Circular Pebble. From the surface of the bank of Columbia River near the head of Priest Rapids. $\frac{1}{2}$ nat. size.

Fig. 54 (202-8307). Scraper or Knife chipped from a Pebble. From the surface of the bank of Columbia River, near the head of Priest Rapids. $\frac{1}{2}$ nat. size.

is a roughed-out form of the same kind, which may have been used in its present condition, or was intended to be finished by grinding and polishing. It seems quite likely that this implement may have been hafted in the end of a split stick and used as a skin scraper, similar to those previously mentioned. On the other hand, it may have been held in the hand and used in scraping skins or perhaps as a knife. It was found with another on the surface of the bank of the Columbia River, near the head of Priest Rapids. Another of these (202-8117) was found on the surface at Kennewick. The specimen shown in Fig. 55 is simply an oval water-worn pebble with one edge chipped on both sides. It is 115 mm. long by 16 mm. thick, may be an unfinished

¹ Teit (a), Fig. 1, Plate xiv, and Fig. 127.

² Smith (d), Fig. 64; (c), Fig. 355.

³ Spinden, p. 215.

object, if not a scraper or knife, and was found on the surface of the bank of the Columbia River near the head of Priest Rapids.

Scrapers Rubbed from Bone. Scrapers made of bone, similar to those found by us in the Thompson River region and in the vicinity of Puget Sound ¹ were not seen in the Yakima region.

Awls Rubbed from Bone. Awls made of bone have been found in this area. The specimens made of stone, mentioned on p. 25 among chipped points, and on p. 66 among drills may have been used by women for the same purposes. The specimen shown in Fig. 56, was found on the surface of an island in the Columbia River near the mouth of the Snake, and it is bleached from exposure. It was collected and presented by Mr. D. W. Owen. The specimen shown in Fig. 57, was found on an island in the Columbia River, forty miles above the mouth of the Snake, and it is bleached from exposure on the surface. The shaft is nearly circular in cross section

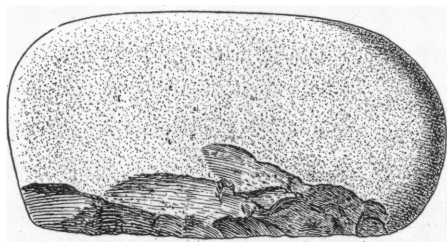


Fig. 55 (202-8297). Scraper or Knife chipped from a Pebble. From the surface of the bank of Columbia River, near the head of Priest Rapids. $\frac{1}{2}$ nat. size.

and tapers to a point for one half its length. The base ends in a flat elbow piece. The outline of the end of this projection is rounded. The specimen was collected and presented by Mr. D. W. Owen.

No awls made from the proximal part of the ulna of the deer were seen by us in this area, although it will be remembered they were found in the Thompson River region ² and are reported from the Nez Perce region to the east by Spinden who says that they were used in braiding rope.³ We found them on the coast of British Columbia and Washington.⁴ The same remarks are true of awls made of the distal end of the metapodial of the deer.⁵

¹ Smith (d), Figs. 65 and 66; (c), Fig. 356; (a), Fig. 34; Teit (a), Figs. 128 and 129.

² Smith (c), Fig. 357.

³ Spinden, p. 189, Plate VII, Fig. 29.

⁴ Smith (a), p. 170 (*Eburne and Hammond*); (b), p. 317, (*Comox*); p. 347 (*Saanich*); p. 377, (*Stanwood*); p. 389, (*New Dungeness*).

⁵ Smith (d), Fig. 74; (c), Fig. 357; (a), Fig. 35, (*Eburne*); (b), p. 317, (*Comox*); p. 348, (*Saanich*).

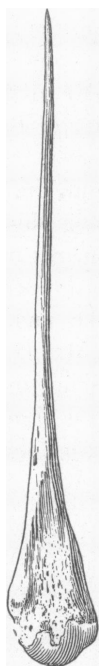


Fig. 56.

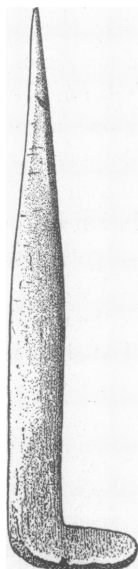


Fig. 57.

Fig. 56 (20.0-1466). Awl made of Bone. From the surface of an Island in Columbia River near the mouth of the Snake. $\frac{1}{2}$ nat. size. (Collected and presented by Mr. Owen.)

Fig. 57 (20.0-1465). Awl made of Bone. From an Island in Columbia River, forty miles above the mouth of the Snake. $\frac{1}{2}$ nat. size. (Collected and presented by Mr. Owen.)

This seems rather interesting since these two kinds of awls, each made of a special bone are so commonly found and so widely distributed in America that it seems hardly possible that they may not yet be found in this region. Simple sharpened bone implements which are said to have been used as awls are found in the Nez Perce region¹ where according to Spinden, a small awl was used in making basketry but we saw none in the Yakima region not considered to be points for arrows or spears.

Needles. Only one object which may be considered as a needle was seen by us in the Yakima region, and it will be remembered that they are rare on the coast of British Columbia and Washington, except in the Lower



Fig. 58. Spatulate Object made of Bone. From the Yakima Valley. $\frac{1}{2}$ nat size. (Drawn from photograph 44503, 6-4. Original catalogue No. 13 in the collection of Mr. Janeck.)

¹ Spinden, p. 189, Plate VII, Figs. 27 and 28.

Fraser¹ country, although they were common in the Thompson River region.² This specimen shown in Fig. 58 is a long needle-like object, No. 13, in the collection of Mr. Janeck. The object is warped or bent like the needles used in the Puget Sound country to string cat-tail stalks together in order to make mats. This specimen is 291 mm. long. The point is sharpened and although the side edges are flat, it somewhat resembles a paper knife. At a point nearly one third of its length from the base, it is perforated through the middle by gouging from each side. The base is notched, in such a way that the object is bilaterally symmetrical as shown in the illustration. It may possibly but not probably have served as a sap scraper.³

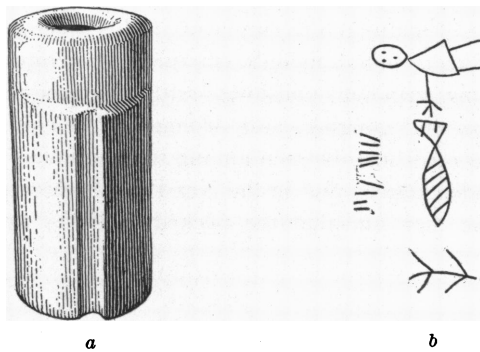


Fig. 59 *a*. Object made of Steatite, probably a Mat Presser. From Prosser. $\frac{1}{2}$ nat. size. (Drawn from photograph 44504, 6-5. Original in the collection of Mr. Spalding). *b*, Part of Incised Pictograph on Object Shown in *a*.

Mat Pressers. Mat pressers, or objects that are considered to be such, made of stone are commonly found in the area immediately to the south. No objects recognized as such were found by us in the Thompson River region, and from the coast of British Columbia and Washington there is only one. It is made of stone⁴ and was found at Cadboro Bay near Victoria. Specimens made of wood are very common among the present natives of the same coast. A ground soapstone object from the Nez Perce region is considered by Spinden an arrow-shaft polisher,⁵ but seems to me more likely to be a mat presser of the type found in the region immediately south of the Yakima area.

The object shown in Fig. 59 which may be an unfinished pipe, is of the

¹ Smith, (a), Fig. 36.

² Smith (d), Figs. 76-78; (c), Fig. 358.

³ Museum negative no. 44503 (6-4).

⁴ Smith (b), Fig. 146.

⁵ Spinden, Plate VII, Fig. 34.

form of a flattened cylinder, made of steatite and was found at Prosser in the southern part of the area here considered. The surface is marked with incised figures, part of which are illustrated in Fig. 59b and described on p. 124. The groove on one side suggests that it may have been used as a mat presser such as are used to string cat-tails and tule stalks. The cylindrical bore in the top is 25 mm. deep by 10 mm. in diameter and its top is funnel-shaped. The original is in the collection of Mr. Spalding.¹

PROCESSES OF MANUFACTURE.

The processes of manufacture employed in this area as indicated by the archaeological objects found include fracturing by chipping and flaking, pecking or bruising, grinding, polishing, cutting by grooving and breaking, incising, whittling and gouging, and drilling. The materials worked by each of these processes may be seen among the specimens here figured and described. Spinden states² that in the Nez Perce area chipped implements were made by the men and that the pecked artifacts were made by the women.

LIFE HISTORIES OF MANUFACTURED OBJECTS.

The story of the manufacture of the objects found from the securing of the raw material to their finished and to their worn out and broken condition is not shown completely in the case of more than one class of objects, viz., chipped implements, but in a number of cases the signs of manufacture have not been entirely obliterated and some specimens are figured and described which are undoubtedly in process of manufacture. Plate III, Fig. 1 shows a quarry from which material for the manufacture of chipped implements was obtained. A description of this has been given on p. 16. Here could be seen the hammers, one of which is illustrated in Fig. 40, that were used in breaking up the raw material, and the material in various stages of chipping and flaking together with the waste products. In Plates I and II may be seen the more or less completed chipped implements. If points of antler were used as flakers, they were either not found or recognized by us. According to Mr. Cotton, there are numerous chips within the "fort" mentioned on p. 82. One other example of a series illustrating the life history of an object may be mentioned, namely, that of the pestles. Many oblong peb-

¹ Museum negative no. 44504, 6-5.

² Spinden, p. 185.

bles suitable for pestles without being changed from their natural form were seen in both the Yakima and the Columbia Valleys. Other pebbles required but slight shaping to bring them to the required form. Fig. 22 illustrates such a pebble which is in process of shaping by pecking or bruising and Fig. 43 shows a suitable tool for executing the work. After being fully shaped by this process such pestles were polished but the materials used for this purpose, whether sandstones and similar abrasives, the horse tail rush or the bare hand, are not known.

WAR.

Implements used in Warfare. The objects considered under hunting on p. 23 *et seq.*, such as chipped points for spears, arrows and knives may have served in warfare; so also may bows, mentioned on p. 29. Others that were considered as tools, on p. 57 *et seq.*, such as the celt and hand-adze, may have been used as weapons in war times; but there are some objects that were probably useful only in warfare. Prominent among these are the club-heads and clubs, made of stone, shown in Figs. 60-68. No clubs made of copper, antler or whale's bone have been seen by us that are certainly from this region although it will be remembered ¹ that such were found in the Thompson River region, lying to the north, that the latter are common on the coast of British Columbia and Washington ² to the west of this area and that one of whale's bone labeled from the upper Columbia River has been figured in my report on the archaeology of Puget Sound.³

Grooved Pebbles, Club-heads, or Sinkers. The grooved spheroid pebble, shown in Fig. 60, was found on the Yakima Reservation near Union Gap and is in the collection of Mr. Janeck. There are two encircling grooves which cross each other at nearly right angles. These have been made by pecking. At one intersection of the grooves, the object shows signs of battering such as may have resulted from pounding with it, or such as may have been made to form a pit for the reception of a handle end. It is probably a club-head, net sinker or gaming stone ⁴ similar to those used in the Thompson River region.⁵ In the Nez Perce region ⁶ to the east unworked river boulders sewed in skin, were used for the heads of war clubs which were sometimes also used in killing game. This kind of club is the same

¹ Smith (d), Figs. 81 and 82; (c), Fig. 359.

² Smith, (b), Figs. 165-171.

³ Smith (b), Fig. 166d.

⁴ Smith (d), Fig. 39; (c), p. 440; Teit (a), p. 279.

⁵ Museum negative no. 44455, 2-4.

⁶ Spinden, pp. 188 and 227, also Fig. 55.

used by the eastern Indians, according to Lewis¹ and was probably introduced. The spheroid specimen made of hard lava, possibly trap, shown in Fig. 61, was found on the Yakima Reservation near Union Gap, and is also in the collection of Mr. Janeck. There are three grooves, marking great circles at right angles to each other. These have been made by pecking. At each pole or the intersection of two of these grooves, at the top and bottom in the illustration, and in each area marked out by the grooves is a pit making a total of ten. In the equatorial grooves are the remains of two parallel strings, each twisted to the right or contra-screw-wise, made up of two strings twisted to the left and remains of a fabric of loose mesh overlying the strings. It measures 70 mm. by 63 mm. by 57 mm.² A club-head made of stone

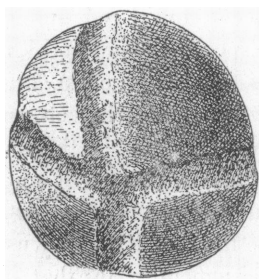


Fig. 60.

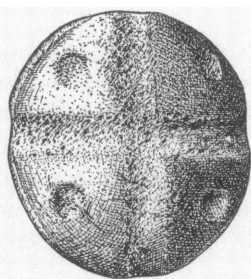


Fig. 61.

Fig. 60. Grooved Pebble. From the Yakima Reservation near the Gap. $\frac{1}{4}$ nat. size. (Drawn from photograph 44455, 2-4. Original in the collection of Mr. Janeck.)

Fig. 61. Club-head or Sinker made of Lava. From the Yakima Reservation near the Gap. $\frac{1}{4}$ nat. size. (Drawn from photograph 44503, 6-4. Original in the collection of Mr. Janeck.)

with a handle covered with rawhide and horsehair, was seen by us in the collection of Mr. Janeck. The head is grooved, circular in cross section, and has conoid ends. It consequently resembles the stone clubs of the eastern Plains. The objects shown in Figs. 14-16 and considered as sinkers, may have been fastened to handles and used as heads for war clubs or as 'canoe smashers' in warfare.

Stone Clubs. The club³ shown in Fig. 62, is made of serpentine. The handle is oval but approaches a lenticular form in cross section. There are eighteen notches across one edge of the knob and eight on the other. The blade is of the characteristic form with lenticular cross section but thicker than the thin type of stone clubs of this form such as are found near the

¹ Lewis, p. 189.

² Museum negative no. 44455, 2-4.

³ First mentioned on p. 414 and Fig. 174a, Smith (b).

coast.¹ The tip is rather blunt. The reverse is the same as the obverse. It is from Methow River, Okanogan County and here illustrated from a sketch by Mr. Charles C. Willoughby of the original in the Peabody Museum, Harvard University.

The club shown in Fig. 63 was found in the Yakima Valley on the west side of the river between Wenas Station and Upper Gap above North

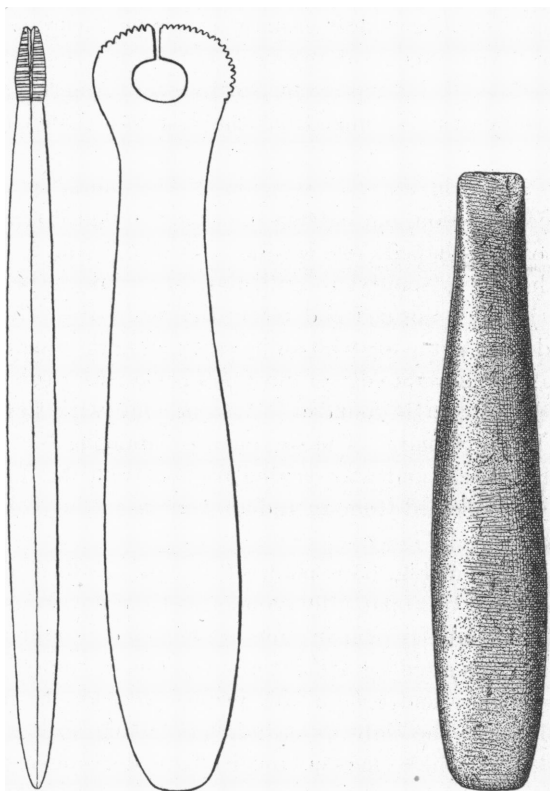


Fig. 62.

Fig. 63.

Fig. 62. Club made of Serpentine. From Methow River, Okanogan County. $\frac{1}{2}$ nat. size. (Drawn from sketches by Mr. Charles C. Willoughby. Original catalogue No. 64795 in the Peabody Museum, Cambridge, Mass.)

Fig. 63. Club made of Serpentine. From the Yakima Valley, between Wenas Station and the Gap above North Yakima. $\frac{1}{2}$ nat. size. (Drawn from photographs 44453, 2-2, and 44500, 6-1. Original catalogue No. 44 in the collection of Mr. Janeck.)

Yakima. It is made of serpentine of a mottled yellow, brown and green color. It is 26 mm. long, and of the form of a rather thick, elongated apple

¹ Smith (b), Fig. 172a, b.

seed, with the upper and lower ends cut off. The top is of the form of a symmetrical celt with a dull edge and is bevelled about equally from each side. The handle, which is 22 mm. thick, is the thickest part of the object, rather oval in section and merges into the blade, which is paddle-shaped, lenticular in cross section and terminates in a celt-like end which is dull and bevelled about equally from each side.¹ It is catalogue No. 44 in the collection of Mr. Janeck.² A club of this general type has been found as far east as Sand Point, Idaho, the most eastern occurrence, as was mentioned on p. 413 of my "Archaeology of the Gulf of Georgia and Puget Sound," where all the clubs of this type from Northwestern America are discussed. On the west, they seem to range from the Klamath Valley to the head of Puget Sound.

The club, shown in Fig. 64³ is made of stone and has a blade rather lenticular in cross section, but bulging somewhat so that it reminds us of the clubs of the lozenge-shaped cross section.⁴ It is 265 mm. long, by 25 mm. thick. The handle is somewhat lenticular, but tends to be hexagonal in section, with rounded corners and meets the blade abruptly. There is a saddle-shaped knob at the top with an incised geometric design in the hollow. The upper part of the right edge of this knob is flat with two incisions across it, while the lower part is rounded. A stone club with similar handle is known from Puget Sound.⁵ The specimen is catalogue No. 40 in the collection of Mr. Janeck, and was secured by him from the York collection. It was originally collected from an Indian woman on the Yakima Reservation.⁶

The club shown in Fig. 65 is made of diabase or allied material and is 338 mm. in length. It is bilaterally symmetrical and the reverse and obverse are alike. The handle is oval in cross section and terminates in a knob from which it is separated by a slight groove. In the top of the knob is a depression as if there had been a hole pecked through the form, tapering from each side, as in the clubs or slave-killers having lozenge-shaped cross section from the coast there⁷ the top broken off and the broken edges rounded, as in the club with lozenge-shaped cross section from Copalis on the coast of Washington.⁸ But such is not the case; the notch resembles that of the club shown in Fig. 64, slightly the one shown in Fig. 62, both from this

¹ Smith (b), p. 417.

² Museum negatives nos. 44453, 2-2, and 44500, 6-1.

³ First shown in Smith (b), Fig. 177a.

⁴ Smith (b), p. 415.

⁵ Smith (b), Fig. 177b.

⁶ Museum negatives, nos. 44453, 2-2 and 44500, 6-1.

⁷ Smith (b), Figs. 175 and 176.

Ibid., Fig. 175e.

region, and one from Burton on Puget Sound.¹ The blade is paddle-shaped like the large end of an apple seed, lenticular in cross section, with a mid-rib on each side which runs out about 10 mm. from the end of the club.² It was found on the surface at Union Gap, below Old Yakima, and is in the collection of Mr. Janeck.³

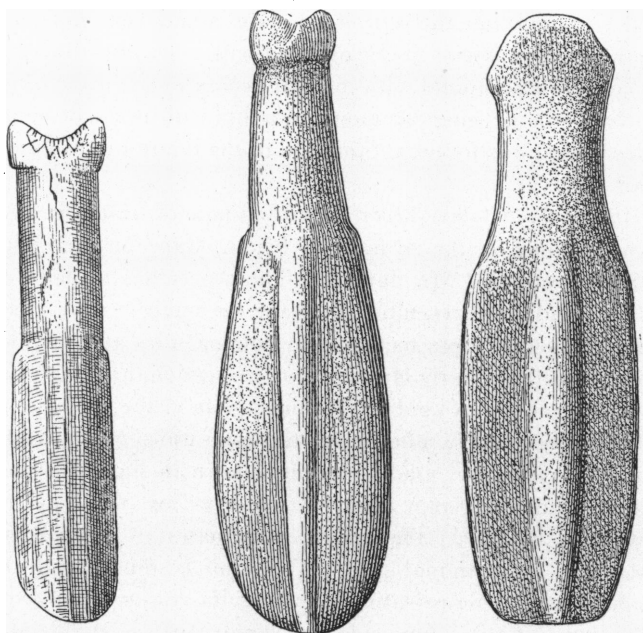


Fig. 64

Fig. 65

Fig. 66

Fig. 64. Club made of Stone. From Yakima Reservation. $\frac{1}{2}$ nat. size. (Drawn from photographs 44500, 6-1, and 44453, 2-2. Original in the collection of Mr. Janeck.)

Fig. 65. Club made of Stone. From the surface at Union Gap below Old Yakima. $\frac{1}{2}$ nat. size. (Drawn from photographs 44453, 2-2, and 44501, 6-2. Original in the collection of Mr. Janeck.)

Fig. 66. Club made of Stone. From the surface at Union Gap below Old Yakima. $\frac{1}{2}$ nat. size. (Drawn from photographs 44453, 2-2, and 44501, 6-2. Original in the collection of Mr. Janeck.)

The stone club, shown in Fig. 66, was found on the surface at Union Gap, below Old Yakima. It is of a purplish gray lava-like material. The handle is oval in cross section with a knob at the end which is somewhat flattened on each side and slopes towards the rounded top like a blunt

¹ *Ibid.*, Fig. 177b.

² First mentioned, Smith, (b), p. 416 and Fig. 177c.

³ Museum negatives, nos. 44453, 2-2, and 44501, 6-2.

symmetrical celt. The blade has convex side edges which are nearly flat and about 18 mm. wide. It is thicker in the middle than at the edges and bears a mid-rib of the shape of a railroad embankment with rounded angles, from the handle to the end. On each side of this mid-rib, the surface is nearly flat. The end of the blade is nearly flat. The specimen is in the collection of Mr. Janeck.¹

It will be noted that the thin stone clubs found here have no mid-rib. Clubs made of stone, whale's bone or wood with such mid-ribs are unknown from the coast but are found with median decoration in place of a mid-rib,² those of whale's bone being common and a thin club made of copper with a median decoration was found at Spuzzum in the interior of Southern British Columbia.³

'*Slave-killers.*' A 'slave-killer' or club, made of friable stone shown in Fig. 67, was found on the surface of Union Gap, below Old Yakima. It is in the collection of Mr. Janeck. The object has a blade which sets out from the handle and resembles in shape the typical 'slave-killer' in that it is lozenge-shaped in cross section with bulging sides and rounded angles. The handle is oval or nearly circular in cross section, and slightly larger at the top where there is no knob or perforation as in the typical club of this type.⁴ The object is 377 mm. long, 63 mm. wide, and 41 mm. thick.⁵ The club or 'slave-killer' made of stone, shown in Fig. 68, was found at Lake Chelan, and is 280 mm. long. It is owned by Mr. C. G. Ridout of Chelan, Chelan County. The handle terminates in a knob, which resembles the form of an animal head. This knob is somewhat heart-shaped, the two lobes possibly representing ears, and the lower tip projects beyond the handle of the object. One side, the larger surface, stands at about 45 degrees to the axis of the club and is bisected by a deep incision, on each side of which are two circles, which probably represent eyes. On either edge of this knob are thirteen incisions. The handle which is nearly circular in cross section, bears four vertical rows of horizontally arranged incisions and expands suddenly edgewise to form the blade which, however, on its upper and lower surfaces is practically continuous with the handle. The blade is nearly circular in cross section and tapers gradually to a rather blunt point. The object is probably a ceremonial implement.

The stone objects considered as pestles and shown in Figs. 32 and 35 may have been used as war clubs. The object made of friable stone,

¹ Museum negatives nos. 44453, 2-2, and 44501, 6-2. First mentioned on p. 416 and figured in Smith, (b), Fig. 177d.

² Smith (b), Figs. 173a, b; 169a; 165a, c-g; 166a, b, d-g; 167a-d; 168a, c, d; 169f and 170a.

³ *Ibid.*, Fig. 172d.

⁴ *Ibid.*, Figs. 175, 176 and 177e.

⁵ First mentioned *ibid.*, p. 418. Museum negatives nos. 44453, 2-2 and 44500, 6-1.

shown in Fig. 69 was mentioned on p. 39 as possibly having been used as a pestle and again on p. 65 as being suitable for use as a whetstone. It seems most likely, however, that it served as an implement of war or as a 'slave-killer.' It is roughly of the shape of a cigar. The upper end is

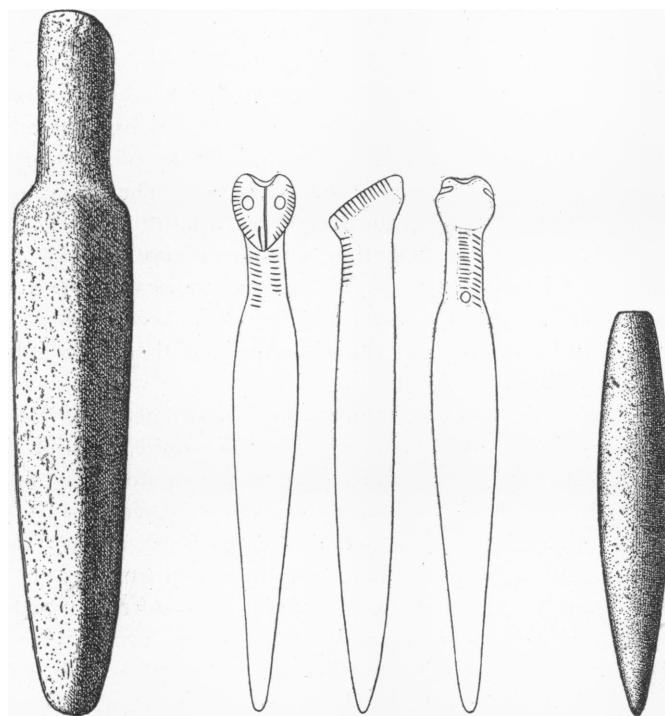


Fig. 67.

Fig. 68.

Fig. 69.

Fig. 67. Club made of Stone. From the surface at Union Gap below Old Yakima. $\frac{1}{2}$ nat. size. (Drawn from photographs 44453, 2-2, and 44500, 6-1. Original in the collection of Mr. Janeck.)

Fig. 68. Club made of Stone. From Lake Chelan. $\frac{1}{2}$ nat. size. (Drawn from a sketch furnished by Mr. C. G. Ridout. Original in his collection.)

Fig. 69. War implement or Slave Killer, made of Friable Stone. From the Yakima Valley. $\frac{1}{2}$ nat. size. (Drawn from photograph 44503, 6-4. Original in the collection of Mr. Janeck.)

nearly flat and circular. From here the object gradually expands for about half its length and then contracts to a point, being nearly circular in cross section throughout. It is 208 mm. long, 38 mm. in maximum diameter, and 19 mm. in diameter at the top. It was found in the Yakima Valley and is in the collection of Mr. Janeck.¹ The object considered as a hand-axe and shown in Fig. 46, may have been used as a 'slave-killer.'

¹ Museum negative no. 44503, 6-4.

No objects considered as daggers or knives and made of antler were found by us in this region. Although it will be remembered ¹ that several, over 200 mm. in length, were found in the Thompson River region.

War Costume. The costume indicated on the figure carved in antler, described under the section of dress and adornment, p. 100, referred to in the discussion of art on p. 127, and shown in Fig. 121, may be that of a warrior as is suggested by the similarity of the headdress to the war-bonnet of the tribes of the Plains. That the war-bonnet was used in this region is strongly suggested not only by this headdress but also by those represented in the pictographs and petroglyphs as well as by the wearing of it by the modern Indians of this area. This idea is further strengthened by the fact that the war-bonnet is worn in the Nez Perce region to the east,² where it has no doubt been used for a long time, although it may originally have been derived from the Plains. The Nez Perce sometimes wore streamers with these war-bonnets. Spinden states that the early Nez Perce war-bonnets differed from the type used by them to-day, and that exact information about them is difficult to obtain.

Fortifications. A so-called "Indian fort" is situated near Rock Creek about six miles below Rock Lake. It is about a mile south of the ranch of Mr. Frank Turner (p. 54), and shown in the photographs reproduced in Figs. 1³ and 2⁴, Plate VI. These were taken and presented by Mr. J. S. Cotton, then in charge of the cooperative range work at the Washington State Experiment Station at Pullman, who furnished from his notebook all our data on this subject. The "fort" is built on a flat knoll of about fifteen feet in height and with precipitous sides. It is in the form of a circle, being enclosed about four fifths of the way around. The wall is built of flat rocks which are tilted in such a manner that they will glance all projectiles into the air. There were numerous arrow chippings within the "fort." There are many Indian graves supposed to be very old, two pits believed to mark building sites, and a long line of stones in the vicinity (pp. 140, 54, 29).

Wounds. The skull of skeleton No. 99-4318, found in rock-slide grave No. 10 (5) on the north side of the Naches River half a mile above its mouth, showed where the right side of the orbit had been pierced in such a way that the malar bone was partly severed and repair had taken place, leaving a large anterio lateral projection on the malar bone. One rib had two articular surfaces at the anterior end.

¹ Smith (d), Fig. 80; (c), p. 423 and Fig. 360.

² Spinden, p. 228.

³ From the interior.

⁴ From the exterior.

DRESS AND ADORNMENT.

Skins. Tanned skin and skin bearing hair of animals, including the deer, and feathers of the woodpecker have been found in the graves and were evidently portions of garments or of pouches; but graves containing these materials are apparently more modern than some of the others. No skins of birds were found by us in this whole region. The scrapers mentioned on page 69 and the hammers as well possibly as the grooved stones mentioned on pages 30 and 75 may have contributed to the making of clothing: the former for scraping skins, the latter for beating and softening them.

Skin (202-8223), resembling buckskin or leather in its decomposed condition, was found in grave No. 31 (2) (99-4326), in the rock-slide near the mouth of Cherry Creek, immediately below Ellensburg. That this grave may not be as ancient as some of the artifacts here described is suggested by the fact that a small piece of a wooden post, not completely decayed, was found projecting from the rock-slide above the grave, and by the presence of four more posts, one at each corner of the grave, extending down from the level of the rock-slide, the upper parts apparently being entirely decomposed. The remains of matting which had been wrapped around the body, glass beads (202-8225) and three bracelets made of iron (202-8226), one of which is shown in Fig. 96, also suggest that this grave was modern, although it must be remembered that in this dry climate, wooden posts, matting and iron resist decomposition for a long time. The form of the garment or other object made up of this skin has not been identified, but pieces of the skin are joined in some places by over-casting with skin thread; in others, with a double skin thong and still in others with some sort of vegetable fibre. A piece of deer skin (202-8230) with the hair on was found in grave No. 37 (4) (99-4328), in the same rock-slide. Here again, the presence of sticks about three feet long, decayed at the tops and arranged in three rows of matting made of reeds (202-8229 and 202-8230, Figs. 71-72), and of beads apparently made of factory-rolled copper, suggest that the entire contents of this grave are modern.

Fragments of skin of a small mammal, with the hair on, which had been stitched along one edge with what appears to be twisted vegetable fibre made into a cord of two strings (202-8231), was found in grave No. 34 (5) (99-4329) in the same rock-slide. Here again were found evidences suggesting the grave to be modern. These consisted of decayed posts cut off at the surface of the slide. Among the other objects in the grave were matting (202-8232), beads (202-8233, Fig. 74), made of what is apparently

factory-rolled copper, coarse string and thong, some of which is wound at the ends and pieces of coarse twisted plant fibre upon which some of the beads were strung, two ornaments (202-8234, Fig. 91) made of haliotis shell, two pendants made of what appears to be factory-rolled copper (202-8235), four bracelets apparently made of similar copper (202-8236, Fig. 95),

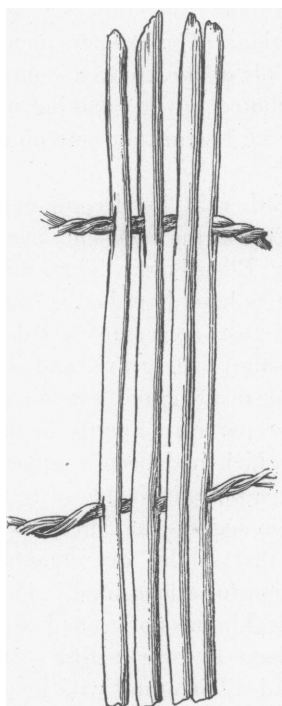


Fig. 70 (202-8391). Diagram of Stitch of Fragment of Rush Matting. From near the skin on skeleton in grave No. 38 (1) of an adult in a rock-slide on the east side of the escarpment near the head of Priest Rapids. $\frac{1}{2}$ nat. size.

a square pendant (202-8238, Fig. 78), a disk (202-8239, Fig. 83), both of which seem to be made of factory-rolled copper and a piece of iron (202-8242). Among the rocks above the grave were found a copper ornament (202-8244), a brass pendant (202-8245, Fig. 84), with thong and copper bead, and a copper pendant (202-8246, Fig. 82).

Matting. Fragments of matting of vegetable fibre sewed or twined with cords made of plant material were found; but only in recent graves. Such graves contained objects introduced into the region since the advent of the whites. These fabrics were probably modern but were in no way affected by the coming of the white man or the materials secured from him, being simply found in these modern graves associated with artifacts made from material secured from the white man. In the old graves they have probably long since decayed. Spindle-whorls were not found. Fig. 70 illustrates the stitch of a piece of matting (202-8391) of a well known type consisting of a single strand warp of rushes pierced at intervals by the weft which is a two-strand string. It is similar to that commonly found in the Thompson River region.¹ This specimen was found in grave No. 38 (1) (99-4333) in a rock-slide on the west side of the Columbia River, near the head of Priest Rapids. The

grave was probably modern as is suggested by stakes nearly six feet long which projected about three feet above the surface of the rock-slide and a roll of birch bark² (202-8392). The vegetable fibre used in sewing these stalks was probably the same as that used by the present Indians as was

¹ Teit (a), Fig. 131c.

² Cf. Smith (d), Fig. 117.

thought to be the case in the Thompson River region.¹ Spinden does not mention this simple type of sewed mat as found in the Nez Perce area.² Fig. 71 shows a piece of matting (202-8229) of a new type consisting of two strands of what seem to be small stalks of tule, twisted loosely and pierced at each half turn by a cord. The cord is a two-strand string, the vegetable fibre of the individual strands not seeming to be twisted. The interstices are wide. It was found under the pelvis of a skeleton of a youth (99-4228) in a recent grave, No. 33 (4), in a rock-slide near the mouth of Cherry Creek, below Ellensburg. This piece of matting, so far

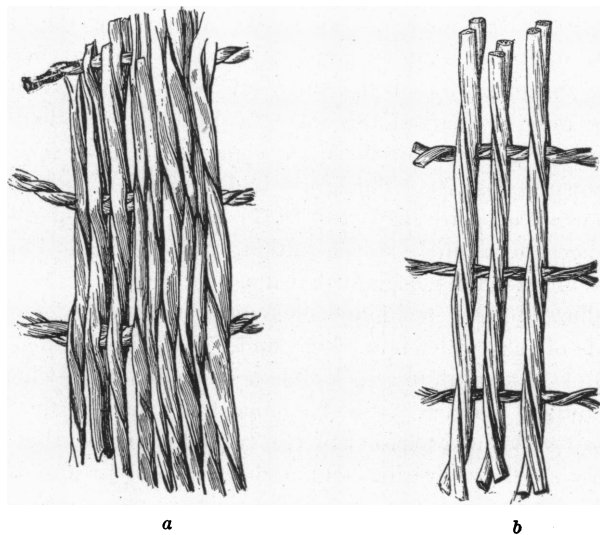


Fig. 71 *a* (202-8229). Fragment of Matting, made of Twined Rush, stitched together with twisted cord. From under the pelvis of skeleton in grave No. 33 (4) in a rock-slide, near the mouth of Cherry Creek, below Ellensburg. *b* Diagram of Stitch of *a*. $\frac{1}{4}$ nat. size.

as I am aware, is the first specimen of a new type collected and figured. It was first brought to the attention of students in 1906 through correspondence when Professor Otis T. Mason stated that he had never seen an example, a picture or a description of just that technique. It was shown at the annual exhibition of the New York Academy of Sciences, in December of the same year, but reference to the type was first published in November 1908 by Spinden.³ In the Thompson River region this type has not been found. Mr. James Teit informs me that he asked all the old Thompson Indian women of the vicinity of Spences Bridge about this type of matting,

¹ Smith (c), p. 423. Teit (a), p. 188.

² Spinden p. 195

³ Spinden, p. 195.

submitting a model of it to them which I sent him. They all stated that they never saw that particular type made in the Thompson River region and if ever made there it must have been before the memory of those now living. The only pierced matting made there as far as they have ever known is the tule tent mat,¹ but the strands of this were not twisted, being like those shown in Fig. 70. They had a weave similar to this and the same in general effect in the common mat used for beds and on which to sit, known as the floor mat, but the strands were woven and not stitched.² Certain rush bags of the Quinault and the Makah resemble this type of matting but the rushes are not pierced.

Matting (202-8162) made of tule stalks stitched together with cords twisted to the right, but made of large stalks was found in a recent grave, No. 10 (5) in the rock-slide on the north side of the Naches River, half a mile above its mouth. Part of this was of a similar type and stitched with similar cords and part was of the more common form of sewed matting such as is shown in Fig. 70. This grave had been rifled, and the presence of bark, a portion of a fire drill (202-8157), part of a wooden bow (202-8159), two pieces of a finely woven basket (202-8160) and copper tubes apparently of rolled copper, suggest that it was modern.

Fig. 72 illustrates the technique of a piece of matting of open twine weaving made of rush which was found under the pelvis of the skeleton in grave No. 33 (4) of a youth in a rock-slide near the mouth of Cherry Creek, below Ellensburg. Spinden states that mats were made in the Nez Perce area, of cat-tail stalks held together by two twined cords and that mats were used for house and floor coverings and as sheets upon which to dry berries.³

The string of all these fragments of matting was too much decayed or fragmentary for determination. It will be remembered that both sewed and woven matting were found in the graves of the Thompson River region,⁴ as well as among the living Indians. It seems probable that these mats were made and used one above the other like great shingles for covering the summer house, for beds and for wrapping the dead, while the thinner pieces may have served for garments. Food was probably spread on them to dry and they no doubt served many other purposes. The art of weaving was practised to a considerable extent in the Nez Perce region to the east, although it had very slight development in the Plains area, still further east.⁵

Cord made of vegetable fibre (202-8233) found in grave No. 34 (5)

¹ Teit (a), Fig. 131c.

² Teit (a), Fig. 131d.

³ Spinden, p. 195.

⁴ Smith (c), p. 423.

⁵ Spinden, p. 190.

(99-4329) in a rock-slide near the mouth of Cherry Creek, below Ellensburg, upon which copper and shell beads were strung was made of two strands, some twisted to the right, others, to the left and in some cases a single cord was used for stringing the beads, while in other cases three cords were used.

A roll of birch bark (202-8392) was found in grave No. 38 (1) (99-4333) in a rock-slide, on the west side of the Columbia River near the head of Priest Rapids. It is the only specimen of this kind that was found by us in the whole area although it will be remembered¹ that such rolls of birch bark were frequently found in graves of the Thompson River region. As stated on p. 84, we considered this grave to be modern.

Ornaments. A great variety of ornaments was found, but most of these were in graves considered to be modern. Among the finds which appear to be old, none of them having been found in graves considered to be modern, none of them appearing to be made of commercial material and all of which seem to be of native technique are perforated disks of stone (202-8152), and bone, (202-8227), a perforated and engraved sea shell (202-8388), and haliotis shell from the Pacific Ocean (202-8393), both plain and polished dentalium shells, pendants made of what is apparently haliotis shell, a nose ornament also apparently made of haliotis shell (202-8252), and beads made of shell.

Red and yellow ochre, blue copper clay, and white earth, which may have been used for paint such as was found in the Thompson River region² were not seen by us in this area. Although charcoal, which may have been mixed with grease and used for paint, was frequently found there was no evidence of such use.

Combs. Only one comb was seen and nowhere throughout the area were found any objects known to have been used as head scratchers such as were not uncommon in the Thompson River region.³ The comb (Fig. 73) is made of antler and was found where a creek had washed it out of an old grave at Fort Simcoe. The teeth are convex in outline, the back is nearly straight but not quite parallel with the line of the teeth and the

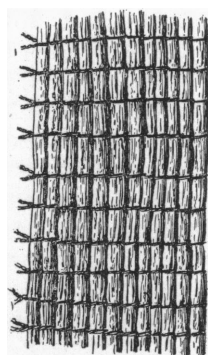


Fig. 72 (202-8230). Fragment of Open-Twine Matting, made of Rush. From under the pelvis of skeleton in grave No. 33 (4) of a youth in a rock-slide near the mouth of Cherry Creek, below Ellensburg. $\frac{1}{4}$ nat. size.

¹ Smith, (d), Fig. 117.

² Smith, (d), p. 150; (c), p. 424.

³ Smith, (c), p. 424; Teit (a), p. 312.

ends convex, the rear end being shorter than the other. The nineteen teeth (one perhaps being rather wide to be considered) are set out from each other by grooves on each side of the comb. This edge of the object is somewhat sharpened making the lower end of each tooth resemble the shape of a celt or wedge. Near the back of the comb are three perforations, one in the middle and one at each end, the latter being about equidistant from both the back and the end of the comb. The hole near the short end of the comb was drilled tapering from the reverse, while the two other holes were drilled tapering part way through from each side, but slightly farther from the reverse than the obverse. The specimen is in the

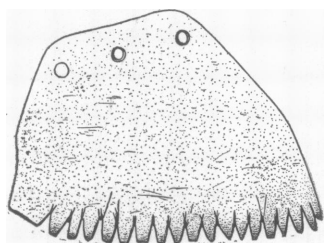


Fig. 73. Comb made of Antler. From a grave at Fort Simcoe. $\frac{1}{4}$ nat. size. (Drawn from photograph 44510, 6-12. Original in the collection of Mrs. Lynch.)

collection of Mrs. Jay Lynch at Fort Simcoe.¹ A comb made of antler was found by us at Lytton² but none were seen among archaeological finds from the other parts of the Thompson River region,³ although wooden combs are found among the Indians there, as in the Nez Perce region where modern combs were made of narrow strips of wood lashed together.⁴ A comb of antler was found by us in the main shell heap at Eburne in the Fraser Delta.⁵

Beads. Among beads, some made of glass are certainly modern. Judging from these glass beads, others found associated with them or with things of white manufacture in the same grave are also modern; while some seem to be old and from sites believed to be ancient. Besides objects truly of the shape of beads, there are others, as for instance the tubes of copper such as are shown in Figs. 74 and 78, some of which were found strung with simple bead forms. Otherwise, they might possibly not have been considered as beads. Fig. 121 suggests how such tubular beads of copper may have been worn on armlets and headdresses. In Fig. 74 are illustrated two fragmentary strings of several types of beads from a number which were found on the neck, arms and legs of a skeleton in grave number 34 (5) in a rock-slide near the mouth of Cherry Creek below Ellensburg. The short cylinders are sections of dentalium shells, longer sections appearing occa-

¹ Museum negative no. 44510, 6-12.

² Smith, (d), Fig. 83.

³ Smith, (c), p. 424.

⁴ Spinden, p. 221.

⁵ Smith, (a), Fig. 42.

sionally. The longest cylinders are sheet copper rolled into cylindrical form. The lapping edge, in most of the beads illustrated is irregular and varies in thickness, which suggests that they were beaten out of native copper rather than cut out of factory-rolled copper. Of course this appearance might be given to the latter by beating it. Such rolled beads made of copper are found in the Nez Perce region to the east¹ and in the Thompson River area to the north.² These shell and copper beads consequently might be considered ancient from their individual appearance, but on the shorter string are some more or less spherical beads made of glass which of course shows that all these beads were used in comparatively recent times. The beads on the longer string are strung upon coarse plant fiber twisted into

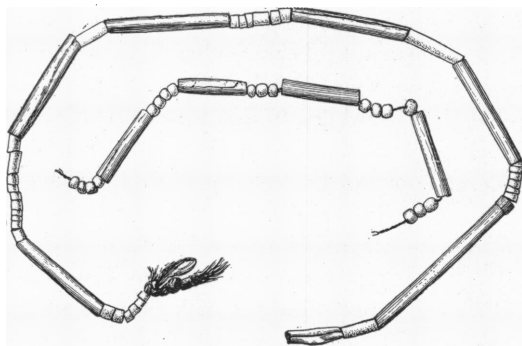


Fig. 74 (202-8233). Beads made of Copper, Glass and Sections of Dentalium Shells. From neck, arms and legs of skeleton in grave No. 34 (5) in a rock-slide near the mouth of Cherry Creek, below Ellensburg. $\frac{1}{2}$ nat. size.

a two strand string while the shorter string is upon a much smaller fiber also of two strands which are twisted. Some of the other beads in this lot were strung upon thongs.

The tubular bead shown in Fig. 75 is made of brass, proving conclusively that it is recent. It was found in grave No. 1 of the Yakima ridge, which contained a number of other objects that might characterize the grave as ancient were it not for the presence of brass beads. A smaller but slightly shorter brass bead was found with this. It contained a piece of stick, but this may be merely the remains of a rootlet many of which had penetrated into the grave. The edges of the outer fold as well as the ends of the bead are irregular and thinned out similar to the corresponding parts of the copper beads shown in Fig. 74. This suggests that the brass may have been

¹ Spinden, Plate ix, Figs. 16-18.

² Smith, (c), Fig. 371.

pounded into sheets by the natives or at least that factory-rolled brass was pounded by them in manufacturing the bead. It also shows that this characteristic of the edges of copper objects, while it may suggest that they were beaten out of native copper and are consequently ancient, does not prove it. Tubular copper beads with short sections of dentalium shell were



Fig. 75 (202-8148). Bead made of Brass. From grave No. 1 in a rock-slide of the Yakima Ridge. Nat. size.

found mixed all the way from the top to the bottom of grave number 10 (5) in a rock-slide on the north side of the Naches River about half a mile above its mouth. Some of these were slightly larger than those shown in Fig. 74.

The bone tubes shown in Figs. 97 and 98 and those described on p. 105 under games, may possibly have been intended for beads or ornaments. Beads were made of bones of birds in the Nez Perce region to the east.¹

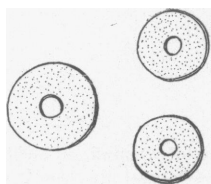


Fig. 76 (202-8384). Beads made of Shell. From refuse of a grave in a rock-slide near the head of Priest Rapids. Nat. size.

The perforated cylinder made of serpentine or steatite shown in Fig. 99 may also have been used as a bead or ornament instead of for gambling. Shell beads of disk shape such as are shown in Fig. 76 were found in three places. Those figured were among the refuse of a grave in a rock-slide near the head of Priest Rapids. Two were found in grave No. 7 (4) in a rock-slide on the northern side of the Yakima Ridge. A brass button and three glass beads were found with them. Twenty-eight of them were found in the grave of a child in a rock-slide on the west side of the Columbia River near the head of Priest Rapids. All these beads seem to be drilled from both sides or at least each end of the bore is slightly larger than the middle. Somewhat similar disk-shaped beads, apparently made of shell are found in the Nez Perce region to the east,² the Thompson area to the north³ and in the Fraser Delta⁴ of the coast country to the west.

Dentalium Shells. Dentalium shells, some broken or cut into short sections, were found in twelve of the graves of this region. Two of these

¹ Spinden, p. 189.

² Spinden, Plate ix, Figs. 12 and 13.

³ Smith, (d), p. 153; (c), p. 427.

⁴ Smith, (a), p. 179.

graves were in domes of volcanic ash and probably old; five of them were cremation circles, also ancient, while five were rock-slide graves of which three were surely modern, and two probably so. It will be seen that the dentalia beads are found in about equal proportions in old and recent graves, there being seven examples of the former and five of the latter. One lot of dentalia found in a cremation circle was charred. None of the dentalia found in the rock-slide graves were incised while in one of the graves in a dome of volcanic ash incised dentalia were found together with the sculptured human form in antler shown in Fig. 121 on which are represented what appear to be dentalium shells forming parts of ear or hair pendants. Incised dentalia were also found in two of the five cremation circles containing dentalium shells. Some of the incised designs on dentalium shells are shown in Figs. 117 and 118. An idea of how the dentalium shells may have been used as ornaments on arm bands and headdresses may be had by reference to Fig. 121 and p. 101. Somewhat similarly incised dentalium shells were found at the large burial place at Kamloops in the southern interior of British Columbia to the north,¹ and in the Nez Perce region to the east bits of engraved dentalium shells are found in the graves of children.² Strings of them were hung from the ears or fastened to the braids of hair and dentalia were attached to the dresses of the women.³ Among antiquities they are found as far east as central Wyoming. There are some dentalium shells decorated with windings along lines somewhat similar in the collections from the Hupa of California. Dentalium shells used as nose ornaments, ear pendants or parts of ornaments and as beads were also found in the Thompson region.⁴ A few were found on the coast in the Fraser Delta,⁵ but while they are to be seen in collections from living Indians and recent graves they were not found among antiquities elsewhere on the coast of British Columbia and Washington.⁶ It seems noteworthy that while the shells are plentiful on the coast where they are used by the modern people they could only have been obtained in the Thompson River region and the Yakima Valley by barter. In the north, they were imported until recently through the Chilcotin country from the region north of Vancouver Island.⁷ In the Yakima Valley, however, they were probably brought in by a more southern route and from places further south on the coast. My impression is that the Fraser Valley was not used as a route for the importation.

¹ Smith, (c), Fig. 379.

² Spinden, p. 181, Plate ix, Fig. 15.

³ *Ibid.*, p. 220.

⁴ Smith, (c), pp. 425 and 427, (d), pp. 134 and 153.

⁵ Smith, (a), p. 180.

⁶ Smith, (b), pp. 319 and 387.

⁷ Smith, (c), p. 408.

Pendants. Somewhat circular objects which might possibly be considered as beads are shown in Figs. 77 to 80 and are considered as pendants perforated near the centre. The first is a slightly assymetrical disk, made of slate, which was found in grave No. 1 in a rock-slide of the Yakima Ridge. It is perforated at the centre with a large hole and at each end with a small hole. These perforations taper from each end and were apparently drilled. On each side there are four conoid pits about equi-distant from each other and the end holes arranged to form an oval about parallel with the edge of the object. On the reverse, there are only two of these pits, one on each side. The disk is 3 mm. thick.

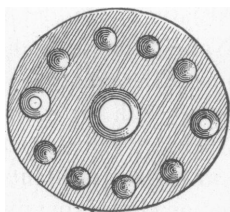


Fig. 77 (202-8152). Drilled and Perforated Disk made of Slate. From grave No. 1 in a rock-slide of the Yakima Ridge. Nat. size.

Fig. 78 illustrates a thin square of copper with rounded corners, a thong of skin and a copper bead, found in grave No. 34 (5) of an infant in a rock-slide near the mouth of Cherry Creek below Ellensburg. The hole in the centre of this little pendant has been punched. The presence of glass beads and iron in the same grave suggests that possibly this copper pendant was made of factory-rolled metal.

The object shown in Fig. 79 is a sort of button made of shell attached to

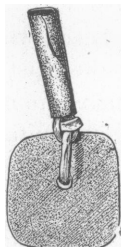


Fig. 78.

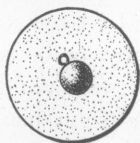


Fig. 79.

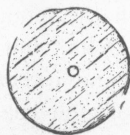


Fig. 80.

Fig. 78 (202-8238). Pendant made of Copper, Thong and Copper Bead. From grave No. 34 (5) of an infant in a rock-slide near the mouth of Cherry Creek, below Ellensburg. Nat. size.

Fig. 79. Button made of Shell with Attached Bead made of Metal. From an Indian at Ellensburg. Nat. size. (Drawn from photograph 44506, 6-7. Original in the collection of Mr. McCandless.)

Fig. 80 (202-8227). Perforated Disk made of Bone. From grave No. 31 (2) of a child in a rock-slide near the mouth of Cherry Creek, below Ellensburg. Nat. size.

which is a metal bead. It was secured from an Indian at Ellensburg and is in the collection of Mr. McCandless.¹ The edge of the shell disk is

¹ Museum negative no. 44506, 6-7.

rounded. There are two perforations through the disk, one a short distance from the centre. The other is in the centre, into which the metal bead is welded. The hole in the bead is parallel to the surface of the shell disk but does not go through the bead.

Fig. 80 illustrates a disk of bone about 1 mm. thick found in grave No. 31 (2) of a child in a rock-slide near the mouth of Cherry Creek below Ellensburg. The edge is rounded, the perforation has straight sides and is slightly worn at the ends. This, together with certain faint parallel grooves running diagonally across the grain of the bone suggests that the object may be a portion of a factory-made button.

Pendants perforated at the end or edge are shown in Figs. 81 to 94, arranged according to material, as stone, copper, brass, iron and shell. Fig. 81a illustrates a pendant made of slate which was found with five others in a grave on McNeals Island near the mouth of the Yakima River by Mr.

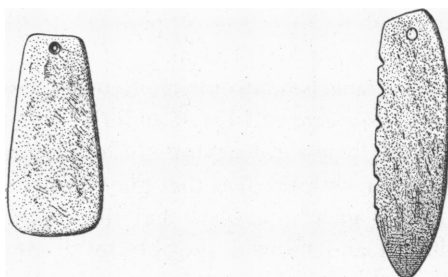


Fig. 81. Pendants made of Slate. From McNeals Island near the mouth of Yakima River. $\frac{1}{4}$ nat. size. (Drawn from photograph 44503, 6-4. Original catalogue No. 45 in the collection of Mr. Janeck).

Janeck. It is 52 mm. long, 3 mm. thick by 24 mm. wide. The upper end is narrower than the lower and perforated closer to the end of the object than to the side edges. The perforation tapers from each side and shows striations caused by drilling. The lower end of the pendant is somewhat thicker than the upper end.¹ The pendant shown next in the figure bears the same catalogue number in Mr. Janeck's collection and was one of the same lot of six specimens. It is 70 mm. long by 19 mm. wide and 3 mm. thick, is made of slate and similar to the other five specimens except that it bears six notches spaced about equi-distant from each other on one edge, and that the perforation is irregular, apparently having been broken through rather than drilled. The edges of this pendant are rather flat and the lower end is bevelled off somewhat from each side like a celt. This pendant may have been made to represent the tooth of an animal.²

¹ It is No. 45 in the collection of Mr. Janeck and Museum negative no. 44503, 6-4.

² Museum negative no. 44503, 6-4.

A pendant made of steatite and bearing an incised design in which part of the lines and holes are colored with red paint (mercury) is shown in Fig. 119. This was found on the manubrium of an adult skeleton supposed to be that of a man, in a grave covered with rocks on a low ridge about two and a half miles south of Fort Simcoe. The object is not necessarily recent because the coloring matter being mineral may have lasted a long time. In ~~outline~~, it is of the form of a tall truncated pyramid. It is only about 6 mm. thick and ~~its edges~~ are rounded or somewhat sharp. Across the base of the side shown in Fig. 119a extends a ridge which on the opposite side of the specimen is raised for ~~only~~ a short distance on the left. The Agency physician is of the opinion that the ~~grave~~ was very old and that steatite does not occur near by but that the material ~~must~~ have been brought from Puget Sound. As the character of the art more closely resembles that of the Thompson River region where steatite is frequently found, at least in the form of artifacts, it would seem that the material more likely ~~came~~ from there, if indeed it was not from a nearer source, perhaps in this very valley. The specimen is in the collection of Mrs. Lynch.

Fig. 82 illustrates a long pendant made of copper found about one foot deep among the rocks over grave 34 (5) of an infant in a rock-slide near the mouth of Cherry Creek below Ellensburg. The perforation at the top is punched, which together with the fact that glass beads and a piece of iron were also found in this grave, suggests that the copper is factory-rolled. The edges are rounded and thinned, possibly by disintegration, to almost a cutting edge. The thong by which it was suspended is of skin and attached by being passed through the perforation and looped through a slit in the tip of the thong. Two somewhat similar pendants, (202-8235a, b) made of copper, were found near the legs in this same grave. The first is narrow at the top which is slightly concave in outline, and the perforation is punched. The sides are nearly straight. The lower end is about three times as wide as the top and is deeply concave in the middle and convex in outline from this concavity to the side edges. In each of the concavities is a notch. These suggest that they are worn out perforations from which other pendants may have been suspended. The second pendant is of almost the same size and shape as that shown in Fig. 82. It has a somewhat fluted lower end but this characteristic may be partly the result of worn and decomposed perforations or merely of decomposition. The perforation at the top was punched and still retains a fragment of a leather thong. A small triangular pendant only 18 mm. in length, made of copper, (202-8251) was found inside the skull of a child in grave No. 37 (8) in a rock-slide near the mouth of Cherry Creek. It is perforated near the most acute angle and also through the base. The perforations seem to have been punched and the corners have been

rounded, possibly by decomposition. Fig. 83 shows a thin disk-shaped pendant made of copper from the same grave as the one shown in Fig. 82. The perforation near the upper edge is also punched. A fragment of copper (202-8185) was found in the northwestern part of cremation circle No. 17 (12) on the terrace northwest of the mouth of the Naches River. This may be a fragment of a copper ornament. It, and the specimen found in circle No. 15 constitute the only finds of copper which were made in cremation circles. In its decomposed state it does not look like factory-rolled copper

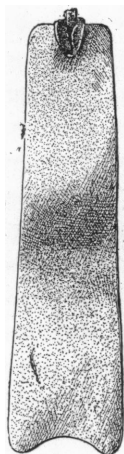


Fig. 82.

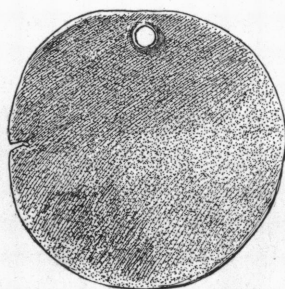


Fig. 83.

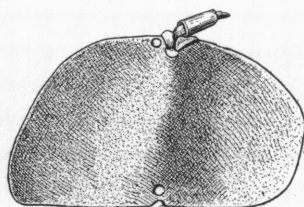


Fig. 84.

Fig. 82 (202-8246). Pendant made of Copper. From about one foot deep among the rocks over grave No. 34 (5) of an infant in a rock-slide near the mouth of Cherry Creek, below Ellensburg. $\frac{1}{2}$ nat. size.

Fig. 83 (202-8239). Pendant made of Copper. From grave No. 34 (5) of an infant in a rock-slide near the mouth of Cherry Creek, below Ellensburg. Nat. size.

Fig. 84 (202-8245). Pendant made of Brass and Bead made of Copper. From about one foot deep among the rocks over grave No. 34 (5) of an infant in a rock-slide near the mouth of Cherry Creek, below Ellensburg. $\frac{1}{2}$ nat. size.

and may be native. The other fragment (202-8181) found in cremation circle No. 15 (10) at the same place may be factory-rolled copper. In the Nez Perce area to the east, small pieces of copper were attached to the dresses of women.¹

The pendant shown in Fig. 84, also found near the one shown in Fig. 82 was made of brass. There are two perforations near the upper edge the larger one of which is not circular and a perforation tapering more from the

¹ Spinden, p. 220.

concave side than from the other as well as a notch at the lower edge. The peculiarities of these perforations suggest that they were gouged out. The object is slightly concavo-convex. A skin thong is attached to the larger perforation at the upper edge by looping as in the case of the pendant shown in Fig. 82. On this is strung a cylindrical copper bead.

Fig. 85 illustrates a pendant made of iron found in grave No. 35 (6) of a youth in a rock-slide near the mouth of Cherry Creek, below Ellensburg. The next figure represents one of thirteen cone-shaped bangles or pendants also made of iron, found in the same grave. These were made by bending a thin sheet of the metal into the conical form.

The remaining pendants are all made of shell. The one shown in Fig. 87 is a natural olivella shell with the top of the cone missing and found in grave No. 39 (1) of a child in a rock-slide near the head of Priest Rapids.



Fig. 85



Fig. 86.



Fig. 87.



Fig. 88.

Fig. 85 (202-8249a). Pendant made of Iron. From grave No. 35 (6) of a youth in a rock-slide near the mouth of Cherry Creek, below Ellensburg. $\frac{1}{2}$ nat. size.

Fig. 86 (202-8248a). Pendant made of Iron. From grave No. 35 (6) of a youth in a rock-slide near the mouth of Cherry Creek, below Ellensburg. $\frac{1}{2}$ nat. size.

Fig. 87 (202-8393). Pendant or Bead made of an Olivella Shell. From grave No. 39 (1) of a child in a rock-slide near the head of Priest Rapids. Nat. size.

Fig. 88 (202-8388). Pendant made of (*Pectunculus*) Shell. From grave of a child in a rock-slide west of Columbia River, near the head of Priest Rapids. Nat. size.

A shell somewhat similar to this made into a bead was found in the Nez Perce region.¹ The pendant shown in Fig. 88 was found in the grave of a child in a rock-slide west of the Columbia River near the head of Priest Rapids. It is made of a small marine clam shell (*Pectunculus*), probably a young *Pectunculus gigantea*. The perforation passes through the apex and has apparently been gouged from the outside. The ribs on the convex surface of the shell have been nearly effaced by grinding or polishing and the hinge also seems to have been smoothed so that only slight scars mark the depths of the teeth. This shell certainly came from the Pacific Coast either in its natural condition or after having been made into this form. It

¹ Spinden, Plate ix, Fig. 14.

is the only object made of this kind of shell which I have seen in the whole northwest. The pendant shown in Fig. 89 is made of iridescent shell possibly unio but probably haliotis. If the latter, it must have come from the Pacific Coast. It was found in the same grave. This grave contained no objects of white man's manufacture or anything suggesting that it was modern. A list of its contents will be found on p. 169. This pendant is of the form of an isosceles triangle. It is perforated through the more acute angle by a small hole which tapers as if drilled from each side of the object. The edges of the pendant are rather sharp in places and the lower one is concave in outline. This object may be compared with the pendant made of bone, found at Lytton,¹ which was considered to be a sap scraper.²

The pendant shown in Fig. 90, from grave No. 37 (8) of a child in a rock-slide near the mouth of Cherry Creek below Ellensburg, is made of haliotis shell which must have come from the coast and is rectangular in outline with slightly worn or rounded corners. The perforation at the top is larger at each end, while the one in the side is much larger on the convex side and only slightly larger on the concave side than in the middle. This perforation has been broken out. A somewhat similar pendant but smaller and with only an end perforation (202-8256) was found together with the shell pendant described on p. 98 near the lower jaw in the same grave. A larger pendant of this general rectangular form, with worn or rounded corners, perforated near the middle of one end, and with a second perforation lower down (202-8254) was found with this. One perforation is larger at one side of the object, the other at the other side. Three somewhat similar pendants or fragments of such pendants, one with the perforation broken out, another with a single perforation and still another with a double perforation like the one just described (202-8183) except two dentalium shells were the only shell ornaments found in cremation circle No. 17 (12) on the flat northwest of the mouth of the Naches River. These were in the north-eastern part of the circle. In the northern and northwestern parts of cremation circle No. 15 (10) on this same flat were found a number of such pendants and fragments of pendants which have only one perforation so far as can be identified.

A much decomposed and fragmentary piece of shell, apparently of claw shape with a perforation at the base, several other pieces of similar shape and two triangular pieces of shell (202-8180-82) all of which were apparently burned, were found in cremation circle No. 14 (9) at the same place. A fragment of a shell ornament (202-8189) was also found in cremation circle No. 21 (16) at this place.

¹ Smith, (d), Fig. 95.

² Smith, (c), p. 441; (b), Fig. 109.

The pendant shown in Fig. 91 is nearly of disk form and made of haliotis shell. It is perforated at the more convex edge and was found with one very much like it in grave No. 34 (5) of an infant in a rock-slide near the mouth of Cherry Creek. One was near the head and the other near the pelvis. Another specimen and a fragment of still another (202-8257a, b) and several other small fragments of decomposed shell (202-8258) were found near the lower jaw in grave No. 37 (8) in a rock-slide near the mouth of Cherry Creek.

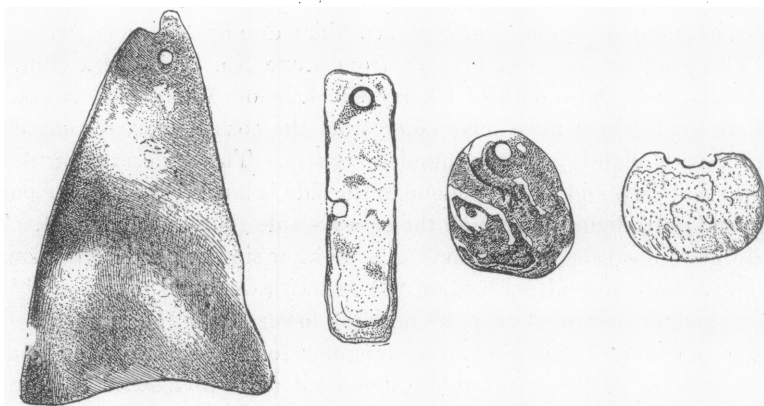


Fig. 89.

Fig. 90.

Fig. 91.

Fig. 92.

Fig. 89 (202-8386). Pendant made of Iridescent Shell. From the grave of a child in a rock-slide west of Columbia River near the head of Priest Rapids. Nat. size.

Fig. 90 (202-8255). Pendant made of (*Haliotis*) Shell. From grave No. 37 (8) of a child in a rock-slide near the mouth of Cherry Creek, below Ellensburg. Nat. size.

Fig. 91 (202-8234b). Pendant made of (*Haliotis*) Shell. From grave No. 34 (5) of an infant in a rock-slide near the mouth of Cherry Creek, below Ellensburg. Nat. size.

Fig. 92 (202-8252). Pendant or Nose Ornament, made of (*Haliotis*) Shell. From grave No. 37 (8) of a child in a rock-slide near the mouth of Cherry Creek, below Ellensburg. $\frac{1}{2}$ nat. size.

The pendant or nose ornament shown in Fig. 92 is made of shell which in its much decomposed condition appears to be haliotis. This object was found on the lower jaw of a very much decomposed skeleton of a child in the same grave. The fact that a piece of copper, apparently factory-rolled, (202-8251) was found inside the broken skull suggests that this grave was modern. The object is nearly circular in outline, although slightly wider than high. The sides have disintegrated or were rounded off, to a rather sharp edge. There were apparently three perforations near the upper edge of the object, and it is broken so that it is impossible to see whether they were perforations for suspension or were made merely as a means of

cutting out a portion of the shell in such a way that it could be clasped on to the septum of the nose. Portions of this specimen and several other shell objects, found in the same grave were of a peculiar pink color.

The shell shown in Fig. 93 was found near the neck at the south side of an adult skeleton in grave No. 12 (7) covered with pebbles in the bluff on the north side of the Naches River about 12 miles above its mouth. It has two perforations and what appears to have been a third perforation now broken out. A somewhat similar circular shell pendant which appears to have been made from the shell of the oyster was found with this and is shown in Fig. 94. One of these pendants was at the south shoulder, the other at the south side of the skull. A piece of wood in this grave suggests



Fig. 93.



Fig. 94.

Fig. 93 (202-8171). Pendant made of Shell. From near neck at south side of adult skeleton in grave No. 12 (7) covered with pebbles in bluff on north side of Naches River about twelve miles above its mouth. Nat. size.

Fig. 94 (202-8170). Pendant made of Oyster Shell. From near neck at south side of adult skeleton in grave No. 12 (7) covered with pebbles in bluff on north side of Naches River about twelve miles above its mouth. Nat. size.

that it may not be an old one and that these disks may have been obtained from traders. The grave was apparently unique. The lower part of the inner decoration on each side of the face shown in Fig. 121 probably represents a shell pendant for the ear or hair. Disks of *haliotis* shells were used as ear pendants in the Nez Perce region to the east.¹

Bracelets. Bracelets are shown in Figs. 95 and 96. The one shown in Fig. 95 represents four of about the same size, all made of copper and from the arm of the skeleton found in grave No. 34 (5) of an infant in a rock-slide near the mouth of Cherry Creek. The presence of glass beads in this grave suggests that the bracelets may be of drawn copper. They are not made of wire but seem to be rolled out of rather thick sheet copper. The edges of

¹ Spinden, p. 220.

the fold are somewhat irregular but I do not consider that this proves the material to be native copper. The bracelet shown in Fig. 96 is one of three made of iron found in grave No. 31 (2) of a child in a rock-slide near the mouth of Cherry Creek. The use of armlets of skin decorated with shells or quills is suggested by the incisions on the arms of the costumed human figure made of antler shown in Fig. 121. In the Nez Perce region to the east arm and leg bands were worn ¹ while in the Thompson area dentalium shells were sometimes fastened parallel to each other on arm bands.

A Costumed Human Figure. A costumed human figure made of antler ² is shown in Fig. 121. It was found in grave No. 25³ in a dome of volcanic ash near Tampico. There was nothing to indicate that the grave

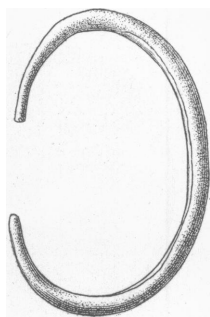


Fig. 95.



Fig. 96.

Fig. 95 (202-8236b). Bracelet made of Copper. From arm of skeleton No. 34 (5) of an infant in a rock-slide near the mouth of Cherry Creek, below Ellensburg. $\frac{1}{2}$ nat. size.

Fig. 96 (202-8226). Bracelet made of Iron. From grave No. 31 (2) of a child in a rock-slide near the mouth of Cherry Creek, below Ellensburg. $\frac{1}{2}$ nat. size.

was recent and so this gives an idea of the costume, but possibly merely of ceremonial costume as formerly worn in this region. It apparently shows a feather headdress like that of the present Indians of the region and as far east as the Dakotas; the hair dressed and ornamented with dentalium shells, the arms, body, legs and feet apparently bare and ornamented with ceremonial paintings and about the waist a fringed apron. The general style of the costume indicated is unlike that of the northwest coast but resembles that of the plateaus to the south and the Plains to the east. Above the face is a zigzag line which may represent tattooing, painting or a head-ring. Spinden says that tattooing was not practised in the Nez Perce region to the east ⁴ but Teit reports it as practised in the Thompson River region ⁵ where

¹ Spinden, p. 219.

² Cf. p. 127.

³ See Plate x.

⁴ Spinden, p. 222.

⁵ Teit (a), pp. 228 and 321.

he supposed that when applied to the wrists the custom was derived from the coast tribes.¹ Head-rings among the Thompson River Indians were decorated with dentalium shells.² In the Nez Perce region³ the face and body were painted, red and yellow being much used for this purpose. In the Thompson River area⁴ the face and body were painted with several shades of red, head-bands being painted across the brows.

The zigzag is a common form of decoration of the head-bands among the Sioux. Above the zigzag arranged in a semi-circular row, are certain oblong forms which indicate feathers. The middle form, however, is marked with a circle. Both above and below this row are three incised lines forming an ark. Based on the outer one of these incisions are isosceles triangles slightly in relief. If these triangles represent the feathers of the headdress, they are certainly in the correct position. Between them are incised arks forming hachure parallel to the arks previously mentioned. Two of these extend above the tips of the triangles. Beyond this, much of the object is missing, but to the right may be seen a surface similar to the areas interpreted later on as hair ornaments. Further evidence of the use of such a headdress is offered by the red and white pictographs and by the petroglyphs of this region, samples of which are shown in Plates XI, XIV-XVI.

On each side of the face is what is apparently a hair ornament, perhaps made of buckskin, which was attached to the rolled up braids or curls of the front hair on each side of the head and hung down as in this representation. The three horizontal bands of vertical lines apparently represent dentalium shells although they may be intended for tubular copper or bone beads, while the oval figure at the bottom of each of these flaps probably represents a pendant of haliotis shell. Shell ornaments in the Thompson River region were sometimes of similar proportions and shape. Such hair ornaments were used until recently in the Thompson River region to the north where they were of different types and differed in the richness and style of their ornamentation. One of the common styles was to cover the flap of buckskin thickly with rows of the largest dentalia placed vertically side by side. Mr. James Teit informs me that the outer portion of the figure, bearing five bands of vertical lines, evidently represents part of the head-dress and the buckskin flaps such as were worn in the Thompson River region attached to the sides of the head-bands. These were ornamented generally with dentalia among the women and more commonly with designs embroidered with quills or made with paint among the men. In the Nez

¹ See Report of the British Association for the Advancement of Science, 1890 p. 590.

² Teit, (a), 351.

³ Spinden, p. 222.

⁴ *Ibid.*, pp. 228 and 268.

Perce region¹ ear pendants in the form of disks were made from haliotis shells and strings of dentalia were hung from the ears or fastened to the braids of hair and dentalia and small pieces of copper were attached to the dresses of women. These vertical bands, however, may represent the lines of attachment of additional hair by means of glue covered with lime in which manner the hair is dressed by some Plains tribes. Below the nose are faint suggestions of an ornament possibly similar to the shell pendant shown in Fig. 92.

The two ridges, extending from near the chin to the shoulders, seem to indicate collar bones. The body is thin and narrows downward. Paint or tattooing, representing the ribs, or the ribs themselves, are indicated by ridges. There are horizontal hachure on the body above the waist. The arms are separated from the body by incisions made from both the front and the back, and the outer edges of the object, being rounded off, are like portions of a carving. A bracelet, band, or figure painted or tattooed, on the apparently bare arm is indicated in the middle of each by vertical hachure connecting pairs of parallel lines. The vertical arrangement of lines of the horizontal band suggests that these were arm bands, bearing vertically arranged copper or shell beads, if not dentalium shells similar to those which are supposed to be represented by the bands of vertical lines on the headdress on each side of the face. Mr. Teit considers the bands around the elbows as representing armlets of skin embroidered with dentalia or quills like those formerly used in the Thompson River region, although the Indians there were in the habit of painting their bodies in imitation of clothing. Head-bands were painted across the brows, fringed kilts or aprons around the middle and upper part of the legs and fringed short leggings along the lower part of the legs. The fringes were represented as long. Imitations of wristlets, armlets and anklets were also painted on the body. As before mentioned, arm and leg bands were worn by the Nez Perce Indians² and as indicated by the previously described specimens, bracelets were worn in the Yakima area. At the wrist is a slight horizontal incision, where the hand expands somewhat sidewise. The fingers and thumb are separated by four vertical incisions. Below these and extending across the body are four horizontal lines, the space between the two in the middle being slightly wider than the other two spaces. These lines seem to indicate the upper edge of an apron which is covered by vertical hachure.

The legs begin at the bottom of the apron from which they are set off by

¹ Spinden, p. 220.

² Spinden, p. 219.

two horizontal incisions. The apron at the outline of the object projects slightly beyond them. On each leg are five incised isosceles triangles,—three at the top and two at the bottom, with their long points extending towards the knees. At each side of the lower triangles is one line which seems to represent a continuation of the designs around the legs. On each triangle are horizontal hachure. On both knees are faint traces of two concentric incisions, forming figures with rounded corners and bulging sides. Between these are radiating hachure. Close inside is a concentric incised line and there may be seen two parallel lines, nearly horizontal, above the right knee and one below it, and one above the left knee. The triangles may be considered as pointing from these concentric designs rather than towards them, and in that case the lines, suggesting the continuation of the design around the leg, appear at the top instead of the bottom. It does not seem probable that these triangles represent part of a circular design radiating from the knees, the sides of which are folded around the legs, but rather that the two series of triangles extend horizontally. The incisions on the legs probably represent painting or tattooing, since the designs seem to be horizontal and to extend all around the legs, while on leggings the patterns are usually vertical and on a flap at the outer side of the leg, the knee being disregarded. Catlin¹ figures paintings on the arms and legs of the Mandan similar to the patterns on this carving. The custom is not rare, especially in connection with elaborate ceremonial costumes such as are no doubt represented by this figure. The vertical incisions on the feet probably represent the toes, or designs painted or tattooed on the feet. These lines argue against any idea that the feet are encased in moccasins, unless bead or quill work on, or improbable wrinkles in, the moccasins are indicated by them. Porcupine quills, embroidery, beadwork and painting on moccasins were used in the general plateau region of which this is a part.²

Lewis suggests³ that the tribes depending largely on the hunt, would be better supplied with skins for clothing than those subsisting generally on fish, and that in most of the plateau region, the scanty vegetation makes clothing from plant materials difficult, if not practically out of the question. In this connection, it will be remembered that this carving of antler which gives us our general archaeological information regarding ancient costume, comes from the higher or hunting region of the valley. It will also be remembered that sage brush and other plant materials were used for clothing in the Thompson River region to the north, where the vegetation is nearly as scanty as in the Yakima Valley.

¹ Catlin, Plates v and vi.

² Lewis, p. 190.

³ Lewis, p. 189.

Perhaps some suggestion as to the sex of the individual which this figure was intended to represent may be gleaned from the fact that in the Nez Perce region the costume of the men differed greatly from that of the women. The former wore moccasins, leggings, breech clout, shirt, blanket, and also the war-bonnet, while the latter wore moccasins, a long loose gown and a fez-shaped cap made of basketry, also occasionally leggings and less decoration on their costume than on that of the men. The ornamentation consisted of fringes, bead and quill work, shells, elk teeth, beads, and copper.¹ The men's clothing was decorated with fringes, and some with beads, porcupine quills and paint. Considering this figure from these facts it would seem that it was clearly intended to represent a man.

Some feathers of the flicker (202-8243) were found in grave No. 34 (3) in a rock-slide near the mouth of Cherry Creek. One of them had bound to its tip a little piece of fabric, another a bit of fur. These may have been part of a costume or ceremonial paraphernalia.

Of the different articles of clothing worn by the Nez Perce, Lewis says,² "These are formed of various skins and are in all respects like those particularly described of the Shoshones." Along the Columbia, the similarity was not so complete,³ but as far down as the Upper Chinook many articles described as similar to those of the Shoshone were found.⁴ All these, however, they declared were obtained by trade from other tribes and from those who sometimes visit the Missouri.⁵ According to Lewis,⁶ the clothing and equipment of the Shoshone living on Lemhi and Salmon Rivers in Idaho were much the same as the Plains type, and it is quite probable that they had formerly lived farther east. There are two certain indications that this extensive introduction of eastern clothing took place about the time of Lewis and Clark's visit. When they went down the Columbia in 1805, they found the women wore quite a different dress, consisting merely of a breech clout of buckskin with occasionally the addition of a small robe of skin.⁷ This is exactly the same dress as was worn by the Chinook women above the mouth of the Willamette.⁸ When these explorers returned up the Columbia the following year they found the Indians particularly the women, much better dressed, and in the eastern or Shoshone style.⁹ A few years

¹ Spinden, p. 216.

² Lewis and Clark, V, p. 30.

³ *Ibid.*, III, p. 125, IV, p. 317.

⁴ *Ibid.*, IV, pp. 239, 284, 289.

⁵ *Ibid.*, IV, 303.

⁶ Lewis, p. 188.

⁷ Lewis and Clark, III, pp. 125-137, and 143.

⁸ Lewis, p. 189.

⁹ Lewis and Clark, IV, pp. 322 and 337.

later, Cox¹ mentioned the older type of dress as found only among a few miserable tribes along the Columbia, above the mouth of the Yakima.²

Deformation. All of the skulls secured in this area by our party showed antero-posterior deformation, although not so extreme as is found in the Lower Columbia region. Accompanying this in many cases was a concave depression in the anterior parietal region. The flattening of the head was practised to a limited extent by tribes living along the Columbia River above the Chinook, but limited, according to Lewis, almost entirely to the women, and gradually died out towards the east.³

GAMES, AMUSEMENTS AND NARCOTICS.

Games. Dice made of beaver teeth or woodchuck teeth, such as were found in the Thompson River region,⁴ but which were not found in the shell heaps of the Lower Fraser, or in fact, in any of those of the coast of Washington or British Columbia, were absent among our finds in this region although a beaver tooth was seen in the cremation rectangle No. 21 (16) near the mouth of the Naches River.

A number of small tubes, made of bone which may have been used in gambling, were found here. Four of them, about 42 mm. long and 9 mm. in diameter, with the ends ground squarely across, but with the edges somewhat rounded possibly by wear, were found in the east northeastern part of the bottom of grave No. 10 (5) in a rock-slide on the north side of the Naches River about half a mile above its mouth. Fig. 97 shows one of two other bone tubes of similar size and shape, the ends ground somewhat more perfectly flat, which were found in grave No. 1, in the rock-slide on the north side of the Yakima Ridge to the southeast of the Yakima River. Another bone tube from this same grave (Fig. 98) is 43 mm. long and 12 mm. in diameter, and the ends are ground off flat. This bears nine about equidistant incised lines, which run around it in such a way that the lower end of each line is on the opposite side of the bone from its upper end. It is charred. Such bone tubes were found at Lytton,⁵ in pouches in the graves, in other parts of the Thompson River region⁶ to the north and in the shell

¹ Cox, p. 229.

² Lewis, pp. 188-189.

³ Lewis, p. 180; Lewis and Clark, III, pp. 125 and 137; IV, p. 324; Hale, p. 213; Whitman, pp. 91 and 95 (1891).

⁴ Smith, (d), Fig. 100; (c), p. 428.

⁵ Smith, (d), p. 154.

⁶ Teit, (a), p. 275.

heaps of the Lower Fraser River¹ to the west. In the Nez Perce region dice and gaming pieces were commonly made of bone.² Cylindrical sections of the long bone of the deer were used in gambling,³ and whistles were made of the long bones of the sand hill crane.⁴

The perforated cylinder shown in Fig. 99, made of serpentine is 44 mm. long and 8 mm. in diameter, rounded at the edges and was found in about the centre of grave No. 10 (5). There are five small pits about equi-distant from each other around this cylinder near the top, and four near the bottom. There are two transverse incised lines just below the five pits, and there is an incision about 12 mm. above the bottom of the specimen, below which the diameter is perhaps half a mm. greater than at the top. Near the middle



Fig. 97.



Fig. 98.



Fig. 99.



Fig. 100.

Fig. 97 (202-8150). Bone Tube. From grave No. 1, in a rock-slide of the Yakima Ridge. $\frac{1}{2}$ nat. size.

Fig. 98 (202-8151). Bone Tube, bearing Incised Lines, Charred. From grave No. 1 in a rock-slide of the Yakima Ridge. $\frac{1}{2}$ nat. size.

Fig. 99 (202-8166). Perforated Cylinder made of Steatite. From near centre of grave No. 10 (5) in a rock-slide near the mouth of Naches River. $\frac{1}{2}$ nat. size.

Fig. 100. Tubular Pipe made of Steatite. From Yakima Indians. $\frac{1}{2}$ nat. size. (Drawn from photograph 44506, 6-7. Original Catalogue No. 215 in the collection of Mr. McCandless.)

of the object it is pierced by a hole which tapers from each end. While this object also may have been used in gambling, it seems possible that it may be an amulet.

Narcotics. Pipes of seven distinct types were found in this region; a tube, a simple bowl, a disk with both bowl and stem made in the periphery, an elbow form, a modern inlaid pipe similar to the typical form of the catlinite pipe of the Plains, a tomahawk-pipe in stone, and a pipe carved in the art of the North Pacific coast.

A tubular pipe made of steatite is shown in Fig. 100. It was collected by Mr. Frank N. McCandless from the Yakima Indians. Mr. McCandless

¹ Smith, (a), p. 180.

² Spinden, p. 189.

³ Spinden, p. 254.

⁴ Spinden, p. 189.

says the stone differs from that found at the head of Wenatchee Lake, which is sometimes used for pipes in this region. This pipe is No. 215 in his collection deposited in the Ferry Museum in the City Hall at Tacoma. It is 51 mm. long and the bowl has been broken off irregularly, about half of it apparently having been broken away. The bowl flares rather more abruptly than is the case in the pipes usually found either in this region or that of the Thompson River. In this respect it resembles the tubular pipes made of steatite, found on the coast of British Columbia.¹ In outline, it is nearly straight, while most pipes of this type have bowls convexly curved in a form characteristic of the type found in the interior of British Columbia and of Washington. The bowl has been gouged out. There is a ridge or ring around the pipe where the bowl meets the stem. Oblique incisions slanting downward from left to right, at an angle of about 45°, mark this ridge, making it suggest a twisted cord. The end of the stem is similarly marked. These lines are again mentioned under art on p. 125. The stem expands from the ridge to the end. The outline of the stem is rather straight or



Fig. 101. Tubular Pipe made of Green Stone with Stem. From Lemhi River, Idaho. (Reproduced from p. 342, Vol. II, Lewis and Clark. Bowl about 2½ inches long.)

slightly concave, while most pipes of this type have more slender or nearly cylindrical stems. The interior of the stem was apparently formed by whittling. The pipe is stained by tobacco which suggests that while it may be old, it has nevertheless been recently smoked.² In the Nez Perce region to the east the earliest form of pipe, according to Spinden, was doubtless the straight tubular type.³ One of the pipes figured by him has a flange for a mouthpiece similar to those found in the Thompson River region, and this flange is perforated near one end. This particular type of pipe is also found in Oregon.⁴ A pipe of this type, but which much more nearly resembles the typical form of tubular pipe of this region, especially the shorter specimens, is reproduced in Fig. 101 from Lewis and Clark.⁵ This specimen which is made of green stone and has a stem, was seen among the Shoshone Indians at the headwaters of the Lemhi River, Idaho, by Lewis, August thirteenth,

¹ Smith, (a), Figs. 48 and 55; (b), Fig. 139.

² Museum negative no. 44506, 6-7.

³ Spinden, p. 188, Figs. 4 and 5, Plate ix.

⁴ Moorehead, Fig. 457, p. 316, Figs. 9, 17, 22 and 25.

⁵ Lewis and Clark, II, p. 342.

1805. It marks the eastern limits of the occurrence of this type of pipe, so far as I am aware at present, the short forms having been found at Fulford Harbor, North Saanich, Sidney¹ and Port Hammond,² on the southern coast of British Columbia, Damon³ on the coast of Washington, Lytton⁴ in the interior of British Columbia, Umatilla⁵ and Blalock Island,⁶ near Umatilla, both in the interior of Washington. In the Journal for Tuesday, August 13, 1805, Lewis refers to this pipe, as follows: — "the chief then lit his pipe at the fire kindled in this little magic circle. . . . pointed the stem to the four cardinal points of the heavens first begining at the East and ending with the North. he now presented the pipe to me, as if desirous that I should smoke, but when I reached my hand to receive it, he drew it back and repeated the same c[e]remony three times, after which he pointed the stem first to the heavens then to the center of the magic circle smoked himself with three whifs and held the pipe untill I took as many as I thought proper; he then held it to each of the white persons and then gave it to be consumed by his warriors. this pipe was made of a dense simitransparent green stone very highly polished about 2½ inches long and of an oval figure, the bowl being in the same direction with the stem. A small piece of birned clay is placed in the bottom of the bowl to separete the tobacco from the end of the stem and is of an irregularly rounded figure not fitting the tube perfectly close in order that the smoke may pass. this is the form of the pipe. their tobacco is of the same kind of that used by the Minnetares Mandans and Ricares of the Missouri. the Shoshonees do not cultivate this plant, but obtain it from the Rocky mountain Indians and some of the bands of their own nation who live further south."⁷

Mr. James Teit informs me that a flange like the end of a spool at the mouth of the stem of a tubular pipe, makes it of a type which seems to him peculiarly characteristic of the Thompson River region. In some cases this peculiarity is carried over into the stems of pipes of the modern or elbow type, which have wooden stems, as is shown in Fig. 102. Mr. Teit has never seen or heard of tubular pipes from the Thompson River region with holes through the flanges. It seems possible that the hole in such specimens as one from Umatilla, Oregon,⁸ may have been made for the attachment of ornaments or symbolic material such as feathers or for a cleaner. Ornaments were sometimes attached to pipes of the elbow type in the Thompson River

¹ Smith, (b), Fig. 139.

² Smith, (a), Fig. 48.

³ Smith, (b), Fig. 139.

⁴ Smith, (h), p. 34.

⁵ *Ibid.*, Fig. 7.

⁶ *Ibid.*, p. 36.

⁷ Lewis and Clark, II, p. 341.

⁸ Smith, (h), Fig. 7a.

region. This was done by tying in a hole bored through the hatchet-shaped piece underneath the shank close to the elbow. Pipes of the simple bowl type often had an extension at the foot of the bowl, sometimes perforated, to which ornaments could be attached. On the other hand, the hole may have been to facilitate attaching the pipe to its wooden stem. The pipes that have been perforated through the flange,¹ however, seem to have too small a bore for a wooden stem; yet, a pipe of this type with a wooden stem has been shown in Fig. 101. One reason given Mr. Teit by the Indians for the making of the flange or other thickening at the mouth of the pipe stem was to prevent the string used in attaching the pipe to the wooden stem slipping off. According to all of them, wooden stems were always used with tubular pipes as with elbow and simple bowl pipes; for a person cannot smoke any kind of stone pipe more than a few draws before it becomes too hot for the lips. To Mr. Teit's mind, no matter how small the bore of the pipe, a regular stem must have been used for smoking.

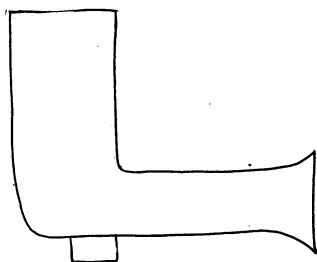


Fig. 102.

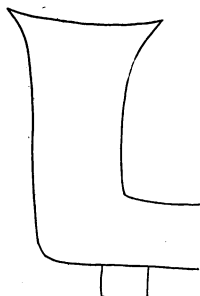


Fig. 103.

Fig. 102. Pipe made of Steatite used by the Thompson River Indians at Spences Bridge in 1895. About $\frac{1}{2}$ nat. size. (Drawn from a sketch by Mr. James Teit.)

Fig. 103. Form of the Flange-Shaped Mouth of the Bowl of some Thompson River Indian Pipes. About $\frac{1}{2}$ nat. size. (Drawn from a sketch by Mr. James Teit.)

Some tubular pipes are said to have had a flange around the mouth of the bowl, similar to that on elbow pipes as in Fig. 103; but this flange meets the body of the bowl with an even curve. Mr. Teit does not distinctly remember having seen such flanged tubular pipe bowls among the Thompson River Indians who gave him this information, but he saw one specimen at least, of the elbow type with flanged bowl. He further states that to his knowledge there is only one part of the country where the semi-transparent green steatite is obtained; that is, on the west side of the Fraser River,

¹ Smith, (h), Fig. 4.

over twenty miles north of Lytton, which as is well known is at the mouth of the Thompson River. This stone, when polished and used, takes on a much darker hue than its original color. The fire may be seen through the stone of the pipes when smoked in the dark. The bluish gray steatite is the most commonly employed and it turns black when polished and used. The Thompson River Indians can usually tell from what part of the country the stone comes of which any particular pipe is made.

The tubular form of pipe is remembered by the old Indians to have been in use in the Thompson River region, although not so common as the simple pipe bowls and elbow pipes, and one was seen in use in eastern Washington as late as 1896.¹ On the other hand, no simple pipe bowls known to be such, or elbow pipes have been seen among archaeological finds. The bowl and elbow pipes are affiliated with forms found farther east. This fact suggests that the tubular pipe was supplanted recently by bowl and elbow forms brought in from the southeast, or at least from the east. The westward movement of tribes due to the encroachment of our settlements may have brought them, or some of them, and they may be patterned after pipes seen in the hands of fur traders and their Indian employees. The tubular pipe made of steatite, shown in Fig. 104, was purchased from Mr. W. Z. York of Old Yakima (Old Town), who secured it from Shaw-wa-way, an Indian known as "Young Chief Aleck," who lives on a ranch three miles south of Old Yakima. This Indian is known to have frequently visited the Okanogon region and it is possible that he secured the pipe, decorated as it is, or got the idea for this particular sort of decoration from that region. This is suggested by the fact that this particular kind of decoration is common, especially on more recent ornaments, in the Thompson River region, the people of which in turn frequently visited the Okanogon country. The bowl of the pipe is cut squarely across at the end where the outer edge has been rounded. It is of the typical shape of this form of pipes, and has been hollowed out by gouging contra-screw-wise. It meets the stem abruptly and the latter is slightly larger than the base of the bowl, so that it seems to be separated from it. The stem is very short and cylindrical and the end is cut squarely off; but it is bevelled on each side so that about one third of the end is left and the bevelled surfaces extend over half the length of the stem. This beveling may have been to form the mouthpiece; but it seems more likely that the pipe had a long stem similar to those found in the Thompson River region.² This seems to have been broken off obliquely near the bowl, then cut squarely across, and the other side bevelled to give bilateral symmetry because one of these bevelled surfaces appears as if it had been

¹ Teit, (a), p. 300.

² Smith, (d), Figs. 103, 104 and 111; (c), Figs. 374a, b.

broken and then only slightly smoothed; both of these surfaces and the square end of the stem seem to have been more recently cut than the rest of the pipe. These three surfaces seem less polished and as if they were made with a steel knife. The bore of the stem measures 5 mm. in diameter. A portion of the bowl is decorated by incised lines into which red paint has been daubed, suggesting that it was recently applied; while the design itself, which is further described on p. 131 under the section of art, is of figures which suggest that it was made lately. Possibly the pipe is old, but was recently broken and decorated with the incised design and paint.

The fragment of a sculptured tubular pipe made of steatite shown in Fig. 105 is apparently about half of the original object. It was found in an Indian grave about a quarter of a mile from the bank of the Yakima River at a point about nine miles above its mouth, in August 1902, by Mr. W. F. Sonderman of Kennewick. Mr. Sonderman's collection from the immediate vicinity contained glass beads, a metallic handle and buttons, as well as chipped points. As the contents of the three graves from which he obtained this collection, during the construction of an irrigation canal were mixed, it seems that this pipe may belong to the same period as that of the glass beads and other objects of European manufacture and consequently may be modern, although it may be an old specimen, deposited in a modern grave. The general form of the pipe was thought to be that of a cone. The portion towards the front of the carving, however, is somewhat longer than that towards the rear, and the back is nearly flat, although this may be caused simply by the carving. The bore is somewhat smaller at the mouth of the bowl than lower down. It was apparently gouged out. Some traces of dirt, perhaps the remains of the material smoked in the pipe may be seen towards its larger opening. The carving, which represents a human form, is further described under the section of art on p. 135. As the tubular form of pipe seems to be common to this region, as well as to the Thompson River region, further north, it would seem that this specimen may be a variation from the type or merely one of these pipes made by an artist. It may be that such sculptured forms of this type of pipe may not be found in the Thompson River region, and that the carving of tubular pipes in this way may be characteristic of the Yakima region, although the style of art suggests that found in the Thompson River region and more especially in the Lillooet Valley.

Only one specimen of the second or simple bowl type was seen by us in the whole region. It is shown in Fig. 106, and was found near the head of Priest Rapids by a boy from whom Mrs. J. B. Davidson obtained it for her collection. She afterwards presented it to our expedition. It is made of schistose rock, apparently limestone, of gray color with lighter veins. The

object is oval in section, slightly longer than it is wide, and a little wider than it is thick being 32 mm. long, 29 mm. wide, and 15 mm. thick. If slightly flatter, this pipe would resemble in shape the third type. The inside of the bowl which was apparently gouged out, is 13 mm. in diameter; while the opening for the stem seems to have been drilled. This opening is 7 mm. in diameter. The rim of the bowl is flattened, and this flat surface re-

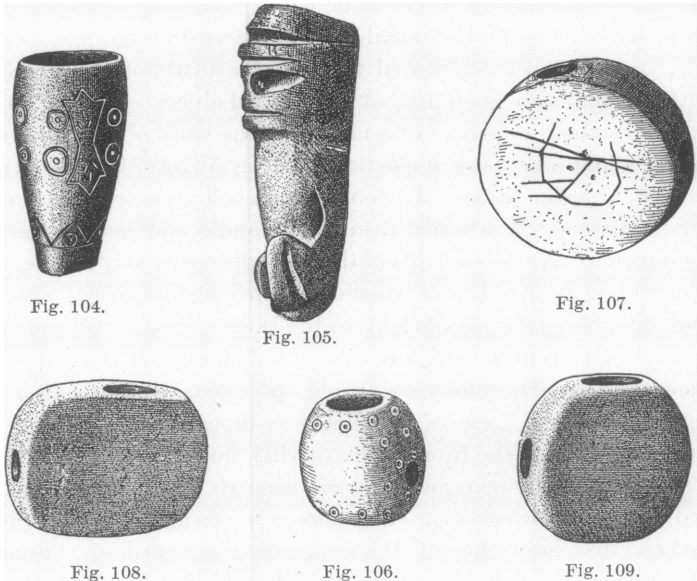


Fig. 104 (202-8122). Tubular Pipe made of Steatite. From an Indian living three miles south of Old Yakima. $\frac{1}{2}$ nat. size. (Collected by Mr. York.)

Fig. 105 (202-8120). Fragment of a Sculptured Tubular Pipe made of Steatite. From near Kennewick. $\frac{1}{2}$ nat. size. (Collected by Mr. W. F. Sonderman.)

Fig. 106 (202-8396). Pipe made of Limestone. From near the head of Priest Rapids. $\frac{1}{2}$ nat. size. (Collected and presented by Mrs. J. B. Davidson.)

Fig. 107 (20.0-1470). Pipe made of Sandstone. From the Snake River Indians. $\frac{1}{2}$ nat. size. (Collected and presented by Mr. Owen.)

Fig. 108. Pipe made of Blue Stone. From the Yakima Valley. $\frac{1}{2}$ nat. size. (Drawn from photograph 44503, 6-4. Original in the collection of Mr. Janeck.)

Fig. 109. Pipe made of Stone. From the Yakima Valley. $\frac{1}{2}$ nat. size. (Drawn from photograph 44503, 6-4. Original catalogue No. 155 in the collection of Mr. Janeck.)

sembles that of the part of a hammerstone used for pecking. This style of pipe somewhat resembles some of the pipes used by the Thompson River Indians of the present day and together with elbow pipes, supplemented the tubular pipe in that region. This suggests them to be more modern than the tubular pipes in this region where also they are not as numerous. The type is not found among the archaeological remains in the Thompson region,

but Mr. Teit sent one simple bowl pipe to the Museum from a very old grave at Spuzzum besides two from the Thompson Indians.¹ The absence of this form of pipe among archaeological specimens from the areas to the north and west suggests that the culture of this region is somewhat more closely related to that further east than are the cultures of the areas further north and west. The pipe is ornamented with a circle and dot design again mentioned under the section of art on p. 13.²

Specimens of the third or disk-shaped type are shown in Figs. 107, 108 and 109. The first, made of sandstone, is from the Snake River Indians, was a part of Mr. D. W. Owen's collection, and was presented by him to our expedition. It is nearly of the form of a disk but has slightly bulging sides, 52 mm. long, 49 mm. wide, and 19 mm. thick. The mouth of the bowl is 13 mm. in diameter; while the opening for the stem, at right angles to it, is 9 mm. in diameter. The convex appearance of the sides or ends of the disk is due to the beveling of these surfaces near their edges. On each of these sides is an incised design. These are again mentioned under the section of art on p. 125. The second specimen, shown in Fig. 108, is oval in outline with slightly convex sides. The object is made of blue stone and was found in the Yakima Valley. It is about 52 mm. long, 41 mm. wide, and 19 mm. thick. Parallel scratches on the surface suggest that it was brought into shape by grinding with a piece of sandstone, although these marks may be interpreted as those made with a file. The opening in the bowl tapers evenly towards its base, from one of the longer edges of the discoid; while the somewhat longer drilling for the stem from one of the shorter edges of the disk, at right angles to the bore of the bowl, is of nearly the same diameter throughout. The specimen is in the collection of Mr. Louis O. Janeck of North Yakima.³ The third specimen of this type which is shown in Fig. 109 is No. 155 in the collection of Mr. Janeck, and was also found in the Yakima Valley. It is made of stone resembling quartzite in appearance and is of a waxy, yellowish brown color. It is nearly circular in outline, almost flat on the rim, and the sides are somewhat convex. It is 45 mm. long by 40 mm. wide and 19 mm. thick. The bore of the bowl is 16 mm. in diameter at the mouth, and is somewhat larger than that of the stem, which is 10 mm. in diameter at its end, and at right angles to the bowl. Each bore tapers from its outer opening to the point of juncture. In the Nez Perce region to the east near Asotin city, this disk-shaped type of pipe is found.⁴ Mr. Fay Cooper Cole of the Field Museum of Natural History

¹ Teit, (a), Figs. 275 and 276.

² Museum negative no. 44505, 6-6.

³ Museum negative no. 44503, 6-4.

⁴ Spinden, p. 189, Fig. 6, Plate ix.

believes the Tlingit have a variation of this type of pipe and that it is also found in California. Its occurrence in Oregon is mentioned by Moorehead.¹

The fourth or rectangular bowl type is shown in Figs. 110, 111 and 112. The first shows the axis of the bowl and that of the stem, at nearly, if not exactly, a right angle. The specimen is in the collection of Mr. York, and is made of soft grit or sandstone. The outer opening of the bowl is somewhat larger than that of the stem. There was a band around the bowl, made up of a single thickness of thread which is not shown in the figure.

The second of these specimens, shown in Fig. 111, is a simple elbow pipe with the angle between the axis of the bowl and the stem, slightly greater than 90 degrees. It is also in the collection of Mr. York and is made of steatite, which he calls Wenatchee pipe stone. The outer opening of the bowl is slightly larger than that of the stem. The third specimen, shown in

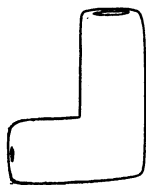


Fig. 110.



Fig. 111.

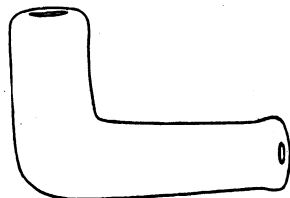


Fig. 112.

Fig. 110. Pipe made of Soft Sandstone. Locality Unknown. $\frac{1}{2}$ nat. size. (Drawn from a sketch. Original in the collection of Mr. York.)

Fig. 111. Pipe made of Steatite. Locality Unknown. $\frac{1}{2}$ nat. size. (Drawn from a sketch. Original in the collection of Mr. York.)

Fig. 112. Pipe made of Soft Sandstone. Locality Unknown. $\frac{1}{2}$ nat. size. (Drawn from a sketch. Original in the collection of Mr. York.)

Fig. 112, is also of the simple elbow type and the axis of the bowl is nearly at right angles to that of the stem. It is in the collection of Mr. York, and is made of soft grit or sandstone of a yellowish gray color. In the Thompson River region to the north, according to Mr. Teit, there seems to be little doubt but that the tubular pipe has been supplanted by the simple bowl and elbow types.² This change may have been brought about by the copying of the early trader's pipes but Mr. Teit believes it more likely to have come from influence from the southeast, passed from tribe to tribe about the same time as the advent of the horse or a little later. The Thompson River Indians tell him that the tubular pipe continued to be the one in common use as long as native tobacco only was used, but after the introduction of manufactured tobacco the elbow type came to be exclusively used because very

¹ Moorehead, Fig. 27, p. 316.

² Teit, (a), Figs. 271 and 306.

much better adapted for holding the latter kind of tobacco. In the Nez Perce region to the east, pipes with rectangular bowls were found.¹ One of these bowls has an incised design representing a tomahawk, which with the character of other incisions on it suggest that it is modern. Only two finds of elbow pipes have been reported on the coast. These,² which were of fragments, were said by Mr. Edmond Croft to have been found by him in a shell heap near Markham on Grey's Harbor, Washington. They are made of fine-grained sandstone of a gray color. Both were apparently intended to be used with a wooden stem and one of them has a ventral mid-rib from the mouth of the stem nearly to the base of the bowl which reminds one somewhat of a similar appendage on the pipe from the Yakima Valley shown in Fig. 113 and one from the Thompson Indians.³ My supposition has been that they reached the coast recently from this general region possibly by way of the Columbia or were taken there by employees of the fur companies in early historic times.

The fifth type is illustrated by the specimen shown in Fig. 128. It is the only specimen of this type which I have seen from the region. It is now in the collection of Mrs. Jay Lynch at Fort Simcoe who obtained it from Chief Moses. It is made of black steatite which Mrs. Lynch calls Wenatchee pipe stone, inlaid with white metal and has a wooden stem. It is comparatively modern as is shown by the presence of inlaid white metal. The mouth of the bowl is 18 mm. in diameter, but tapers suddenly, the rest of the bowl cavity being nearly cylindrical. The opening for the wooden stem is 11 mm. in diameter, and also tapers suddenly to a nearly even bore. It is of the same form as many of the pipes made of red pipe stone (catlinite). This form of pipe is found throughout the Minnesota-Dakota region. This specimen, however, bears four carvings, which together with the inlaid white metal design are further mentioned under the section of art on pp. 118 and 135. It would seem that this type of pipe belongs to the region further east, and as no ancient pipe of this form has been found in this whole region, as well as from the fact that this specimen marks the most westerly occurrence of this form, so far as we know, we may conclude that it was introduced from the east in comparatively modern times. The type of carving, however, may be of more local origin. The bringing together of several animal forms may be associated with the idea of the totem poles found to the west; but no more so than the wooden pipe stems of the Plains which the general character of the carving more closely resembles.⁴ In this connection, it may

¹ Spinden, p. 188, Figs. 7 and 8, Plate ix.

² Smith, (b), Fig. 140.

³ Telt, (a), Fig. 306.

⁴ Museum negative no. 44508, 6-9, 6-10, 6-11.

be well to remember that in the Nez Perce region, catlinite for pipes seems to have been acquired from the Plains tribes.¹ A pipe made from stone found in the Cascade Mountains of Washington, is in the collection of Mr. C. G. Ridout, of Chelan, Washington, who states that it has a representation of a bear and a man on the shaft back of the bowl.

A specimen of the sixth type is shown in Fig. 113. It is the only one of this style which I have seen in the whole region, and was obtained from a Yakima Indian. It is in the collection of Mr. McCandless. It is made of steatite, which Mr. McCandless calls "sandstone from the northern part of Wenatchee Lake." The form of the pipe seems to be a conventionalized tomahawk pipe. The bowl is circular in section and somewhat urn-shaped and rests upon the part that is drilled for the stem and which is rather square in cross section with slightly convex sides. Projecting from the lower part of this is the form which represents the tomahawk blade. It is wider at its convex edges than where it joins the base of the stem part. Its three edges are flat, and it is of about equal thickness throughout. The pipe is somewhat stained by tobacco. It seems likely that this was modelled after the metal hatchet, tomahawk or tomahawk pipe, introduced by the traders,² being a rather modern pipe, since such objects do not seem to have been used in early times in the great plateau region according to Lewis.³

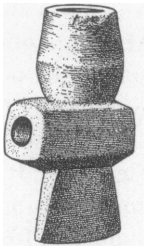


Fig. 113. Pipe made of Steatite. From a Yakima Indian. $\frac{1}{2}$ nat. size. (Drawn from photograph 44506, 6-7. Original in the collection of Mr. McCandless.)

The seventh type is illustrated in Fig. 127. The specimen is the only one of the style which I have seen from this whole region and so closely resembles in its carving the work of the Kwakiutl, Haida and Tsimshian Indians of the coast to the northwest, that I am inclined to believe it was brought in as a gift or by trade. The material is apparently soft slate, but is rather light in color, possibly having been burned. Its appearance suggests that it is the same as that used by the Haida Indians on the Queen Charlotte Islands, for the carving of such things as dishes, miniature totem poles, and pipes. The pipe is made up of carvings representing among other things a bird, a human form and a human face, which are more fully described under the section of art on p. 136. This specimen was found two feet deep in earth at one side of a grave in a little hillside on Toppenish Creek, four miles southeast of Fort Simcoe. Above the earth were rocks, and the grave was marked by a circle of stones.

¹ Spinden, p. 188.

² Museum negative no. 44506, 6-7.

³ Lewis, p. 190.

In the grave were found elk teeth, and a sea shell, filled with a blue powder, evidently paint, and covered with what appears to be gut or a bladder-like skin. What is described as a silver coin, afterwards lost, was found with this pipe. It is possible that it may have been a silver disk or medal. The bowl of the pipe, which was gouged out, is in the middle of the carving, and the tube for the reception of the stem projects from the end under the human form. The upper part of the human figure is broken off. A hole was drilled in the opposite end of the pipe through the lower part of the bird form, but if it had any connection with the bowl, this is not now discernible.¹ The specimen shown in Fig. 59 and considered as a mat presser reminds one of an unfinished pipe.

ART.

The graphic and plastic art of the early people of this region is illustrated by pictographic line paintings in red and white on the basaltic columns of the cliffs;² petroglyphs of the same general style pecked into similar cliffs; incised designs on stone, bone, antler and dentalium shells, and carvings both incised and pecked in stone. Some of the objects found are colored by red ochre or have it rubbed into the lines of their incised designs. Examples of graphic art seem to be more common than those of plastic art.

The paintings and pecked designs on cliffs are more or less geometric although pictographic in character. The incised designs are still more geometric and include the circle and dot commonly found in the Thompson River region.³ This design is also common on modern objects from the coast of British Columbia and Washington, but was not there present among archaeological finds. Lewis⁴ states that according to the early writers, in the general area of which this is a part, porcupine quills were much used for decorating articles of clothing and that later, beads were used for this purpose. The modern designs are largely floral. Among the Nez Perce, floral and plant designs in beadwork are particularly common although some geometric designs occur, as on belts, the decoration of which is largely geometric, as squares, triangles and similar figures.⁵ Lewis⁶ believes that

¹ Museum negative no. 44509, 6-9, 6-10, 6-11.

² A few of which were figured and described in Smith, (g), pp. 195-203, and abstracted in *The Scientific American Supplement*, pp. 23876-8, Vol. LVIII, No. 1490, July 23, 1904, and in *Records of the Past*, pp. 119-127, Vol. IV, Part IV, April, 1905.

³ Smith, (c), Figs. 360b and 378; (d), Figs. 109, 110 and 114.

⁴ Lewis, p. 191.

⁵ Spinden, p. 236.

⁶ Lewis, p. 191.

the designs of the general region were originally geometric and that some of the modern geometric designs are survivals, while others suggest eastern influence. He further states that floral designs are found among the Salish tribes but to a much less extent. We found no floral designs among the archaeological specimens in the Yakima area. Some of the incised work, on certain of the carvings is of good technique, and artistic execution. This is noticeable in the object made of antler, carved on one surface to represent a human figure in costume, shown in Fig. 121 and on the dish shown in Fig. 116. Inlaying with white metal was practised in comparatively modern times. Animal heads are represented by the specialization of knobs on pestles, an animal form by a mortar and human forms by some of the pictographs, and petroglyphs, the incised antler figure and several of the pipes.

Many of the representations are realistic, others are highly conventional. Some conventional representations are explained by similar figures. For instance, the radiating lines of the pictographs shown in Plate XVI are probably explained satisfactorily by similar figures in Plate XI, Fig. 2, such radiations on the costumed figure in antler shown in Fig. 121 or by the feather headdresses worn by the present natives. Spinden states that in the Nez Perce region, realistic figures are probably of recent origin.¹ One of the carvings is clearly of the art of the northwest coast, from which the object or the artist who executed it must have come. Some of the pictographic-geometric and conventional figures probably represent guardian spirits and illustrate dreams done in symbols. A few art forms are evenly spaced on objects but only a few are distorted to fit the shape of the field. Pictographic symbols and conventional figures may be placed in groups to form designs as in the arrangement of the circles and dots on the pipe shown in Fig. 106.

In general, the art of the region tends toward line work of geometric and a slightly pictographic nature. It shows little resemblance to that of the coast, but a strong relationship to that of the Plains. The decorative art of the Nez Perce region includes motives from the Plains and also from the Pacific Coast.² Some of their designs partake strongly of motives from the Plains, while here in the Yakima Valley there are perhaps more examples of coast art and still much influence from the Plains. Spinden says that in early times the Nez Perce were very poor in decorative ideas and that the richness and variety found in their modern art may be ascribed to the absorbing of ideas from other cultures. This is perhaps equally true of the Yakima region where the influence of coast art in proportion to that from the Plains is perhaps greater than in the Nez Perce region.

¹ Spinden, p. 236.

² Spinden, p. 233.

Paintings. Pictographic line paintings somewhat geometric in character, made on the basaltic columns on the west of the mouth of Cowiche Creek, on the south side of the Naches River, about four miles northwest from North Yakima, are shown in Plates XIV-XVI. These pictures, some in red, and some in white, were probably painted with mineral matter mixed with grease. Their antiquity is unknown. In the Nez Perce region to the east,¹ pictographs in red, yellow and black occur, while in the Thompson River area² and in the Lillooet Valley,³ pictographs in red are found. Some of the Yakima pictographs have been destroyed during the construction of the irrigation flume which runs along the top of this cliff. Others are partly covered by the talus slope. All those remaining, are here represented by those reproduced in the plates. They extend from the top of the talus slope upward a distance of perhaps five feet. Many of them are indistinct, and appear more easily seen, if they are not actually clearer, in the photographs here reproduced than in the originals. Many of the paintings represent human heads and headdresses and one of them the whole figure with such a headdress. These headdresses may be compared to similar designs in the petroglyphs (Plate XI) at Sentinal Bluffs, thirty-three miles to the northeast (Fig. 2, Plate XII and Fig. 1, Plate XIII) at Selah Canon, eight miles to the northeast and the headdress pecked on the grooved net sinker shown in Fig. 14. Also, taken together with the pictographs representing the full figure with similar headdress shown in Fig. 1, Plate XIV, may be compared to the petroglyphs of men each with a headdress among those at Sentinal Bluffs, the human figure with a headdress carved in antler found near Tampico, only fourteen miles to the southwest and shown in Fig. 121, petroglyphs which apparently represent human forms somewhat similar to this, on Buffalo Rock, in the Nez Perce region to the east⁴ and the quill flattener carved to represent a human form with headdress or hair from the Dakota shown in Fig. 122.

The human figure with feather headdress indicated by ten lines shown in Fig. 1, Plate XIV is all in red. It is the next to the westernmost pictograph at this site. It is 457 mm. high, the ends of the legs are 279 mm. apart, the tip of the arms 254 mm., the width of the headdress 229 mm. and the height of the middle feather 101 mm. There are four horizontal red lines on the overhanging column above the figure.⁵ Fig. 2 Plate XIV shows

¹ Spinden, p. 232.

² Teit, (a), p. 339 and 381.

³ Teit, (b), Pl. ix.

⁴ Spinden, Plate x, Fig. 5.

⁵ Museum negative no. 44479, 4-4 taken from the east. First reproduced in Smith, (g), Fig. 2, Plate VIII.

human heads with feather headdresses in white.¹ Fig. 1 Plate xv shows similar human heads with feather headdresses also in white.² Fig. 2, Plate xv shows human heads with feather headdresses in white and a double star figure in white and red.³ Plate xvi⁴ shows human heads with feather headdresses in white and red. In addition, Fig. 2 shows the advertisement of a modern business man over the pictographs. Some of the pictographs at the same place have every alternate radiating line in red, while others are in white.

Mr. G. R. Shafer informed me that he knows of painted rocks in the Teton River Valley, 20 miles above the Nelson Bridge, which crosses the Naches a short distance above the mouth of Cowiche Creek. Mr. W. H. Wilcox of North Yakima stated to me that there are pictures on rocks on the west side of the Columbia River ten miles south of Wenatchee. Bancroft⁵ refers to painted and "carved" pictures on the perpendicular rocks between Yakima and Piquouse. According to Mallery, "Capt. Charles Bendire, U. S. Army, states in a letter that Col. Henry C. Merriam, U. S. Army, discovered pictographs on a perpendicular cliff of granite at the lower end of Lake Chelan, lat. 48° N., near old Fort O'Kinakane, on the upper Columbia River. The etchings appear to have been made at widely different periods, and are evidently quite old. Those which appeared the earliest were from twenty-five to thirty feet above the present water level. Those appearing more recent are about ten feet above water level. The figures are in black and red colors, representing Indians with bows and arrows, elk, deer, bear, beaver, and fish. There are four or five rows of these figures, and quite a number in each row. The present native inhabitants know nothing whatever regarding the history of these paintings."⁶ Apparently only paintings are meant.

Red ochre is rubbed in the circle and dot designs and the grain of the stone of the pestle shown in Fig. 30 and also in the incised lines on the pipe shown in Fig. 104. Red paint (mercury) partly fills some of the holes and lines on the pendant made of steatite shown in Fig. 119. Because of the mineral nature of this paint, it may have remained a long time and its presence does not necessarily prove that the supposedly old grave in which the object was found is recent. Red paint also fills the circles and dots in the slate object shown in Fig. 120 while vermilion paint is found in the grooves

¹ Museum negative no. 44483, 4-8 from the north. First reproduced *Ibid.*, Fig. 1, Plate VIII.

² Museum negative no. 44485, 4-10 from the north.

³ Museum negative no. 44480, 4-5 from the north.

⁴ Museum negatives nos 44486, 4-11, 44487 4-12 from the north.

⁵ Bancroft, IV, p. 735; Lord, II, pp. 102 and 260; Gibbs, I, p. 411.

⁶ Mallery, p. 26.

of the animal form shown in Fig. 125 and as this is probably a mineral which would be rather enduring, it does not indicate that the painting was recently done.

Painting was done on moccasins in the general plateau area of which this is a part.¹ Spinden states that in the Nez Perce region the natives depended upon minerals for dyes, except in the cases of a wood, which produced a brown dye, and rock slime which produced green² and that white, red, blue and yellow earth paints were obtained by them further east from the vicinity of the Grande Ronde Valley;³ also, that rock surfaces were painted over with brown as a field upon which to peck petroglyphs.⁴ In the same region moreover, white clay⁵ was used for cleaning clothing.

Petroglyphs. The petroglyphs pecked into the weathered surface of the basaltic columns found in this region, are similar in style to the paintings, being largely line designs of geometric or conventional representation together with a few realistic figures. The pictures are formed by pecking away the weathered surface and exposing the lighter color of the basalt below. Some of them may be very old, but the bruised surfaces making up the lines are not weathered very much in comparison with the surrounding rock surface and yet there is no history of their manufacture. In the Nez Perce region⁶ such pecked pictographs are also found, some of them being upon fields painted brown.

In Plate XI are shown petroglyphs on the vertical basaltic columns on the eastern side of the Columbia River at Sentinal Bluffs, immediately above Priest Rapids. They are at the base of the cliffs shown in Plate V. Those shown in Fig. 1 are to the east of the road which runs along a notch blasted in the top of the columns that rise from the river at this point, while those shown in Fig. 2 are about fifteen feet to the southwest on the columns that rise sheer from the river.

Some of those shown in Fig. 1⁷ represent human figures each with a feather headdress which may be compared with that of the antler figure found at Tampico (Fig. 121) and the pictographs of Cowiche Creek. This place is only about 47 miles northeast from Tampico, and 33 miles in the same direction from the mouth of Cowiche Creek. One of these is shown in Fig. 2.⁸ The long form in the centre has a headdress which taken with

¹ Lewis, p. 190.

² Spinden, p. 191.

³ *Ibid.*, p. 222.

⁴ *Ibid.*, p. 231.

⁵ *Ibid.*, p. 216.

⁶ Spinden, p. 232.

⁷ First reproduced, Smith, (g), Fig. 2, Plate ix; negative no. 44534, 8-11, taken from the west.

⁸ *Ibid.*, Fig. 1; Negative no. 44533, 8-10 as viewed from the north.

its shape reminds us especially of the human form in antler from Tampico. The general shape of the body and the row of dots on each side edge suggest a resemblance to the quill flattener made of antler from the Dakota shown in Fig. 122. On each side are human heads, each with a similar feather headdress that might be interpreted as rising suns with eyes and mouths. On the left are some similar figures without eyes and mouths. Below, is a horizontal figure resembling five links of a chain. There is also a goat which resembles the two pecked in a granite boulder near Buffalo Rock in the Nez Perce area, eighteen miles above Lewiston on the east bank of the Snake River.¹ The star at the bottom, the rays of which end in dots, a small oval with radiating lines at the left, and two connected ovals with radiating lines at the top, remind us of the stars at Selah Canon, shown in Fig. 1, Plate XII, the petroglyphs near Wallula Junction, shown in Fig. 2, Plate XIII, somewhat similar figures on the large petroglyph at Nanaimo² and perhaps even more than of the Nanaimo figures, those in the petroglyphs beyond Nanaimo at Yellow Island, near Comox.³ However, the two connected ovals with the radiating lines may represent hands of a human figure with a headdress having radiating feathers. All of these headdresses remind us of the others at this place shown in Fig. 1, the rising suns at Selah Canon next described, the pictographs at the mouth of Cowiche Creek, and the incised human form in antler.

In Plate XII and Fig. 1, Plate XIII are shown petroglyphs which appear fresher and whiter or yellower than the naturally weathered reddish basaltic columns into which they are pecked. They are on the north side of Selah Canon about one and a half miles from the Yakima River at a point about a mile north of Selah station or one half a mile south of the intake of the Moxee Canal. It is about twenty-five miles west southwest of Sentinal Bluffs, eight northeast from the mouth of Cowiche Creek and twenty-two miles northeast from Tampico. They are more easily made out from a distance than close by.

The petroglyph shown in Fig. 1, Plate XII, is the most northeasterly of the group. This seems to be made up of circles with a dot in the middle and radiating lines, some of which end in dots. They remind us of some of the same series of figures as the oval with radiating lines at Priest Rapids.⁴

The one shown in Fig. 2, is about eight feet to the southwest and a little lower down. The upper part of the left figure and the two main parts on

¹ Spinden, Fig. 4, Plate x.

² Smith, (b), Plate xi

³ *Ibid.*, Fig. 115.

⁴ Museum negative no. 44463, 2-12 from the east and from a greater distance, showing its relation to the next in negative catalogue no. 44462, 2-11.

the right, each consisting of a curve with short radiating lines like a representation of the rising sun, may be compared with the top of the petroglyph on the rocks a few feet to the southwest shown in Fig. 1, Plate XIII, next described, and with some of those at Sentinal Bluffs, shown in Plate XI; also, with the pictographs at the mouth of Cowiche Creek.¹

The petroglyph shown in Fig. 1, Plate XIII, is a few feet southwest of those shown in Plate XII, taken from the south. The segment with radiating lines like the rising sun at the top reminds us of similar figures among the other petroglyphs here just described, those at Sentinal Bluffs and pictographs at the mouth of Cowiche Creek, but the other lines are not interpreted and are not suggestive to us of other figures in the neighborhood. A small figure, similar in that it consists of two nearly vertical lines crossing each other and topped by a curved line, shows very faintly above, a little to the right.² A design similar to the part of some of these pictures interpreted as representing a headdress was also found pecked in the surface of the grooved net sinker shown in Fig. 14.

The petroglyph shown in Fig. 2, Plate XIII, is pecked on the top of a rock which projects about three feet from the surface of the ground near mile post 209 between it and 210 above the Spokane branch of the O. R. & N. on the south side of the Columbia River about four miles west of Wallula Junction and is here illustrated as one twentieth of the natural size, from a tracing made by Mr. J. P. Newell, of Portland, assistant chief engineer on that road. We are indebted to Mr. W. E. Elliott of New York City, formerly engineer with Mr. Newell for permission to copy this tracing.³ The top of the rock forms an east and west ridge. The pecked grooves are all of about equal depth and there are no other petroglyphs on the rock. The large figure at the left reminds us of the dog-like figures with "spines" in the petroglyphs at Nanaimo,⁴ on Vancouver Island, especially as it has waved parallel lines, a fin or "spine" and two concentric curves at the top similar in shape to the lines indicating the back of the head and the mouth of the Nanaimo figure. This is less suggestive of certain harpoon points that are incised apparently to represent fish found in the main shell heap in the Fraser Delta at Eburne⁵ although Eburne is nearer than Nanaimo and en route, and although these harpoon points have parallel lines, a fin-like projection and two lines representative of the back of the head or cheek and

¹ Represented in Museum, with the one shown in Fig. 1, by negative no. 44462, 2-11 and from a nearer point as shown in this figure in negative no. 44476. 4-1.

² Museum negative no. 44477. 4-2, is also represented from a greater distance in negative no. 44478, 4-3.

³ Museum negative no. 45696.

⁴ Smith, (b), Fig. 117a and Plate XI.

⁵ Smith, (a), Fig. 52.

the mouth. The small circles some with lines radiating from them, remind us of similar marks on the same large petroglyph at Nanaimo and even more so of the petroglyphs beyond Nanaimo at Yellow Island near Comox.¹ The large figure on the right reminds us of the human form of the petroglyph at Nanaimo.²

I am informed by Mr. Owen that there is a petroglyph on the north side of the Columbia River below Kennewick and that it has been destroyed by recent railroad construction; by Mr. W. H. Willcox of North Yakima that there are petroglyphs or pictographs on the rocks ten miles south of Wenatchee on the western side of the Columbia River; and by Prof. Mark Harrington that it is said that there are "engravings" on the cliffs overhanging Lake Chelan. Mallery³ refers to etchings at the lower end of Lake Chelan but his information seems to refer to painted figures only (See p. 120). The late Prof. Israel C. Russell informed me that there are etchings close to the river on both sides in the Snake Canon at Buffalo Rock in the extreme southeast corner of the state of Washington.⁴

Incised Designs. Among the designs incised on stone, attention may be called to the top of the pestle made of steatite shown in Fig. 35, which bears two parallel longitudinal incisions and notches, ten on the left and eleven on the right of each side edge of the obverse. There are fifteen fine incisions running obliquely down from the notches on the left to the first longitudinal incision. They begin at the eighth notch from the bottom and extend to the lower notch. On the reverse are three longitudinal incisions apparently more recently made, and eleven notches on each side edge. This incised knob is said by the Indians to represent the head of a snake. On the reverse of the steatite object, possibly a mat-presser, shown in Fig. 59a, is an incised pictographic sketch which unfortunately, with the exception of the nine short lines above, was re-scratched by its owner. It is reproduced in Fig. 59b. The first figure beginning at the left possibly represents a tree. The middle figure has not been identified but it is clear that the one on the right represents a human being. On the left of the groove in the object are incised two hands pointing towards the left. These also were re-cut and are not reproduced in Fig. 59. The incision in the edge of the top of the club shown in Fig. 62 and the incisions at right angles to this were probably intended for decorative purposes. There is an incised design on the rounded surface of the saddle-shaped hollow of the club shown in Fig. 64. This design is made of transverse notches above and a zigzag line below.

¹ Smith, (b), Fig. 115.

² *Ibid.*, Fig. 117a.

³ Mallery, p. 26.

⁴ Cf. Spinden, Figs. 4 and 5, Plate x.

The upper part of the right edge of this knob is flat with two incisions across it. Incised lines arranged parallel to each other in rows may be seen on the handle and knob of the club shown in Fig. 68. There are thirteen of these lines on either edge of the knob. The other incisions are arranged in four vertical rows on the handle. The lines on the top of the shell pendant shown in Fig. 88 may be merely the depths of the teeth rather than incisions artificially made, but in this case they may have been considered as decorative and the shell may even have been chosen because of these lines. There are nine incised lines on the bone tube shown in Fig. 98. These run around it in a spiral direction in such a way that the lower end of each line is on the opposite side from the upper end.

The three transverse incisions on the top of the steatite specimen shown in Fig. 99 may be for decorative purposes or merely as tallies as also the five small drilled pits arranged about equi-distant from each other around the top and the four similarly arranged near the bottom.

The oblique incised lines on the edge of the mouthpiece and on the ridge about the middle of the pipe shown in Fig. 100, which slant outward from left to right at an angle of about 45° and make the ridge at least suggest a twisted cord, were no doubt made for decorative purposes. Pictographic scratches may be seen on the disk-shaped stone pipe, shown in Fig. 107. Those on the reverse are shown in Fig. 115. A simple geometric incised line decoration on wood may be seen on a fragment of a bow shown in Fig. 114. It will be remembered that parallel irregularly arranged cuneiform incisions decorated a fragment of a bow found in the Thompson River region.¹ The incised design on the stone dish previously mentioned on p. 38 and shown in Fig. 116 consists of two horizontal incisions running around the upper part of the dish a little below its middle and a zigzag line made up of twenty-five V-shaped marks which fills the space between the flat rim of this dish and the upper horizontal line.

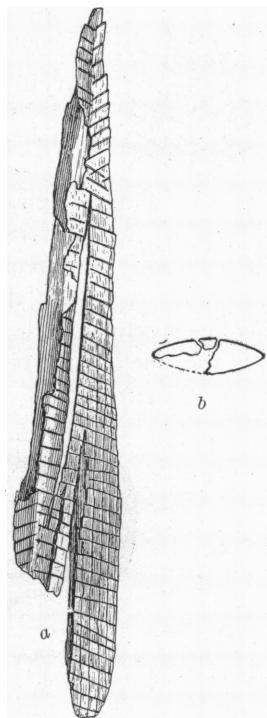


Fig. 114 *a* (202-8159). Incised Design on a Fragment of a Wooden Bow. From grave No. 10 (5) in a rock-slide near the mouth of Naches River. $\frac{1}{4}$ nat. size. *b* Section of Fragment of Bow shown in *a*.

¹ Smith, (c). p. 411.

Incised designs on dentalium shells are shown in Figs. 117 and 118. The first four were found under the skeleton in grave No. 25. This skeleton was of a child and was surrounded by a stone cyst buried in a dome of volcanic ash near Tampico, as shown in Plate x. This lot contained two shells ornamented with designs of the type shown in *a*, but in the one not figured the diamond points met and formed a checker pattern. There were four of the type shown in *b*, one of the type shown in *c*, and two like the type shown in *d*. The specimens shown in Fig. 118 were found among broken and charred human bones of about twelve individuals in cremation circle No. 15 (10) on the terrace northwest of the mouth of the Naches River. While there was only one specimen of the type shown in *a*, there were two of the type shown in *b*, and one like the four represented by Fig. 117*b*. Another cremation

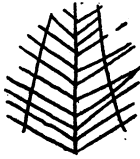


Fig. 115. Incised Design on Bowl of Pipe shown in Fig. 107. $\frac{1}{2}$ nat. size.

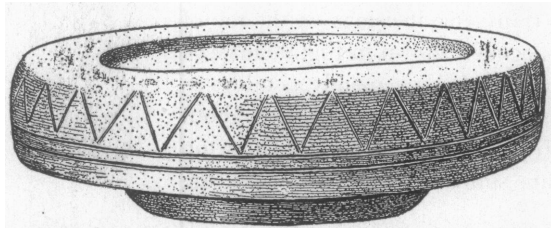


Fig. 116. Incised Design on Stone Dish. From Priest Rapids. $\frac{1}{2}$ nat. size. (Drawn from photograph 44537, 9-3. Original in the collection of Mrs. Hinman.)

circle containing incised dentalium shells is known as No. 18 (13) and was located on the same terrace. The specimens are mere fragments, one of

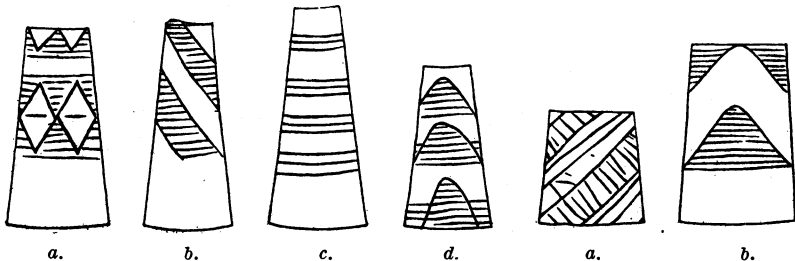


Fig. 117.

Fig. 118.

Fig. 117 (202-8193). Incised Designs on Dentalium Shells. From under the skeleton in grave No. 25 of a child in a stone cyst in dome of volcanic ash near Tampico. Nat. size.

Fig. 118 (202-8178). Incised Designs on Dentalium Shells. From among broken and charred human bones of about twelve individuals in cremation circle No. 15 (10) on terrace northwest of the junction of the Naches and Yakima Rivers.

them, from the tip of the shell, bears a design similar to that shown in Fig. 117b, the other bears a simple incised spiral, the space between one incision and another being about equal to the width of the incision itself. The character of both the technique and the motive of these designs resembles that of those found on similar shells at Kamloops in the Thompson River region¹ and in the Nez Perce area to the east.² The design shown in Fig. 117a at least reminds us of paintings on the parfleches found among the modern Sahaptin and Plains tribes.

The incised design on the pendant made of steatite (p. 94, Fig. 119) does not seem to differ greatly in technique or motive from other incised designs found in this area and in the Thompson River region to the north.

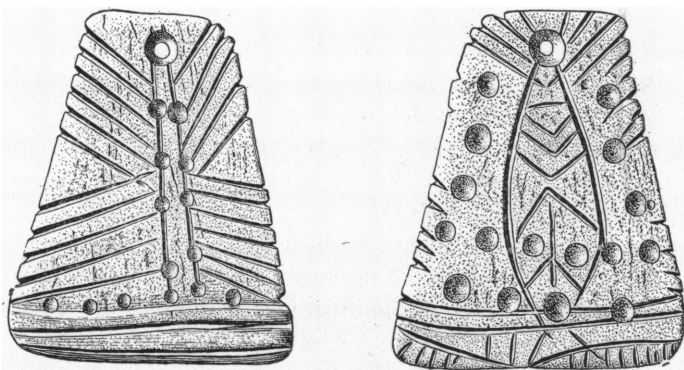


Fig. 119. Incised Pendant made of Steatite with Red Paint (Mercury) in some of the Holes and Lines. From manubrium of adult male skeleton in grave covered with rocks on a low ridge about two and a half miles south of Fort Simcoe. Nat. size. (Original in the collection of Mrs. Lynch.)

While most of the lines and pits can be considered as forming symmetrical or geometric designs, the central figure on the side shown in Fig. 119b may be interpreted as a conventional representation of a life form, namely, a fish. Red paint is rubbed into some of the lines and pits.

The human figure described under costume (p. 100, Fig. 121) is a somewhat conventionalized realistic form indicated by incisions on one surface of a piece of antler 2 to 5 mm. thick.³ It was found in the grave of an infant under the vertebrae, No. 25 in a dome of volcanic ash. It is of good technique and artistic execution. The eyes are of the shape of a par-

¹ Smith, (c), Fig. 369.

² Spinden, p. 181 and Plate ix, Fig. 15.

³ First described and figured, Smith, (g). See also abstract in *Scientific American Supplement* pp. 23876-8, Vol. LVIII, No. 1490, July 23, 1904 and in *Records of the Past*, 1. c.; The *Saturday Evening Post*, Sept. 10, 1904 and the *Washington Magazine*.

allelogram with rounded corners. These, with similarly shaped figures on the headdress or inner hair-rolls, and on the hands, knees, and insteps, slightly resemble a motive common in the art of the coast to the northwest. The crescent-shaped mouth and thick lips are indicated by incised lines, while the cheeks are full, and the entire head is somewhat set out in relief from the rest of the object. The radiating figures above the head do not represent feathers in a realistic way, but closely resemble the conventional paintings made by the Dakota on buffalo robes. These paintings have been called sun symbols, but are interpreted by the Dakota as the feathers of a war-bonnet or other headdress. The fingers and thumb are set off from the palm by two lines, which, with the mark at the wrist, make a figure resembling the eye-form so common in Northwest coast art. The concentric design on the knees is probably related to the wheel, sun, or spider-web pattern common as a symbol on the shirts, blankets, and tents of some Plains tribes. The feet jutting out at the sides are slightly wider than the legs. The inside of the foot is straight with the inside of the leg, while the outer part is curved. The two, taken together with the lower portion of the legs, resemble a divided hoof. The divided hoof is a common design among Plains tribes.

There are only two specimens, of which I am aware, that resemble this. One (T-22107, 177 H) consists of seven fragments of a thin piece of antler found by Mrs. James Terry at Umatilla, Oregon, only about 83 miles in a southerly direction from Tampico. The back of this specimen is largely disintegrated, except on the two dog heads, and these being only about 5 mm. thick suggest that the whole figure was thin. The carving (Fig. 123) is in much greater relief than in the specimen from Tampico, although some of the lines are merely incisions. The tongue projects between, but not beyond, the lips. The cheeks are raised and there is considerable character to the face. The nose is aquiline and narrow, but the alæ are indicated. The orbits are sunken and horizontal oblong pits evidently indicate the eyes. The eyebrows are raised. Two horizontal incisions extend across the brow. Below the chin, at the left, are four incisions in a raised piece. This seems to represent a hand held with the fingers to the neck. A similar hand was probably at the right. A foot, with four toes in relief projecting above the brow as high as do the eyebrows, rests immediately above the upper horizontal incision and apparently indicates that some animal, possibly a bird, stood upon the human head. The fragment, however, is not sufficiently large to settle these points. Two of the other fragments are apparently intended to represent the heads of dogs. The eyes are indicated by the common circle and dot design; while the nostrils in one are represented by drilled dots. The shape of the heads is brought out by the carving of the

edge of the object. The fragments are broken off at the neck, and the lower side of each shows the finished surface of the back of the object. The remaining fragments show little or nothing. The animal heads and the feet and hands suggest the possibility that in some cases animal forms were combined in such figures, as on the Northwest Coast, although the general style of art of the object is like neither Haida nor Kwakiutl work, but more like the carvings of Puget Sound and the lower Columbia River. The fact that the carving of this face is more in relief helps to explain the intent of the author of the Tampico specimen.

The other specimen (50-3110 a, b, c) is a quill-flattener, made of antler (Fig. 122). It was obtained by Dr. Clark Wissler from the Dakota at Pine Ridge, South Dakota, who also made reference to other objects of the same sort among the tribe. Porcupine quills were flattened on it with the thumb nail until after it had been broken, when the lower or pointed end had been used as a brush in applying color to form designs on various articles made of buckskin. This end is stained a deep red and the point is much worn. The object, in general, resembles in shape and size the specimen from Tampico. Its sides are somewhat thinner and sharper. The slight indications of hair or headdress, the deeply cut eyes and mouth in the concave side, the holes or ears at the sides of the head, and the method of indicating the arms by slits, setting them off, from the body, are all details which emphasize this general resemblance. The technical work is about as good as that of the Tampico specimen, but the art work is inferior. One edge of the convex or outer surface of the bone has twenty-five notches, and in each tooth left between them, as well as above the top one, is a small drilled dot. Some of the notches on the other side are broken away with the arm, which is missing. On the same surface are twenty-six horizontal incisions, which were interpreted as year counts. The general shape of the body and the rows of dots are similar to those of the figure pecked on the cliff at Sentinel Bluffs (Plate XI, Fig. 2).

The Tampico specimen may have developed from a quill-flattener, which implement was probably of common and characteristic use among Indian mothers, not only of the Plains but also as far west as Tampico. If the result of such a development, it had probably lost its domestic use and become entirely symbolic.

Mr. Teit has heard the Thompson Indians speak of figures carved by some men in their spare time, and valued highly as curiosities and works of art. They had no practical value, and were generally used as ornaments inside the house. They were in wood, bark, stone and antler, more generally in the last three, and usually represented the human figure. Although the Indians aver that they were sometimes very elaborately and truthfully carved,

it is impossible to say, in the absence of a good specimen from the Thompson Indians whether there was any resemblance in style to that of this figure. The Thompson sometimes, placed such figures on the tops of houses, but the great majority were shown inside the houses. The Indian who made the one illustrated ¹ told Mr. Teit that he had seen some of larger size which had taken a carver's spare time for many months.

The headdress seems to be a so-called war-bonnet, and would indicate that the figure was that of an important personage; perhaps a suggestion of what had been hoped for the child's position in the tribe or after death. The arms, body, legs, and feet are apparently bare and ornamented with ceremonial paintings, while about the waist is an apron. The whole object seems of a rather high order of art to be a mere child's doll, and it would seem more plausible to consider it as an emblematical figure. The general style of art and costume indicated show little or no resemblance to those of the Northwest Coast, but a strong relationship to those of the Plains.

There are some incised lines on the pipe shown in Fig. 127. Those on the pipe shown in Fig. 104 are described on p. 131. In the Nez Perce region, according to Spinden, incised designs, some of them of a pictographic character and probably modern are found on pipes, and designs of ladder shape are found on a flat plummet-shaped bone object.²

Notches. The notch in the base of the spatulate object made of bone shown in Fig. 58 and the two notches in each side of the base may be for practical purposes but were probably intended to be artistic, while the six notches in the edge of the pendant made of slate shown in Fig. 81 probably also have been intended for decoration or even to make the object represent something although possibly the representation may be rather conventional.

In the Nez Perce region to the east,³ a notched stone has been found near Asotin and notches occur as decorations on objects found in the Thompson River region to the north, but, of this type, they are rare if not absent among archaeological finds on the coast to the west from Fort Rupert on northern Vancouver Island to Tacoma.

Circle and Dot Designs. The circle and dot design is commonly found in this region. It may be seen on the top of the pestle shown in Fig. 30. There is one of these designs in the tip and eleven about equi-distant in a row around the edge of the knob. In the Nez Perce region to the east⁴ the design is found on bone gambling pieces. Further east, this design is also found. This motive may be seen around the top of the bowl on a pipe

¹ Teit, (a), p. 376, Fig. 297.

² Spinden, p. 188 and Plate VII, Fig. 31.

³ *Ibid.*, p. 183, Plate IX, Fig. 3.

⁴ Spinden, p. 252, Plate VII, Fig. 30.

(50-4867a, b) from the Gros Ventre Indians of Montana collected by Dr. Clark Wissler, which, however, is considered to be recent. To the west, it is not found among ancient things on the coast but among recent objects it may be seen on certain bone gambling cylinders and on beaver teeth used for dice. The design is common in the Thompson River region¹ and the Lillooet Valley between there and the coast.² It is perhaps even more frequently seen on the modern things among the Thompson River Indians³ who often visit the Okanogan country.

The pipe shown in Fig. 104 was secured from an Indian who is known to have frequently visited the Okanogan area so that if he did not bring the pipe from there, he may at least have gotten the idea for this style of decoration there. This suggests an explanation for the occurrence of the circle and dot design on what are apparently older specimens from the Yakima country. On the lower end of this specimen is a design made up of a zigzag line based upon an incision running around where the stem meets the bowl. The five triangles thus formed are nearly equilateral and there is a circle and dot design in each. Other circles and dots are arranged in seven equi-distant longitudinal pairs about the middle of the bowl. In addition, parallel to these, and between two of the pairs, there is a double-headed figure each end of which resembles the form of a crude fleur-de-lis. All of the incisions on this pipe are colored with red paint. The circle and dot design may be seen on the limestone pipe shown in Fig. 106. There is one circle and dot on the tip of the base, encircling this is a row of eight of them and outside of this still another circle of nine. Around the opening for the stem is a circle made up of eight, around the mouth of the bowl are ten and between the circle around the bowl and the one around the stem are three of the circles and dots. A typical circle and dot decoration is shown in Fig. 120 of what, as stated on p. 65, may possibly have been used as a whetstone. The object is made of slate and the top is broken off. It is 142 mm. long, 18 mm. wide and 6 mm. thick. The lower end and side edges are rounded. On the reverse, the design is similar except that it is continued upward by three circles and dots arranged in the same order as the uppermost three on the obverse and that there are several slightly incised marks on it, one of which, of X form, makes a tangent and a cord with the next to the lower circle and dot. All the circles and dots are filled with red paint. There are twelve incisions, possibly tally marks, on one side edge near the point. The original is in the collection of Mr. Janeck.⁴

¹ Smith, (c), Fig. 378; (d), Fig. 109.

² Teit, (b), Fig. 92.

³ Teit, (a), Figs. 118 and 210.

⁴ Museum negative no. 44503, 6-4.

The symmetrical arrangement of the perforations and the pits on both sides of the object shown in Fig. 77 was no doubt due to artistic motives.

Pecked Grooves. Some designs were made by pecking grooves in stone. Part of these, those forming petroglyphs, have been mentioned on p. 121 and are shown in Plates XI–XIII. The upper portion of the marking on the grooved stone shown in Fig. 14 is made in this way. It may represent a feather headdress, such as is mentioned on p. 119 and such as is so common in the pictographs as well as in the petroglyphs. The design on the lower part of the same object was formed in the same way and on the obverse of the net sinker shown in Fig. 15 are pecked grooves forming three concentric semi-circles on each side of the groove and nearly parallel with the edges of the object. Taken together, they give the suggestion of a spiral. There are three pecked grooves encircling the stone mortar shown in Fig. 20 and two around the head of the pestle shown in Fig. 25. On each side of the lower part of the pestle shown in Fig. 31 is a longitudinal design made up of four parallel zigzag pecked grooves. The two pecked grooves at right angles to each other on the specimen shown in Fig. 60 while they are probably made for use may have been interpreted as decorative or artistic. This may also be said of the three pecked grooves at right angles to each other on the club-head shown in Fig. 61, and it seems likely that the eight pecked pits made in the middle of the spaces between these grooves and possibly even the two pits at either pole of the object were intended to embellish it. Pecking was also the process employed in forming the sculpture shown in Fig. 125. The four pyramidal or dome-shaped nipples on the top of the knob of a pestle found at Five Mile Rapids mentioned on p. 45 were probably made by pecking, followed by polishing and they may have served a ceremonial as well as a decorative purpose.

Animal and Human Forms. There are a number of sculptures that apparently were intended to represent heads of animals, whole animals and human forms. The top of the pestle shown in Fig. 31 is sculptured to represent what is apparently an animal head. The top of the one shown in Fig. 33 has three nipples one of which is longer than the others. This sculpture also seems to represent an animal head, the ears being indicated by the short nipples and the nose by the long one. The top of the pestle shown in Fig. 34 apparently represents an animal head, the mouth being indicated by the groove, each eye by a pit and there are four incisions across the top or back of the head. A sculptured animal head, with wide open mouth, pits for eyes, and projections for ears on what may be a pestle top, has been found in the Nez Perce region to the east ¹ and pestles with heads

¹ Spinden, Plate IX, Fig. 19.

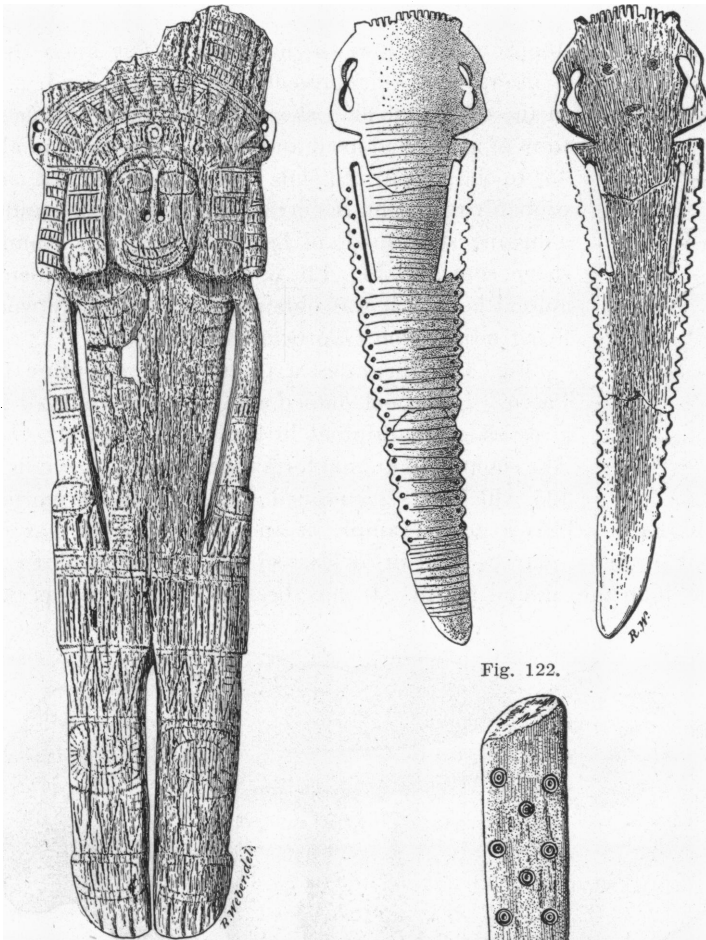


Fig. 121.

Fig. 122.



Fig. 123.



Fig. 120.

Fig. 120. Circle and Dot Design on Whetstone made of Slate. From the Yakima Valley. $\frac{1}{2}$ nat. size. (Drawn from photograph 44503, 6-4. Original in the collection of Mr. Janeck.)

Fig. 121 (202-8191). Costumed Human Figure made of Antler. From grave No. 25 of a child in dome of volcanic ash near Tampico. $\frac{1}{2}$ nat. size.

Fig. 122 (50-3110a, b, c). Quill-flattener made of Antler. From the Dakota at Pine Ridge, South Dakota. $\frac{1}{2}$ nat. size. (Collected by Dr. Clark Wissler.)

Fig. 123 (T-22107, H-177). Fragments of a Figure made of Antler. From Umatilla, Oregon. $\frac{1}{2}$ nat. size. (Collected by Mrs. James Terry.)

are found in the Thompson River area to the north.¹ The knob shown in Fig. 35 (p. 47) is interpreted as representing a snake's head. The heart-shaped knob on the top of the club shown in Fig. 68 resembles the form of an animal head and stands at an angle of about 45° to the axis of the club. Two of the incised circles probably represent the eyes. The top of the handle of a digging stick made of horn of the Rocky Mountain sheep, shown in Fig. 126 is sculptured to represent an animal head. It was obtained from an Indian woman living near Union Gap below Old Yakima.



Fig. 124. Fragment of a Sculpture with Hoof-like part. From Pasco. $\frac{1}{2}$ nat. size. (Drawn from a sketch. Original in the collection of Mr. Owen.)

Fig. 124 illustrates a fragment of sculpture from Pasco. It is hoof-shaped and is here reproduced from a sketch of the original in the collection of Mr. Owen. The sculptured animal form made of lava shown in Fig. 125 which was mentioned on p. 38, bears a mortar or dish in its back. It is a good example of an art form which has been specialized so that it may be used or at least so that the useful part is less prominent than the animal figure. It has been sculptured by pecking.

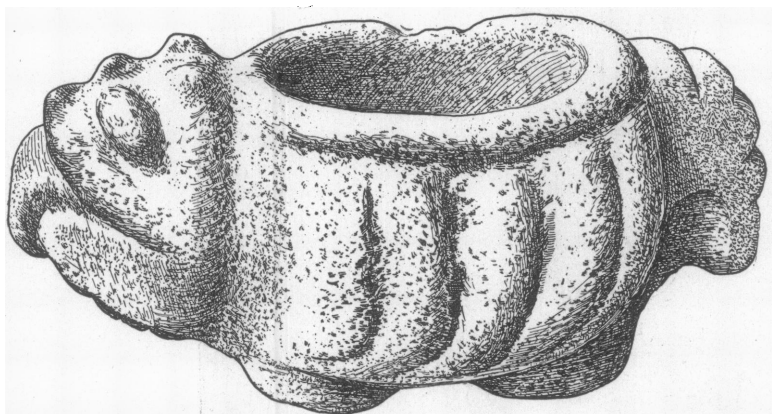


Fig. 125. Sculptured Animal Form made of Lava. From an Indian who claimed to have found it in a grave on the Yakima Reservation two miles below Union Gap below Old Yakima. $\frac{1}{2}$ nat. size. (Drawn from photographs 44452, 2-1, 44455, 2-4, and 44503, 6-4. Original catalogue No. 33 in the collection of Mr. Janeck.)

The raised eyes are almond-shaped rather than elliptical, and the ears are indicated by raised places on the transverse ridge at the top of the head. The mid-rib or dewlap under the chin is about 6 mm. wide and of the

¹ Smith, (c), Fig. 341a; Teit, (a), Fig. 295.

three transverse grooves in this, only the upper one is deep. The tail is slightly under cut. The grooves are all more or less colored with vermilion, apparently a mineral paint and consequently sufficiently lasting so that we need not consider even the painting as necessarily modern. The general form and especially the four elephantine legs remind us of a somewhat similar animal form with a dish in its back found in a shell heap in the delta of the Fraser River¹ and the animal form with the dish in its back resembles slightly carvings found in the Lillooet Valley² and the Thompson River region.

The pipe made of steatite shown in Fig. 128³ illustrates the modern type of carving in soft, easily cut stone, as well as the style of white metal inlaying employed here during recent years. In this case, the inlaying is nearly bilaterally symmetrical as may be seen by comparing Fig. 128a with the outlines in *c* and *d*. The carving is not symmetrical, the human form holding a fish-like form appearing on one side only, while the rear figure evidently represents a turtle which animal is found in the valley. The other two figures are not easily identified but the forward one perhaps represents a dog, the white metal inlay on it possibly representing a harness, but as likely was merely for decoration. The figure on the base of the pipe might represent a lizard or any quadruped with a long tail. This form and the way it is represented as clinging to the cylindrical part of the pipe at least remind us of similar forms seen on totem poles in the region from Puget Sound to Victoria.⁴ The technique is rather crude and the style of art does not closely resemble that of the coast, but reminds us of certain sculptures found on pipes and on the carved wooden stems of pipes in the Plains where this particular shape of pipe is much more common than here.

In Fig. 105 is illustrated a fragment of a sculptured tubular pipe made from steatite by cutting or scratching and drilling the soft material rather than by pecking. It was apparently intended to represent an anthropoid form. The mouth is indicated by an incision, the other features of the head

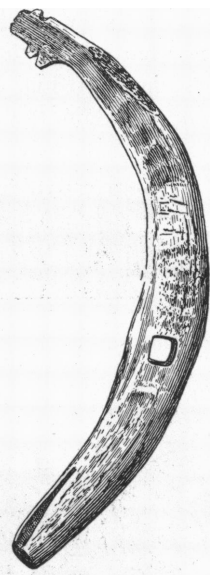


Fig. 126 (202-8121).
Handle of Digging Stick
made of Horn of Rocky
Mountain Sheep. From
an Indian woman living
near Union Gap below
Old Yakima. $\frac{1}{2}$ nat. size.

¹ Smith, (a), Fig. 56.

² Teit, (b), Fig. 97.

³ First figured on p. 283, *Archaeology of the Yakima Valley* by Harlan I. Smith, *Washington Magazine*, June, 1906.

⁴ Cf. also Smith, (b), Fig. 185a.

are more difficult to determine, but both the arm and the leg stand out in high relief. As previously suggested on p. 111, this style of art slightly resembles that found in the region from the Lillooet Valley to the Lower Willamette and as far east at least as The Dalles.¹ It is possible that some of the sculptures found in the Thompson River region² adjoining the Lillooet Valley on the east and the Yakima region on the north, may be somewhat related to the style of art of this fragmentary pipe. The human form shown in Fig. 121 has been discussed on p. 127 as it is incised rather than carved in the round. Clark mentions a "malet of stone curiously

carved,"³ which he says was used by the Indians near the mouth of the Snake River and Eells⁴ mentions two stone carvings from the general area of which this is a part which he describes as horses' heads. If this interpretation be correct, the carvings are evidently modern. The fish form shown in Fig. 119 has been mentioned on p. 127.

The very form of the pestle shown in Fig. 34 and the symmetrical outline of the club shown in Fig. 62 are in themselves somewhat artistic, while the fact that the pipe shown in Fig. 113 somewhat represents a tomahawk or hatchet suggests that it may have been sculptured as representative art.

It seems likely that it was modelled after the metal tomahawk pipe introduced by the traders which of course would indicate that it was recently made.

Coast Art. The pipe shown in Fig. 127 which was mentioned on p. 116 is clearly of the art of the northwest coast. It must have been brought to this region from as far at least, as the Kwakiutl and Haida region, and may be the work of an artist from that part of the coast, on Vancouver Island, north of Comox. Although in a fragmentary condition, this sculpture exhibits an excellent technique of its style of art. Astride of the stem is a

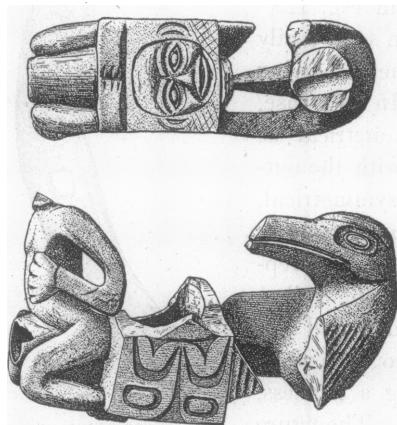


Fig. 127. Pipe made of Stone. From a hill-side grave on Toppenish Creek near Fort Simcoe. Collected by Mrs. Lynch. $\frac{1}{4}$ nat. size. (Now in the collection of Mr. George G. Heye, New York.)

¹ Teit, (b), Figs. 68 and 95-97; Smith, (d), Fig. 183 and especially Figs. 195b and 198.

² Smith, (d), Fig. 113; (b), Fig. 185a.

³ Lewis and Clark, III, p. 124.

⁴ Eells, p. 293.

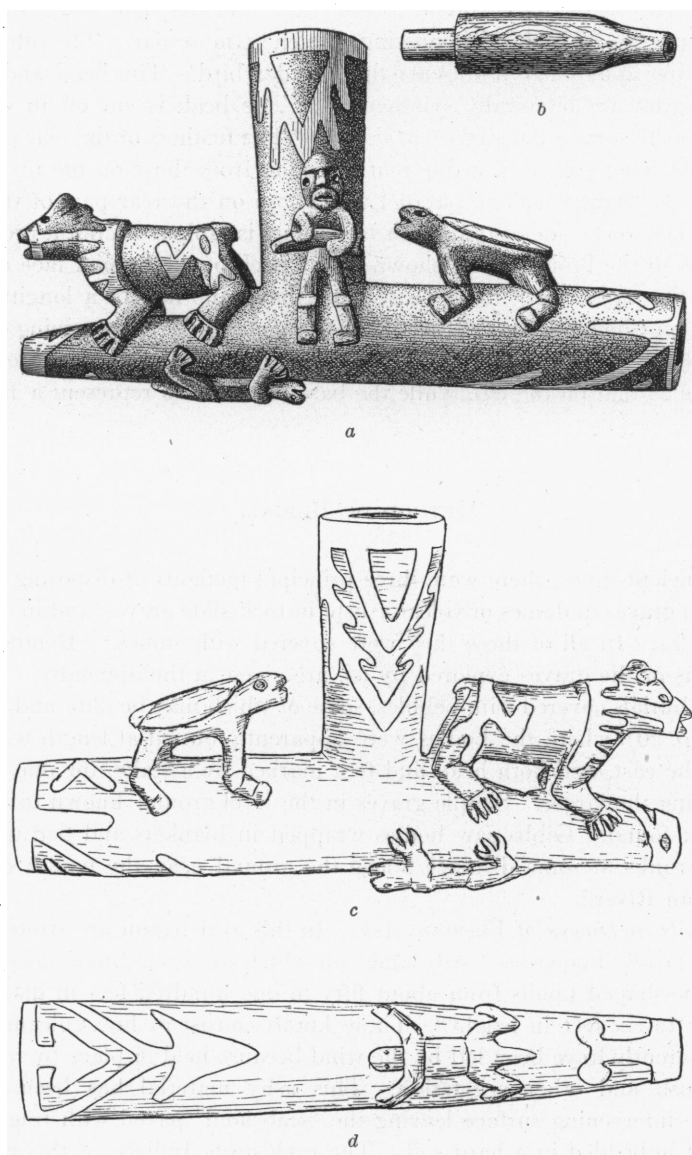


Fig. 128. Sculptured and Inlaid Pipe made of Steatite with Wooden Stem. From Chief Moses of the Yakima Region. $\frac{1}{2}$ nat. size. (Drawn from photograph 44508, 6-9, 6-10, 6-11. Original in the collection of Mrs. Lynch.)

human figure with the left hand to the chest, and the right one resting on the right knee. The head is missing, the chest muscular. The other end of the pipe apparently represents the thunder bird. The head and most of the figure are bilaterally symmetrical. The beak is cut off in such a manner as to form a flat surface at the tip. The feathers of the rear portion of the left wing extend in a different direction from those on the tip, while those of the right wing are parallel with those on the rear part of the left wing. The lower side or tail of this bird figure is broken off, but it probably extended to the broken place shown at the neck of the human face on the base of the pipe. In it, may be seen a groove, the half of a longitudinal perforation which does not connect with the pipe bowl. The carving on the right side of the pipe bowl, the top of which is broken away, is practically the same as that on the left, while the base is carved to represent a human head.

METHOD OF BURIAL.

In ancient times, there were three principal methods of disposing of the dead: in graves in domes of volcanic ash, in rock-slide graves, and in cremation circles. In all of these they were covered with stones.¹ Detailed descriptions of the graves explored by us, are given in the appendix. There are also burials covered with pebbles, some of which may be old; and recent graves (p. 20), where the bodies were apparently buried at length with the feet to the east, and both head and foot marked by a stake, the one at the head being the larger. Simple graves in the level ground known to be old were not found. Gibbs saw bodies wrapped in blankets and tied upright to tree trunks at some distance above the ground near the mouth of the Okanogan River.²

Burials in Domes of Volcanic Ash. In this arid region are stretches of country locally known as 'scab land,' on which are occasionally groups of low dome-shaped knolls from about fifty to one hundred feet in diameter, by three to six feet in height.³ These knolls consist of fine volcanic ash, and apparently have been left by the wind because held in place by roots of sage brush and other vegetation. This ashy material has been swept from the intervening surface leaving the 'scab land' paved with fragments of basalt imbedded in a hard soil. The prehistoric Indians of this region, have used many of these knolls, each as a site for a single grave (Fig. 2,

¹ Cf. also Yarrow, p. 178; Gibbs, (b), p. 201.

² Gibbs, (a), p. 413.

³ See Museum negative nos. 44442, 1-3, and 44496, 5-9.

Plate ix).¹ These graves, which are located in the tops of the knolls, are usually marked by large river pebbles, or, in some cases, by fragments of basalt that appear as a circular pavement projecting slightly above the surface of the soil. None of them are known to be recent. On the other hand, there is no positive evidence of their great antiquity. In these we sometimes find a box or cyst. This box (Plate x) was formed of thin slabs of basaltic rock some placed on edge and large flat slabs covering the cyst so formed. Above this, as was usually the case, above the skeletons in this kind of grave, the space was filled with irregular rocks or pebbles. The rocks and cyst were entirely different from those of the cairns of the coast of Washington and British Columbia.² The skeletons were found flexed, on the side. In the graves, artifacts such as dentalium shells were deposited at the time of burial.

The Kalapuya of the Willamette Valley to the southwest, buried their dead in the earth. One writer described the process as follows: — "When the grave was dug they placed slabs on the bottom and sides, and when they had lowered the wrapped body down, placed another over, resting on the side ones, and filled in the earth."³ The account does not seem to indicate whether these slabs were of wood or stone, but in either case there is a certain similarity to the graves with the stone cyst found near Tampico.

A grave which may be of this type, found about two and one half miles south of Fort Simcoe was reported to me by Mrs. Lynch who furnished the following information about it. It was on a low ridge with the usual cairn of rocks about three feet high covering it. This cairn was made up of two distinct layers of rocks, both lying above the contents of the grave which included the skeleton of an adult man estimated to be at least six feet tall and that of a child about six to eight years of age, according to identifications made by the physician of the United States Indian service stationed at Fort Simcoe. The man's skull which was well preserved though brittle, was found four feet below the ground or approximately seven feet below the top of the cairn and on the eastern side of the grave. The pelvis of the child was completely decayed, and few of the bones were intact except the maxilla which was found in the western part of the grave between the patellæ of the man. Near them were found four "links" [beads] of a copper necklace. The maxilla was deeply copper-stained. The steatite ornament shown in Fig. 119 was found on the man's manubrium.

Rock-slide Graves. The rock-slides on the hill and canon sides as in the

¹ See Museum negative no. 44497, 5-10, taken from the north of east. See also pp. 17 and 161. First mentioned in Smith, (g), VI.

² See Smith and Fowke.

³ Lewis, p. 178; Gatschet, p. 86; *American Antiquarian*, IV, 1882, p. 331.

region to the north had frequently been used as burial places. The graves are found from top to bottom. Some of them seem very old. Others were proven to be recent by the character of the objects found in them. The skeletons were in or on the ground and the rocks of the slide had been piled or caused to slide over them (Fig. 1, Plate VIII).¹ The skeleton was buried from one to five, six or even ten feet deep. In some cases, the rocks seemed to have sunk as the body decayed, in others they formed a pile as if placed there to mark the grave. Some graves were marked with sticks (Fig. 3, Plate VI). In others, probably always the older graves, sticks were not seen having doubtless decayed. One of the graves found 75 feet above the little flat at the edge of the north side of the Naches River about a mile and a half above its mouth, seemed to be walled up with rocks like a well and slabs of a broken canoe, part of which had been thrown out surrounded a few of the disturbed bones. The skeletons were always in a flexed position (Fig. 2, Plate VIII) and objects were found to have been placed in some of these graves.

Spinden states that cemeteries are readily located by the heaps of "river-worn or rock-slide boulders" piled over the graves in the Nez Perce country.² They are usually on the first bench above the river bottom and are found near the traditional village sites, from which they can be seen. The more common method of disposing of the dead there, was by burial in the ground, especially on stony hillsides, and covering the graves with stones to keep off the wild animals. This seems to have been the prevailing method throughout the whole Columbia region of which this is a part.³ Rock-slide graves were sometimes made in basaltic cliffs in the Nez Perce region. One of these is known to have been used in recent times from the presence of a Lewis and Clark medal,⁴ and graves marked by pieces of upright cedar and covered by large piles of stone are reported by Spinden on the east bank of the Snake River, beside the mouth of the Grande Ronde.⁵

Indian graves filled up with stones are numerous in the vicinity of the several remains (pp. 29, 54 and 82) near Mr. Turner's home, according to Mr. J. S. Cotton. Mr. Turner told him that all the graves that had been excavated contained bones in a greatly decayed condition, which suggested to him that they were very old. These graves, like the other remains of the vicinity previously mentioned, have been in the same condition since about 1874.

¹ See Museum negative no. 44513, 7-3, from the south in base of rock-slide on the north side of the Yakima River about a mile below the mouth of the Naches River, see p. 15.

² Spinden, p. 181.

³ Lewis, p. 190; Lewis and Clark, IV, pp. 366-7, 371, V, p. 99; Ross, (a), pp. 320-321; Cox, p. 105; Douglas, p. 339; Gibbs, (a), p. 405.

⁴ Spinden, p. 181.

⁵ Spinden, pp. 181 and 252.

The terraces mentioned on p. 13 (Fig. 1, Plate VII)¹ may have been made to facilitate reaching rock-slide graves in the same slide; while the pits which were found in the slides (Fig. 2, Plate VII)² walled up on the outer sides like balconies, with the rocks that apparently came both from the pits and the disturbed slide above them, have been considered as rifled graves or graves from which the burials had been removed (p. 13).

The following quotation may refer to rock-slide pits:³ "In the eastern part of Marion County, Oregon, there stands an isolated and most strikingly regular and beautiful butte some three hundred feet in height and covering nearly a section of land. It was fringed about its base, at the time of which I write, with fir groves, but its sides and well rounded and spacious top were devoid of timber, except a few old and spreading oaks, and perhaps a half dozen gigantic firs, whose weighty limbs were drooping with age. A meridian section line passes over the middle of this butte, and four sections corner near its top. While running this line and establishing these corners in 1851, I observed many semi-circular walls of stone, each enclosing space enough for a comfortable seat, and as high as one's shoulders when in a sitting posture, upon cross-sticks as high as the knee.... the older white residents said the Indians made them, but for what purpose they could not say. I became a witness to the use, and was particularly impressed with the fitness for what I saw. Indians from the North and South traveling that way generally camped upon the banks of the Abiqua Creek, a rapid stream of pure, cold water, just issued from the mountains upon the plain. The butte was near, and this they ascended and, taking seats within the stone sanctuaries, communed in silence with the Great Spirit. Bowing the head upon the hands and resting them upon the knees for a few moments, then sitting erect and gazing to the west over the enchanting valley interspersed with meadow, grove and stream." The author states that the place is now called Mount Angel, is surmounted by a Roman Catholic cathedral and that the Indians called this butte Tap-a-lam-a-ho, signifying Mount of Communion; and the plain to the west Chek-ta, meaning beautiful or enchanting.

Possibly the burials in the domes of volcanic ash and those in the rock-slides are practically the results of a common motive by the same people in the same time and the differences may be due simply to the difference in the character of the near by topography and the relative convenience of securing

¹ See Museum negative no. 44520, 7-10, from the southwest, about a mile above the mouth of the Naches River, (p. 13).

² See Museum negative no. 44519, 7-9. The same slide from the southwest (p. 13).

³ Pp. 35 and 36 of an article entitled "Extract from T. W. Davenport's, "Recollections of an Indian agent (not yet published)," *The Quarterly of the Oregon Historical Society*, March, 1904, Vol. V, No. 1.

the material to cover the graves. This idea is strengthened by information given me by Mr. W. H. Hindshaw who stated that from sixteen to thirty miles above the mouth of the Snake River where it cuts through canons there are rock burial heaps immediately above flood level and burials in the flood sand below, both of which he found to contain human bones and implements. He also stated that graves are found on the bluff overlooking the river. One was curbed with the remains of a cedar canoe. The grave had a bottom of plank and a cover over the body — that of a small child — which was wrapped in a fur, apparently a beaver skin. There were a number of beads and brass buttons and a large fragment of the shell of the *Schizothoerus nuttallii* which must have come from the coast.

Cremation Circles. Rings of stones (Fig. 1, Plate IX)¹ were also seen and on excavation within them cremated human remains were found usually several in each circle. In some cases the ring was irregular and in others assumed the form of a rectangle. None of them are known to be recent. In such places, dentalium shells, flat shell beads, and shell ornaments were usually seen. Mr. Teit says that rings of stones were also put on top of graves in the Thompson River region. Along the Columbia, below the mouth of the Snake River, vaults or burial houses like those found among the Upper Chinook were used.² A somewhat similar method was observed even among the Nez Perce.³ This suggests that the cremation circles here described, may be the caved-in remains of earth-covered burial lodges built somewhat on the plan of the semi-subterranean winter houses.

Position of the Body. In all the old graves the skeletons were flexed and usually on the side (Plate VIII, Fig. 2).⁴ The graves where the body was buried at length with the feet to the east were doubtless recent and probably placed that way due to the teachings of Christians. In the Nez Perce region to the east, the body was placed in a variety of positions, either flexed or at length⁵ and sometimes upon the side. Considering the difference between the costume and objects used by the men and those by the women, in the Nez Perce region to the east,⁶ it would seem that the contents of the graves in this near by region may be used to check the determination of the sex of the skeletons.

Property with the Dead. Objects are usually found with the remains of

¹ Museum negative no. 44493, 5-6 of circle no. 14 from the east on the terrace northwest of the junction of the Yakima and the Naches Rivers (p. 15 and 157). Cf. also Museum negative no. 44522, 7-2.

² Cf. Lewis, p. 190; Lewis and Clark, II, pp. 139-140.

³ Lewis and Clark, IV, p. 369; Lewis, p. 190.

⁴ Museum negative no. 44516, 7-6, see grave no. 22, p. 160.

⁵ Spinden, pp. 182 and 252.

⁶ Cf. Spinden, p. 216.

the dead in all classes of old burials but some of the graves contained nothing; others very little. There was apparently no radical difference in the character of the material in the graves in volcanic domes and those in the rock-slides; but the more modern rock-slide graves seemed, on the whole, to contain a greater number of objects than the older graves or the graves in domes. On the coast, objects are found with recent burials, but rarely in ancient graves. The cremation circles often contained dentalium shells and bits of shell objects but little else. In the Nez Perce region to the east a considerable amount of property, ornaments and utensils is found buried with the dead.¹

Horse Sacrifices. We discovered no graves containing horse bones or over which a skeleton of a horse was found, although it will be remembered that such were found in the Nez Perce region east of here.² There, the killing of horses over the graves of their owners became the usual practice when horses were plentiful. Sometimes a horse was buried over the body.³ In this region, however, we found no evidences of the horse in connection with the graves other than the presence of an old Spanish bit in one of the more recent burials.

Diseases. Out of about seventeen complete skeletons and six skulls secured in this region by our party those of two children (99-4323, 99-4326) and two adults, one of which was apparently a female (99-4336), exhibited anchylosis of some of the vertebrae. The left ankle bones of the other skeleton (99-4327) showed anchylosis with the tibia and one of the ribs was abnormal. The skeleton of a young child (99-4329) with persistent frontal suture, an example of retarded development was also found.⁴

CONCLUSION.

The connection, nay partial identity, of this culture with that of the Thompson River region in the southern interior of British Columbia is supported by considerable evidence. Small heaps of fresh-water clam shells are found in both regions. The preponderance of chipped points over those ground out of stone, bone and antler; the presence of digging stick handles; pestles with flaring bodies and no striking heads, others with tops in the form of animal heads; celts; the sites of cache pits, of circular summer lodges marked by rings of stones; and of semi-subterranean houses with stones on the encircling ridge; pairs of arrow-shaft smoothers, and bone tubes, were

¹ Spinden, pp. 182 and 252.

² Spinden, p. 182.

³ Spinden, p. 252.

⁴ Cf. Wounds, p. 82.

all found to be common to both regions. The simple pipe bowl found here, although with one exception not found among archaeological objects in the Thompson area is commonly used by the present Indians there. Tubular pipes, modern copper tubes or beads, incised designs consisting of a circle with a dot in it and engraved dentalium shells, each of a particular kind, besides pictographs in red, rock-slide sepulchres, modern graves walled up with parts of canoes, the marking of recent graves with sticks, and the custom of burying artifacts with the dead were also found to be common to both areas. Perforated slate tablets of gorget-form are unknown in both regions. Circles of stones which mark places where cremated human remains were found in this region sometimes indicate graves in the Thompson River region.

Frazer¹ mentions meeting Yakima Indians in the Lillooet Valley which shows that they travelled even beyond the Thompson River country and readily accounts for the dissemination of cultural elements.

On the other hand, many differences in culture are observable. Thus objects made of nephrite and mica which occur, the former being common in the Thompson River valley, were not found in the Yakima area. Quarries and terraced rock-slides such as were seen here are not known to us in the Thompson River region. The bone of the whale occasionally found in the Thompson River country is lacking in Yakima collections. That glassy basalt was not the chief material for chipped implements, as it was in the Thompson River region, is probably due to the scarcity of this material and its use is perhaps as rare in the Yakima valley as on the coast. Chipped implements were made of a greater variety of stone than in the interior of British Columbia, and a greater proportion were of the more beautifully colored materials. No harpoon points made of a unio (?) shell, such as the object found in the Thompson River region or other objects made of such a shell, were seen. Notched sinkers and large grooved sinkers were more commonly found than in the Thompson Valley, while sap scrapers which were common there, were not found in the Yakima district. A great number of pestles made from short cylindrical pebbles, forming a type rather rare in the Thompson River region; many long pestles, of which only four or five have been found in interior British Columbia; and one with a zigzag design not represented among the finds from that region, were found in the Yakima area. Saucer-shaped depressions marking summer lodge sites were not noted by the writer. Clubs made of stone were more numerous and all are of a different type. Clubs or other objects made of the bone of the whale or drilled pendants either circular or

¹ Fraser, p. 175.

elongated were not found. Petroglyphs, pictographs in white, and representations of feather headdresses were not found among the archaeological objects in the Thompson region. Graves in knolls, some with a cyst made of thin slabs of stones constitute another distinct trait of the Yakima area.

There is relatively less evidence of contact with the prehistoric people of Puget Sound and the Pacific coast of Washington, and of southern British Columbia. Several kinds of sea shells, including dentalium, haliotis and pectunculus, which must have come from the coast, were found in the Yakima Valley. Small points chipped from beautiful material found in this region were occasionally seen on the coast, more particularly south of Puget Sound. Glassy basalt was used here perhaps about as much as on the coast. Net sinkers are also about as common here as on the coast from Gray's Harbor southward. The pestles found in the vicinity of Vancouver Island are similar to some of the short pestles found in the Yakima region. Short tubular pipes are found on the coast in the vicinity of the Saanich Peninsula and the Lower Frazer. The pipe previously described as clearly representative of the art of the Northwest coast must have been brought from there or made by a coast artist, not by one merely familiar with the art of the coast. A portion of the material indicative of coast culture that was found in the Yakima Valley may have come up the Cowlitz and down the Toppenish River.

The similarities mentioned are, however, outweighed by marked differences. Large shell heaps — the chief feature of Coastal archaeology — have not been found in the Yakima area, while quarries are unknown to us on the coast. Objects made of nephrite and whale's bone are lacking in the Yakima Valley. A very great number of points rubbed out of slate and bone are found on the coast, but none rubbed out of slate and only a few rubbed out of bone have been found on Yakima sites. Net sinkers are much more common than on the coast, where they are plentiful only from Gray's Harbor southward and in the Lower Columbia Valley. Long pestles with the tops carved to represent animal heads are distinctive of the Yakima area, while cylindrical pebbles used as pestles but slightly changed from the natural form, which are quite common in the Yakima Valley, are rarely found in the Coast country. One style of club made of stone commonly found in this vicinity has not been seen anywhere on the coast, although some clubs made of stone are like specimens from that region. Perforated slate tablets like Coastal gorgets are unknown to us from the Yakima area. Cairns common on the coast are not found in the Yakima country, while the reverse holds true of rock-slide burials. Graves in knolls are unknown on the Pacific, and artifacts are often found in the Yakima graves but they seldom, if ever, occur with ancient burials on the coast.

Much of the material from the Yakima region resembles that which I have seen from the general area including the Columbia Valley between Umatilla and The Dalles, and possibly extending further down the valley. There seems to be a greater similarity of the art products of the Yakima to those of the Thompson River region than to those of the Columbia Valley below the mouth of the Snake, so far as we understand the latter region at this time, and this according to Lewis¹ is certainly not contrary to the belief in an earlier occupancy of this region by the Salish. The culture here resembles that of the Nez Perce region to the east in that a considerable variety of material was used for chipped implements.²

Inter-tribal trade may have been a factor in the production of some observed similarities. It was seen that pipes of three types, one of which is found as far east as the Dakota, another as far north as the Thompson River country, and a third as far west as the Queen Charlotte Islands are all found in this region. It is clear that the ancient people from the Yakima region had extensive communications not only with the region southward as far as The Dalles, but also northward, as far as the more distant Thompson River tribes. If the products of the sea found in this region came up the Columbia, as may be inferred from Lewis,³ it is a good illustration of how trade as a rule, follows the line of least physical resistance; although the migrations of the tribes do not always follow such lines because the lines of trade as a rule are thickly populated by people who resist the migration of their neighbors. Lewis⁴ states that from the coast inward there was only one trade route of importance in the Washington-Oregon-Idaho region and this led up the Columbia River to The Dalles where was found the greatest trade center in the whole region and whither the tribes were wont to come from the north and south as well as from the east.⁵ Klamath,⁶ Cayuse, Nez Perce, Walla Walla and other Sahaptin and probably Salish tribes were all in the habit of going there to traffic. He also states that further east, the Sahaptin in their turn, traded with the Shoshone from whom they obtained buffalo robes and meat. The center for this trade at least in later times was the Grande Ronde in eastern Oregon;⁷ but this later center probably came into being after the advent of the horse. The Okanogan are known to have crossed the mountains to Puget Sound to trade wild hemp for sea shells especially dentalia as well as for other small objects.⁸ The Yakima also in later times crossed the moun-

¹ Lewis, p. 196.

² Spinden, p. 181.

³ Lewis, p. 193.

⁴ Lewis, p. 193.

⁵ Lewis and Clark, IV, p. 286; Ross, (b), p. 117.

⁶ Gatschet, p. 93.

⁷ Wilkes, IV, p. 394.

⁸ Ross, (a), p. 290; (b), I, p. 44.

tains and traded with Puget Sound tribes according to Gibbs,¹ but if this trade were carried on in earlier times its effect in the Yakima Valley seems to have been slight as indicated by the few dentalium shells, the shell pendants shown in Figs. 87-94 and the pipe of coast art, shown in Fig. 127. It is possible that this trade with the coast became customary only after the horse was introduced. There was a considerable amount of trade between the Yakima and the Thompson River and other tribes of British Columbia which was carried on chiefly through the Okanogan.² Lewis³ states that the Walla Walla who lived to the south of the Yakima at least in later times visited as far north as the Thompson River region, and that certain Sahaptin tribes seem to have moved northward and westward and forced back the Salish tribes which at the time of Lewis and Clark's visit were on the north bank of the Columbia and on its tributaries.⁴ These tribes were particularly the Klickitat and the Yakima, an assumption which Lewis states is supported by the definite assertions of the natives themselves. A number of old men positively assured Dr. Suckley that they had pushed their way into the country formerly occupied by the Salish.⁵ The Klickitat, although living in a well wooded region on the southern slopes of Mt. Adams and Mt. St. Helens are thought to have been driven by the Cayuse from their earlier home which was further east and south. Later, they went further west into the Cowlitz Valley.⁶ This may account for the circular pit surrounded by an embankment which I saw near Rochester in Thurston County and interpreted as the remains of a semi-subterranean winter house site. Lewis also states that the Yakima probably lived on the Columbia near the mouth of the river which now bears their name, and are in fact so located by Cox who places them on the north and east side of the Columbia. The pressure of neighboring tribes caused by the coming of the white race no doubt facilitated the adoption of new cultural details.

As late as 1854, the Palus, a tribe living further east on the Palouse River regarded themselves as a portion of the Yakima and the head chief of the Yakima as their chief.⁷ The general similarity of the Walla Walla language to that of the Klickitat and Yakima rather than to that of the Nez Perce is mentioned by Lewis.

Cultural elements, especially those associated with the horse and with the new mode of life which it made possible, probably came from the region

¹ Gibbs, (a), p. 408.

² Cf. Teit, (a), p. 258.

³ Lewis, pp. 194-5.

⁴ Lewis and Clark, VI, pp. 115 and 119; Mooney, pp. 734-736.

⁵ Gibbs, (b), p. 224.

⁶ Swan, p. 323.

⁷ Stevens, XII, p. 200, *Pacific R. R. Rept.*, Pt. I.

to the southeast, and show a great similarity to the Plains type of culture. How much the Plains culture had influenced the Plateau type before the introduction of the horse, is a question.¹ On the Columbia River, near the mouth of the Yakima, were numerous Indians who were visited by Clark in 1805, but he says that while he saw a few horses, the Indians appeared to make but little use of them. If these were the Yakima Indians there must have been quite a change in their manner of living in the next few years.² This agrees very well with the time of the introduction of the horse among the Lower Thompson Indians towards the close of the eighteenth century, according to Teit.³ All this would tend to show that the horse, while common in the Yakima country, about that time, had not yet affected the earlier customs of the natives.

The early culture throughout the great area of which this is a part, according to Lewis, was of a very simple and undeveloped character, which probably accounts for the rapidity with which eastern types were assimilated when once introduced.⁴

Summing up: the prehistoric culture of the Yakima area resembled that of its recent inhabitants, as it will be remembered was the case in the Thompson River region, the Lower Fraser Valley and the Puget Sound country including the coast from Comox on Vancouver Island to Olympia. As a typical plateau culture, being affiliated with the neighboring cultures to the north, east and south, it presented a sharp contrast to both the present and past cultures of the coast to the west. Compared with other branches of the Plateau culture area it must be considered inferior in complexity to its northern neighbor of the southern interior of British Columbia and also to the adjacent branch near The Dalles to the south. While each of these divisions has been influenced by the others more especially in the past, differentiations due to environment or specific historical conditions lead to local variations without obscuring an essential unity of cultural traits.

¹ Lewis, p. 179.

² Lewis, p. 184; Ross, (b), I, p. 19.

³ Teit, (a), p. 257.

⁴ Lewis, p. 180.

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APPENDIX.

The following appendix contains a detailed account of graves with catalogue numbers of their contents and other finds, upon which the preceding descriptions are based.

KENNEWICK.

- 202-8114. Flint chip from the surface. No chips of this quality were found in the Thompson River region.
- 202-8115. Chipped point made of buff jasper from the surface (Plate II, Fig. 1).
- 202-8116. Large grooved pebble from the beach of the Columbia River
- 202-8117. Chipped pebble from the surface.
- 202-8118. Broken pestle from the surface.
- 202-8119. Chipped and battered hammerstone from the surface. (Fig. 43).
- 202-8120. One half of a sculptured tubular steatite pipe, purchased from Mr. W. F. Sonderman who dug it up while building a flume near Kennewick (Fig. 105).

NORTH YAKIMA.

- 202-8121. Sculptured handle of a digging stick made of the horn of a Rocky Mountain sheep purchased of Mr. W. Z. York, at Old Yakima, who bought it from an Indian woman living near Union Gap below Old Yakima. She, however, may have brought it from some other locality. (Fig. 126).
- 202-8122. Tubular steatite pipe (Fig. 104).
- 202-8123. Pestle made of stone. Presented by Mr. W. M. Gray of North Yakima. Found where the Moxie Ditch enters the flume, about 3 miles northeast of the mouth of the Naches River and southeast of the Yakima River.
- 202-8124. Fragment of rock painted red. Part of a pictograph showing a human figure with feather headdress (Plate XIV, Fig. 1), taken from the basaltic cliffs southeast of the Naches River above the mouth of Cowiche Creek, about four miles northwest of North Yakima. Several other pictographs were photographed here from the north: Plate XV, Fig. 2 (44480, 4-5), white human heads with feather headdresses and white and red double star figure; Plate XIV, Fig. 2 (44483, 4-8), white human heads with feather headdresses, also (44484, 4-9), Plate XV, Fig. 1 (44485, 4-10); Plate XVI, Fig. 1 (44486, 4-11), and Plate XVI, Fig. 2 (44487, 4-12), white and red human heads with feather headdresses.
- 202-8125. Six parts of pebbles, from the surface of the flat on the east side of the Yakima River at "The Upper Gap" near the northern end of North Yakima, as samples of what could have been used as material for arrow points.

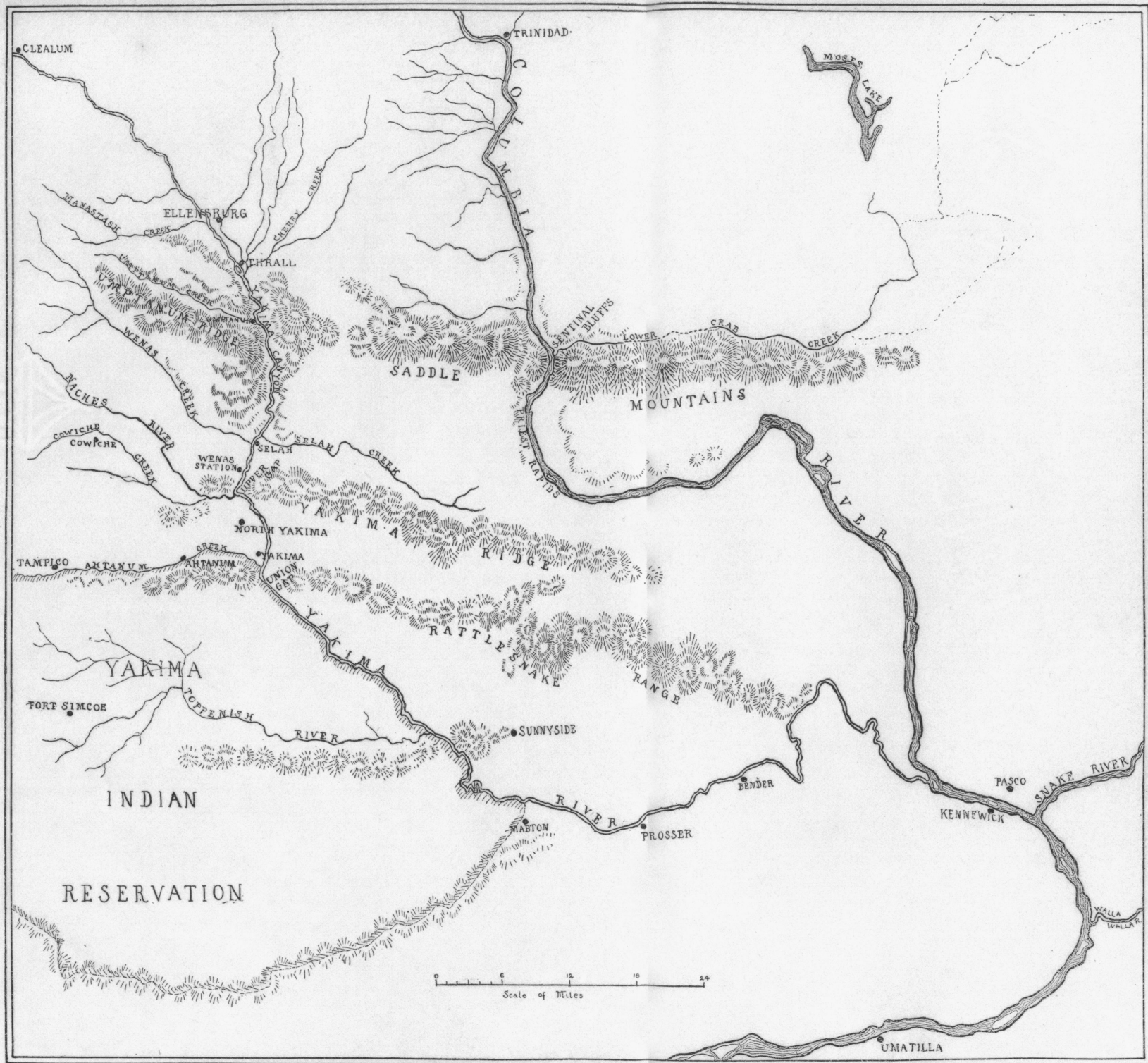


Fig. 129. Sketch Map of the Yakima Valley.

Miss Ruth B. Howe Delin.

Numbers 202-8126 to 202-8136 are from the quarry shown in Plate III, Fig. 1 (44488, 5-1 from the south, 44489, 5-2, and 44490, 5-3).

This quarry is on the ridge top north of the Naches River, about two miles above its mouth (p. 16).

- 202-8126. Stone, possibly a hammer.
- 202-8127. Two river pebbles used as stone hammers.
- 202-8128. Hammerstone (Fig. 40).
- 202-8129. Pebble used as a hammer.
- 202-8130. Fragment of a hammerstone, edge smooth.
- 202-8131. Two fragments of hammerstones.
- 202-8132. Four pieces of raw material for chipped implements.
- 202-8133. Seven pieces of raw material for chipped implements, possibly waste from pieces blocked out to be transported or possibly too small or of too poor a quality to be transported.
- 202-8134. Two pieces of raw material, perhaps chipped.
- 202-8135. Two pieces of raw material, perhaps too poor to be transported.
- 202-8136. Thirty pieces of raw material, some very good, some very poor, all apparently waste of pieces blocked out to be transported. No finished or broken implements were found here.

Grave No. 1. Plate vi, Fig. 3 (1910) from north of west of the grave before it was disturbed (p. 14). This grave was about 50 feet up the gully from No. 2, and was excavated by us May 18. It was marked by a stick which was very dry but not yet fully decayed. It was located in the rock-slide on the east slope of the gully, a steep ravine going down from the south to a little flat southeast of the Yakima River. This ravine is on the north side of the hill on the east of the Yakima River at the mouth of the Naches River. The grave was about a mile northeast of the mouth of the Naches River, and about 80 feet above the Yakima. From the spot one can see out over the valley of the Yakima. The grave was on a slight, bench, terrace, or place that could be so interpreted. There were large pits and terraces in the slide above this grave, like those shown in Plate vii. Indications of very old charred cedar strips were found across the grave. Charcoal was found among the rocks, and the grave was bounded by a sort of circular balcony of rocks of the rock-slide and had a slight flat or depression in the center. On top, the stones were large, averaging the size of a man's head, some 30 pounds, some 100 pounds, some the size of a man's fist. Below, covering the body, the rocks were small and many were fine, being chipped small from the same rock by fire. All except this burned rock were the common irregular angular rock-slide material. In the bottom of the grave were found adult human bones, partly charred black, the parts not so charred were yellow. Numbers 202-8137 to 202-8152 were found in this grave.

- 202-8137. Left half of a charred human jaw, parts are ivory black and parts yellowish gray.
- 202-8138. Part of a human vertebra.

- 202-8139. Some charred and calcined bones of a dog with the joint end of the tibia showing the articulation pulled off as in youth. Ashes and black fine masses resembling pulverized charcoal were found in the bottom of the grave. The human bones found with these were probably of two skeletons, but all were much broken and charred. Some yellow brown mass, composed of rootlets, maggot sacks, etc., was found at the sides of the grave.
- 202-8140. At the east side of the grave, a large piece of partly charred cedar about 8 inches wide by 2 inches thick was found.
- 202-8141. Chipped point of obsidian with base broken off, showing that at least some of the contents of the grave were of prehistoric culture.
- 202-8142. Finely chipped point made of brown chert found in fire refuse of this grave (Plate II, Fig. 5).
- 202-8143. Scorched point made of bone (Fig. 9).
- 202-8144. Part of a point similar to 202-8143 and found with it
- 202-8145. Part of a point similar to 202-8143 and found with it
- 202-8146. Part of a point similar to 202-8143 and found with it.
- 202-8147. Tube of rolled brass having the diameter of a lead pencil, proving this grave to have been made since the prehistoric people were able to reach the whites in trade.
- 202-8148. Tube similar to 202-8147 (Fig. 75).
- 202-8149. Charred tube made of bone about $1\frac{1}{2}$ inches long.
- 202-8150. Tube similar to 202-8149 (Fig. 97).
- 202-8151. Scorched tube made of bone and ornamented by incisions running from one end to the other in a spiral course. The tube is charred and about $1\frac{1}{2}$ inches long (Fig. 98).
- 202-8152. Slate disk perforated in the center and at each side. The object is about 1 inch in diameter and $\frac{1}{8}$ inch thick (Fig. 77).
- Grave No. 2. Rock-slide grave, about 50 feet down the ravine from grave No. 1 and about 40 feet above the flume. It had grass growing in the center. The grave seemed caved in and as if thoroughly walled like a well. It contained nothing, apparently having been rifled. Before excavation this seemed to be more like a grave than No. 1. (See photograph taken from the southwest.)
- Grave No. 3. Rock-slide grave.
- 99-4314. Bleached skull and jaw of an adult purchased of a boy who said it was from a rock-slide grave on the north side of the Yakima Ridge lying east of the Yakima River above the Upper Gap.
- Grave No. 4. Rock-slide grave about 6 feet southeast of grave No. 5 at Selah Canon. As this grave had been opened and the skeleton had been disturbed, no accurate description as to its position can be given. Some of the rock-slide material was quite large, weighing from 200 to 300 lbs; depth, 4 feet; diameter, 3 feet. Decayed wood was found in the grave and long poles on the side of the grave. The grave was probably not very old.
- 99-4315. Part of skull and skeleton of a youth which was partly bleached. Found in Grave No. 4.

Grave No. 5. Rock-slide grave in Selah Canon and about 6 feet northwest of grave No. 4. Apparently this grave had been rifled. The adult skull lay to the west and was broken. The skeleton was flexed, the feet were toward the east and the knees south of the vertebrae, that is, the skeleton was on the right side. The grave which was about 75 feet up the hillside, and $1\frac{1}{2}$ miles east of the Yakima River on the south side of Selah Canon, was about $3\frac{1}{2}$ feet deep by $3\frac{1}{2}$ feet in diameter. Long poles lay on the side of the grave while decayed wood, leather thongs and dried flesh yet adhering to some of the bones, in this kind of a grave even in such a dry region as this, especially the last two, suggest the grave to be recent.

99-4316. Jaw and skeleton of an adult. Found in grave No. 5.

Grave No. 6. Rock-slide grave about 100 feet up the hillside at the top of a rock-slide on a point south of the Yakima River about 2 miles northeast and above the mouth of the Naches River. The bones were found in excavating an adjacent barren grave, 5 feet to the northeast and had probably been thrown out of this one on top of it. Pieces of cedar were scattered around the grave, which had been rifled. Its depth was 5 feet, diameter 5 feet.

99-4317. Skull and one hip bone of an adult. Probably from grave No. 6.

Grave No. 7. Rock-slide grave situated northeast of North Yakima and about half a mile northeast of grave No. 6. There is a road near the edge of the grave. The grave had been rifled and pieces of wood were found lying near it; the bones were scattered around and broken. None of them were in anatomical order. Numbers 202-8153 to 202-8156 were found in this grave.

202-8153. One brass bell.

202-8154. Three glass beads.

202-8155. Two shell beads.

202-8156. Three dentalium shells.

Grave No. 8. Rifled rock-slide grave. The skeleton which had been wrapped in cedar bark had been taken away. Nothing besides the cedar bark was found. The grave was found near No. 7 and about a half mile northeast of No. 6. Wood was lying near by. There was a road near the edge of the grave which had been rifled.

Grave No. 9. Rock-slide grave found near No. 7 which was situated about half a mile northeast of No. 6. The grave contained nothing but charcoal. There was wood lying near by. There was a road near the edge of the grave which had been rifled.

Grave No. 10. Rock-slide grave excavated June 2, 1903. This grave was 150 feet up the hill from the Naches River, half a mile above its mouth and on the north side. It was 5 feet long by 6 feet wide and 4 feet deep and had been disturbed and many of the bones thrown out. Dry poles and cedar boards lay around the top. Numbers 99-4318, 202-8157 to 202-8169 were found in this grave.

- 99-4318. An adult skull and skeleton with abnormality on right malor and with one rib expanded, part of a young adult skeleton and part of a child's skeleton were found. Some of the bones were bleached. The adult and the child were on the bottom. These two bodies had been wrapped in bark and placed in a hole one foot deep in the ground below the slide. The adult's head was to the west southwest. On top and to the east northeast was the young adult. Human hair was also found in grave No. 10.
- 202-8157. Four parts of the hearth of a fire drill, similar to that used in the Thompson River region. See Teit, (a) p. 203, for descriptions of fire drills (See also Fig. 38.)
- 202-8158. Wolf or dog bones, some of them bleached.
- 202-8159. Part of a decorated wooden bow (Fig. 114).
- 202-8160a, b. Two pieces of a basket. Doubtless of a finer stitch than those from the Thompson River Indians. See Teit, (a), Fig. 131a and Figs. 143 to 146.
- 202-8161. Piece of coarse coil basket with splint foundation and bifurcated stitch (Fig. 17).
- 202-8162. Piece of a stitched rush mat (p. 86).
The bill of a saw-bill duck was found but not preserved.
- 202-8163. Copper tubes with six beads, short sections of dentalium shells, which were found from the top to the bottom of the grave. These beads were strung.
- 202-8164. Four bone tubes found near the bottom and mostly to the east northeast of the grave.
- 202-8165. Point made of bone found to the west northwest in grave (Fig. 7).
- 202-8166. A perforated cylinder made of steatite found at about the center of the grave (Fig. 99).
- 202-8167. Fishbone.
- 202-8168. Three pieces of yellow jasper (raw material).
- 202-8169a, b, c. Three small arrow points, one found on center, one in east northeast part and one in south of grave. *a* is of brownish fissile jasper (Plate II, Fig. 2).
- Grave No. 11. Rock-slide grave located on the north side of the Naches River, a little over half a mile above its mouth. The place is about 600 feet west southwest of grave No. 10 and 150 feet above the river. It was 6 feet by 4 feet in diameter and 4 feet deep. Apparently it had been rifled as nothing was found in it except a skull and a few bones.
- 99-4319. Skull, a lower jaw, and a few broken bones which were scattered among the rocks. The skull was found in the west southwest part of the grave with the face down. The lower jaw was found in the southern part of the grave about 1 foot higher up in the rocks.
- Grave No. 12. Bluff pebble grave. We examined a ring of river boulders on the twenty-acre farm of Mr. James McWhirter, a boy about fifteen years old, twelve miles up the Naches River on the crest of the foothill terrace north of the road, and overlooking the bottom along the north side of the Naches River. This grave was about 150 feet high above the river by about half a mile from it. At first it looked like a

little underground house site or a shallow cache pit. (Museum negative, no. 44441, 1-2 for general locality.) James, who called our attention to the pile of boulders, said that some one threw off part in an abandoned attempt to dig the grave. We thought the grave practically undisturbed and it proved to have been the least disturbed of any we had found up to this point. The outside of the ring was 10 feet east and west by 5 feet north and south. The inside of the ring or the space surrounded was 6 feet east and west by 4 feet north and south. Probably this grave was a boulder heap, the aspect of a ring being given by the removal of the stones, i. e., this central space may be where stones were thrown off. River boulders were found from top to bottom. The boulders varied in weight from about 7 to 30 pounds. Most of them were disk-shaped but some were oval. Numbers 99-4320 and 202-8170, 1 were found in this grave.

- 99-4320. An adult skeleton was found 4 feet deep with the head towards the west, resting on its occiput. The skull which was broken, faced south by east, with the mouth open. The knees were north; the body was on its left side and flexed. Over the north side of the knees was an elliptically-shaped piece of cedar burned on the upper side. It was about 2 feet wide by 4 feet long. A few fragments of the skeleton of a child were found in the grave. All the bones in the grave were very soft and as the ends were broken off we discarded all but the skull and a few of the bones of the child. Two shell disks (202-8170, 1) were found about 6 inches apart near the neck, one at the south shoulder, and one at the south side of the skull of the adult.
- 202-8170. Pendant of disk shape made of oyster shell with one perforation near the edge (Fig. 94).
- 202-8171. Pendant of disk shape made of shell with two perforations near one edge (Fig. 93).

Grave No. 13. Cremation circle, similar to several of the others on the terrace northwest of the mouth of the Naches River. This consisted of a ring of angular rocks among which were no river pebbles, resembling a small underground house site, 8 feet in diameter outside, 6 feet in diameter at the top of the rocks, $4\frac{1}{2}$ feet in diameter inside, both east-west and north-south. It is widest and built of largest stones on the side towards the lower part of the terrace, suggesting that the ring had slid down but the nearly level terrace would argue against this idea. This grave was like a rock-slide grave, filled with soil, but on a gently sloping terrace instead of a steep slide. Photograph no. 44495, 5-8, from the south shows a telegraph pole to left and a flume across the Yakima River to the right. See also graves No. 14 and 15. Child bones, found two feet deep in volcanic ash, were decayed and discarded. The tibiae were about $2\frac{1}{2}$ inches long.

Grave No. 14. This cremation circle was situated on the terrace about 100 feet above the Naches River and about 250 yards north of the two bridges near its mouth. Plate ix, Fig. 1 (photograph no. 44493, 5-6) shows this from the east with telegraph poles beyond. The stone circle

measured 6 feet north and south inside (16 outside) by 7 feet east and west inside (14 outside). Our excavation here was 6 by 5 by 4 feet deep. Fragments of charred human bones, and some that seemed not to be charred, of six or seven individuals were found from about 1 foot deep down to 4 feet deep. Most of these were pieces of skulls, but pieces of many other bones were found. The bones which were most burned, were those found nearest the surface. Much charcoal was seen. A layer of ashes about 6 inches in thickness was found in the center. In the northwest part of the hole a skeleton was found lying on the left side flexed, the face east, and the head north. This may have been buried after the others. The bones were very much decomposed and the skull was broken into small pieces. Numbers 202-8172 to 202-8174 were found in this grave.

202-8172. A shell ornament found on the east side of the skull.

202-8173. Two dentalium shells found on the west side of the skull. Dentalium shells were found in all parts of the excavation but were most numerous in the northeastern parts.

202-8174. A shell ornament.

Grave No. 15. Cremation circle excavated on June 10, 11 and 12. Shown from the east in photograph No. 44494, 5-7. It is 56 feet west of grave No. 14 and further up the terrace. The outside circle of stones measured 15 feet north and south by 15 feet east and west. The next circle of stones measured 9 feet north and south by 9 feet east and west. The space inside the stone circle measured 7 feet north and south by 7 feet east and west. The depth varied from 2 feet 6 inches in the east and south parts to 4 feet in the north and west parts below all of which was a pitching layer of basaltic rocks. The three rings of stones surrounded a hollow. The inner row was about 12 inches lower than the outer ring. Several boulders were found in the grave. Ashes and lava composed the grave soil. The whole cremation circle seemed to have been the burned remains of a communal or family depository for the dead, probably a hut like an underground winter house walled around the edge of the roof with stones. Two skeletons were found on the bottom, apparently not burned, but much decayed. They were discarded. Numbers 202-8175 to 202-8182 were found in this grave.

202-8175. Charcoal was abundant but most of it was found about 14 inches deep.

202-8176. Broken and charred human bones of about twelve individuals were found throughout the grave in a space about 8 by 5 feet beginning at the east inner ring of stones and extending beyond the second circle on the west. They were found from 8 inches deep to parts of the bottom.

202-8177. Dentalium shells were very abundant.

202-8178. Engraved dentalium shells (Fig. 118).

202-8179. Several kinds of shell ornaments were found in the northern and north-western parts of the grave.

202-8180. Several burned pieces of shell.

202-8181. One piece of metal, probably copper.

202-8182. Several pieces of shell of different kinds.

- Grave No. 16. Shallow cremation circle, 13 feet north and south by 14 east and west (outside); 5 feet north and south by 7 feet east and west (inside). Charred human bones of a child about 10 years old were found.
- Grave No. 17. Cremation circle situated 58 feet west from grave No. 15 and 46 feet west from grave No. 16. Its diameter was 13 feet east and west by 14 feet north and south outside of all stones. The diameter was 5 feet east and west by 6 feet north and south inside. At the middle of the stone ring the diameter was 9 feet. The middle of the excavation was 3 feet deep in volcanic ash. No evidence of burning was found among the bones except the presence of charcoal at a depth of four feet. Parts of at least four skeletons, one adult, and children were found, all much broken and separated. The bones were mostly in the southwestern end of the excavation. No skull bones were found except a lower jaw, while in grave No. 13 most of the pieces found were of skulls. Numbers 202-8183 to 202-8185 were found here.
- 202-8183. Three shell ornaments found in the northeastern part of the grave.
- 202-8184. Two dentalium shells found in the western part of the excavation. These were the only two found in the whole grave.
- 202-8185. Piece of copper found in the northwestern part of the grave.
- Grave No. 18. Cremation circle situated 84 feet south of grave No. 14. This grave had possibly been rifled. The stone circle was 15 feet in diameter outside and 9 feet in diameter inside. The excavation was 2 feet, 6 inches to 3 feet 6 inches deep. Excavation 7 feet by 6 feet. Some fragments of human bones were found on the surface. There were more stones mixed in the earth than in the graves previously excavated here; viz: Nos. 13 to 17. Ashes were abundant especially at the bottom. Many pieces of much broken human bones were found but not as many as were seen in grave No. 15 and they were less burned than in that grave. Numbers 202-8186 to 202-8187 were found in this grave.
- 202-8186. Two engraved dentalium shells.
- 202-8187. Two dentalium shells of which one was crushed and discarded. A broken flat shell ornament which we also discarded, was found here.
- Graves Nos. 19-20. These cremation circles were of the usual construction, showed nothing new and contained no specimens.
- Grave No. 21. Cremation rectangle last explored on the terrace near the mouth of the Naches River and situated 300 feet northwest from the two bridges. The rectangular enclosure was bounded by a single row of stones, but on the south several rows were placed outside to conform with the slope of the hill covering a semicircular area, while on the west was a second row of marking stones. It was 12 feet long north and south by 8 feet wide east and west and 3 feet, 6 inches deep. Part of a child's skull, two scapulae, two tibiae, and a piece of a femur, of another child; bones of a young adult; a small piece of skull and

part of a femur of an adult were found. All the bones were in a good state of preservation. Numbers 202-8188 to 202-8189 were found in this grave.

202-8188. Dentalium shells.

202-8189. A shell ornament was found in this excavation. A piece of beaver tooth and several pieces of decayed cedar were also found and discarded.

99-4321. See grave No. 25.

Grave No. 22. Rock-slide grave located near the top of the slide and above the flume on the southern side of the Yakima Ridge on the northern side of the Yakima River about a mile eastward from the mouth of the Naches River. Traces of wrappings of stitched rush matting were seen in the grave.

99-4322. Adult skeleton, partly bleached, flexed on back, head north as shown in situ after removing covering rocks in photograph (no. 44516, 7-6 from the south by west), Plate VIII, Fig. 2 (pp. 15 and 142).

Grave No. 23. A grave 600 feet up on the plateau south of Oak Spring Canon, in a dome-shaped mound of volcanic ash left by the wind. It was not like a rock-slide grave. Somewhat angular stones unlike rock-slide material among which were no pebbles, formed a rectangular pile, 15 feet long by 12 feet wide. The grave contained many stones, several modern beads, evidently part of a rosary, two dentalium shells and a human lower jaw, but all were discarded.

Grave No. 24. This grave was located in a dome of volcanic ash on the hill or plateau north of the Ahtanum River and northwest of Mr. A. D. Eglin's house near Tampico. It was marked by a rectangular group of rough and wind smoothed rocks (not rock-slide or river pebble) which extended down as in the crude cairns, 6 feet northeast and southwest by 4 feet wide northwest and southeast, the vault being 5 feet by 3 feet. Numbers 99-4323 and 202-8190 were found in this grave.

99-4323. A skeleton of a child found in a very much decomposed condition. Some of the bones showed ankylosis. The skull was found in the southwest of the grave with part of the pelvis, two humeri and a scapula. The rest of the skeleton was scattered, the lower jaw being in the northwest corner of the grave with the femora, tibiae and fibulae. The skull faced northeast and rested on the occiput.

202-8190. Bone point found at the side of the skull.

99-4324. See grave No. 27.

Grave No. 25. Eglin stone grave located in a volcanic ash knoll left behind by wind and surrounded by 'scab land' on the bottom land about 18 miles up and west of North Yakima or nearly to Tampico, Yakima County, and on the north side of the river road, but east of the north and south branch road which is east of Mr. Sherman Eglin's place; about 600 feet north of the north branch of the Ahtanum river and about 15 feet above the water level. Over the grave was a stone heap of

angular basalt about 8 feet in diameter. At a depth of 3 feet, after finding stones all the way down, was a cyst (Negative, nos. 44498, 5-11 and 44499, 5-12, reproduced in Plate x, from the same station looking east), made up of slabs averaging 2 inches in maximum thickness with thin sharp edges about 2 feet by 18 inches and smaller. There were two such cover stones, some at the sides and ends. Sometimes two or three such slabs were found parallel or overlapping. There were no slabs or floor below the skeleton. This grave resembled very much the stone graves of Ohio and Kentucky except that the slabs were not of limestone and there was a pile of rocks over the stone cyst. Numbers 99-4321, and 202-8191 to 202-8195 were found in this grave.

- 99-4321. In the cyst about on a level with the lower edges of the enclosing slabs was the skeleton of a child about six years old with head west, face north, and the knees flexed on the left side. The skull was slightly deformed by occipital pressure (Plate x).
- 202-8191. Horizontally under the vertebrae was found an engraved slab of antler in the form of a costumed human figure with the engraved surface up (Fig. 121).
- 202-8192. Dentalium shells were found under the body, from the neck to the pelvis.
- 202-8193. Ten engraved dentalium shells (Fig. 117).
- 202-8194. A bit of bone.
- 202-8195. Charcoal found in this grave.

The grave (No. 25) and its contents seem to antedate the advent of the white race in this region or at least show no European influence.

99-4322

to

99-4323 See graves nos. 22 to 24.

Grave No. 26. Rock-marked grave in a dome left by the wind near the pasture gate on Mr. A. D. Eglin's place and about half a mile north of his house near Tampico. A heap of somewhat angular wind abraded rock some being smooth, (none being river pebbles or rock-slide material) marked the grave and extended below the surface about two feet. Then about 1 foot of earth intervened between them and thin rocks found around the bones of a very young child. The skull was in the northwest end of the grave and was disarticulated. The depth was 4 feet, the length of the excavation 4 feet, and the width 3 feet. The skeleton was found with the head northwest and the pelvis southeast. A grave with outward appearance resembling this except that it had river pebbles among the stones of the pile is shown in Fig. 2, Plate ix, (Negative no. 44497, 5-10 taken from the north of east).

Grave No. 27. Rock-marked grave in a dome of volcanic ash left by the wind located about half a mile north of Mr. A. D. Eglin's house near Tampico. This grave was like a rude cairn being rudely walled and found filled with earth and stones as well as covered by rocks of which eight or nine weighing about 15 or 20 pounds, showed above the surface of the ground. Its depth was 4 feet, length 5 feet, and its

width, 3 feet 6 inches, extending west southwest and east northeast.

A little charcoal was found in this grave also.

99-4324. Adult skeleton found flexed on left side, facing northeast.

Grave No. 28. Rock-slide grave located in a small irregular rock-slide on the north side of Cowiche Creek about 3 miles west of its mouth and about 40 feet above the road. The rocks were piled up in a crescent-shaped ridge on the lower side of the grave. Four sticks about four feet long were found planted upright among the stones. The grave extended east and west. Parts of a human skeleton were found. It was in a flexed position, head west, skull and the bones of the upper part of the body broken and decomposed. The bones of the lower part of the body were well preserved. The skeleton had been wrapped in matting or bark, several pieces of matting being found in the grave as well as parts of a basket. Numbers 202-8196a and 202-8196b were found in this grave.

202-8196a. Chipped point of mottled quartz found near the skull (Plate II, Fig. 3).

202-8196b. Chipped point of white quartz found near the skull (Plate II, Fig. 4).

202-8197. Pestle or roller made of stone from the surface about a mile east of Fort Simcoe. This is of cylindrical shape tapering to both ends but to one more than to the other. Both ends are fractured (Fig. 37).

Grave No. 29. Rock-marked grave located on a plateau above Wenas Creek near its mouth and about seven miles north of North Yakima. The rocks marking the grave covered a space 6 feet by 4 feet and extended down to the skeleton which was very much broken but not decomposed. No objects other than some charcoal were found in this grave. All the other graves in the vicinity of the mouth of Wenas Creek seem to have been rifled.

202-8198. Broken ulna of a deer found at the mouth of Wenas Creek about 7 miles north of North Yakima.

Numbers 202-8199 to 202-8204 were found on the surface at the mouth of Wenas Creek.

202-8199. Small chipped point made of red jasper.

202-8200a-c. Three chipped points made of white chert.

202-8201. Broken and burned chipped point made of white chert.

202-8202. Broken triangular chipped point made of white chert.

202-8203. Chipped point made of reddish white chert (Plate II, Fig. 13).

202-8204 a, b. Two chipped pieces of white chalcedony.

Numbers 202-8205a-e to 202-8206f were found in the valley of Wenas Creek, on the surface near where the trail from North Yakima to Ellensburg crosses the creek, about 7 miles north of North Yakima.

202-8205a-e. Five pieces of agate of reddish or amber color.

202-8205f. Agate of whitish color

202-8206a. A chip of stone.

202-8206b-e. Four pieces of stone.

202-8206f. Chip of stone.

Numbers 202-8207 to 202-8209 were found on the surface at the mouth of Wenas Creek.

- 202-8207. Pestle made of stone.
202-8208. Pestle made of stone.
202-8209. Broken pebble, battered on the side.
202-8210. Fragment of a pestle made of stone of nearly square cross section.
Found on the surface three miles north of Clemen's ranch, on Wenas Creek where the trail from North Yakima to Ellensburg crosses.
202-8211. Pestle found about 28 miles north of North Yakima, on the trail to Ellensburg. It was in a dry creek in "Kittitass" Canon. This canon is probably the Manastash not the "Kittitass," as we were told.

ELLENSBURG.

- 202-8212. Base of a triangular chipped point made of jasper found on the surface near the town reservoir on the ridge east of Ellensburg.

Numbers 202-8213 to 202-8222 were found on the surface of the bottom land west of Cherry Creek, near Ellensburg. The place was a village site and is on the farm of Mr. Bull near where an east and west road crosses the creek, and opposite where the creek touches on the east, the west base of the upland. At this point the creek comes up to the upland from the lowland to the north (p. 12).

- 202-8213. Chipped boulder.
202-8214. Notched boulder, or net sinker.
202-8215. Battered pebble.
202-8216. Four burned stones.
202-8217. Gritstone, probably a whetstone.
202-8218. Pebble.
202-8219. Unio shells.
202-8220. Six chips.
202-8221. Scraper chipped from chalcedony (Fig. 52).
202-8222. Chipped point of heart shape made of clove brown jasper. (Plate II, Fig. 12).

- Grave No. 30. Stone circle located on the crest of a western extension of the Saddle Mountains on Mr. Bull's farm, east of Cherry Creek and about seven miles south of Ellensburg. The place is east of the village site above-mentioned which is on the bottom land along the west side of the creek at this point. A circular ring of stones, 10 feet in diameter marked the grave. Smaller stones and earth in the middle extended 3 feet 6 inches down to the skeleton. No objects were found except a plentiful supply of charcoal.

- 99-4325. The bones of an adult human skeleton which appeared as if it had been flexed were found very much out of anatomical order. It lay north-east and southwest in the southeast part of the grave. There was a large hole in the right frontal of the skull which lay facing the north-west. The lower jaw was found on top of the skull with its angle east. Fragments of the tibiae were blackened by fire.

- Grave No. 31. Rock-slide grave located in the rock-slide on the west side of the bluff, a western extension of the Saddle Mountains, east of Cherry Creek

and about half a mile southwest of Mr. Bull's house. One small piece of decayed wood was found projecting above the rock-slide, and it was the only indication of the grave, there being no cavity over it. Among the rocks, four more posts were found, one at each corner of the grave. These had evidently rotted off even with the surface, having formerly, no doubt, extended above it. The depth of the grave was from 2 to 3 feet, according to the slope of the hill. Numbers 99-4326 and 202-8223 to 202-8228 were found in this grave.

- 99-4326. Skeleton of a child with ankylosed neck vertebrae. Some of the bones were bleached. The bones were very much displaced, the skull being found in the middle of the grave and some of the vertebrae being found near the surface, but most of the bones were around the skull. The body dressed and wrapped in matting had been placed between four large boulders.
- 202-8223. Fragments of leather or skin clothing.
- 202-8224. Dentalium shells.
- 202-8225. Glass beads.
- 202-8226. Three bracelets made of iron (Fig. 96).
- 202-8227. A bone disk with central perforation (Fig. 80).
- 202-8228. A bit of a fresh water shell.

Grave No. 32. Rock-slide grave located about 30 feet south southwest of grave No. 31 and in the same rock-slide. It had the same characteristics but had evidently been disturbed, the skull being missing. No artifacts were found in the grave.

- 99-4327. Adult skeleton without skull and some bones of a little child. The bones of an adult were found in a heap except the vertebrae which lay extended full length; cervical vertebrae to the north. The bones of one ankle, a tibia, and fibula were diseased. The cervical vertebrae are ankylosed; and one of the ribs is abnormal. The bones of the knees are partly bleached. The bones of the child being found between the ribs and the pelvis suggest that it was foetal.

Grave No. 33. Rock-slide grave located 40 feet south southwest from grave No. 31 in the same rock-slide with it. There was nothing on the surface to indicate this grave, but below the surface of the slide on the upper side of the grave, were three rows of sticks, about 3 feet long, standing vertically and close to each other. These seemed to be so placed that they would prevent the slide from further movement towards the grave. The grave cavity was 5 feet south southeast by 4 feet east northeast and 4 feet deep on one side, 3 feet on the other, or averaging about $3\frac{1}{2}$ feet deep, and extending into the soil below the slide. Numbers 99-4328 and 202-8229 to 202-8230 were found in this grave.

- 99-4328. In the bottom of the grave the skeleton of a youth was found. It was in good condition, lying on its back, facing west, but having rolled westward. The legs were flexed so that the femora lay at right angles or to the southeast of the pelvis, and the tibiae and fibulae lay parallel to them. The arms lay extended at the sides of the body with the hands on the pelvis. Three of the arm bones and one

- pelvis bone are stained by copper. The tibia of a child was found with these.
- 202-8229. Mat of twined rushes found under the pelvis. The rushes were stitched together in pairs with cord and each pair was twisted once between each stitch (Fig. 71).
- 202-8230. Open twine matting of rushes held together with cords woven around them, skin with hair on it, and in this were copper beads strung with beads made of dentalium shells on a leather thong (Fig. 72).
- Grave No. 34. Rock-slide grave found 5 feet south southwest of grave No. 32. There were no surface indications of the grave. Posts of decayed wood were found extending from the surface down to about 6 inches from the bottom. The tops appeared to have been cut off and probably never extended above the surface. Numbers 99-4329 and 202-8231 to 202-8246 were found in this grave.
- 99-4329. The skeleton of a young child with a persistent frontal suture was found at a depth of from 3 to 4 feet with the head east, trunk on back, femora at right angles to tibiae, and fibulae parallel to them. flexed to left or south.
- 202-8231. Skin with the hair on found on body.
- 202-8232. Matting.
- 202-8233. Several rows of beads, some of copper, others of glass and still others of sections of dentalium shells were found at the neck, arms and legs. These are strung on pieces of thong, some of which are wound at the ends. Some of them are on coarse twisted, and others on fine twisted plant fibre (Fig. 74).
- 202-8234a, b. Two pendants made of *haliotis* shell were found, one near the head and one at the pelvis (Fig. 91).
- 202-8235a, b. Two copper pendants were found at the legs, *b* has a thong in the perforation.
- 202-8236a-d. Four bracelets made of copper found on the arms (Fig. 95).
- 202-8237. Teeth of a rodent found in the grave.
- 202-8238. A square pendant made of copper with a thong and bead made of copper (Fig. 78).
- 202-8239. A pendant made of copper (Fig. 83).
- 202-8240. A bit of wood bounding a knot hole.
- 202-8241. Two dentalium shells.
- 202-8242. A piece of iron.
- 202-8243. Woodpecker feathers, some bound at the tips with fabric, one with feather, and fur or moss.
- 202-8244. A copper ornament found among the rocks over this grave about 1 foot deep.
- 202-8245. A pendant made of brass with thong and bead made of copper found among the rocks over this grave about 1 foot deep (Fig. 84).
- 202-8246. A pendant made of copper with thong found about 1 foot deep among the rocks over this grave (Fig. 82).
- Grave No. 35. Rock-slide grave located in the same slide with Nos. 31, 32, 33 and 34, 8 feet to the south southwest of No. 34. The grave was 3 feet in diameter by 4 feet deep. Four posts of poplar were found at the

- corners of this grave but these did not show above the surface being decayed down to within 6 or 8 inches of the ground under the rock-slide. Sticks had also been used to mark this grave on the surface. Numbers 99-4330 and 202-8247 to 202-8249 were found in this grave.
- 99-4330. The skeleton of a youth was found resting on its back with the head to the east, arms at the sides, legs flexed at right angles, i. e., to the north. Two buttons, one of bone and one of pearl, or shell, and a bridle bit were found in the grave, but were discarded.
- 202-8247. A bit of shell.
- 202-8248. Thirteen cones made of iron (Fig. 86).
- 202-8249. Two pendants made of iron (Fig. 85).
- Grave No. 36. A rock-enclosure burial located on the hill south of Mr. Bull's house near the gap south of Ellensburg and about 300 feet north of grave No. 30. This burial was the southwestern of a group of eight, all very close together and of which the southern circular enclosure of five had been rifled although the three oblong enclosures were intact. There were traces of human bones in all of the eight enclosures. The enclosure to the north contained a skeleton that had been burned. No. 36 differed from No. 30 in that the stones did not extend below the surface.
- 99-4331. At a depth of 3 feet, in the grave pit 5 feet by 3 feet was the skeleton of an adult lying with the head north, face east, on the left side, arms extended to pelvis, legs flexed to left, i. e., to east. No specimens were found in this enclosure.
- Grave No. 37. A rock-slide grave was located about 10 feet west of grave No. 35 and was similar to it in general character. Numbers 99-4332 and 202-8250 to 202-8258 were found in this grave.
- 99-4332. The very much decomposed skeleton of a child was found here. The broken skull was preserved.
- 202-8250a, b. Two fragments of antler, perhaps part of an implement found about 1 inch above the pelvis.
- 202-8251. A triangular copper object with two perforations found inside the skull.
- 202-8252. A pendant or nose ornament made of haliotis shell and stained pink in places found on the lower jaw (Fig. 92).
- 202-8253. Dentalium shells.
- 202-8254. A long shell pendant with two perforations.
- 202-8255. A pendant made of haliotis shell bearing a pink stain with a perforation and part of a second perforation (Fig. 90).
- 202-8256. A long shell pendant with one perforation.
- 202-8257a, b. Two triangular objects made of shell.
- 202-8258. Pieces of shell found near the lower jaw.

PRIEST RAPIDS.

- 202-8259. One pebble showing use at the end as a pestle. Found on the surface of the divide 25 miles east of Ellensburg, and about 15 miles west of Mr. Craig's house near the head of Priest Rapids.

202-8260a, b. Pieces of a pestle made of part of a column of basalt, with the corners rounded by pecking. Found on the surface at the head of Priest Rapids on the west side of the river.

202-8261. A pestle made by rounding the edges of a piece of a basaltic column. Found on the surface of the west bank of the Columbia River 8 miles above Mr. Craig's house, which is at the head of Priest Rapids.

Numbers 202-8262 to 202-8266 were found on the surface near the head of Priest Rapids.

202-8262. A pestle or part of a pestle.

202-8263. A river pebble partly pecked into the form of a pestle (Fig. 22).

202-8264. The end of a pestle having a large striking head.

202-8265. Part of a stone pestle.

202-8266. Pestle formed by rounding the corners of a small basaltic column.

202-8267. Numbers 202-8267 to 202-8290 are pestles made of stone found on the surface near the head of Priest Rapids (Fig. 21, 202-8281).

to
202-8290.

Numbers 202-8291 to 202-8295 were found on the surface near the head of Priest Rapids.

202-8291. Part of a pestle made of stone.

202-8292a. A pebble battered on each end (Fig. 41).

202-8292b. Pebble, one side of which has been used as a mortar.

202-8293. Part of a mortar made of stone.

202-8294. Part of a mortar.

202-8295. Disk-shaped boulder, one side of which is notched opposite a natural notch. Possibly this has been a net sinker similar to the following.

Numbers 202-8296 to 202-8334 were found on the surface of the bank of the Columbia River near the head of Priest Rapids.

202-8296. River pebble. Such pebbles were made into sinkers for fish nets. See 202-8310 and adjacent catalogue numbers (Fig. 13a).

202-8297. Scraper or knife made of a river pebble one side of which is chipped (Fig. 55).

202-8298. River pebble of disk shape, partly chipped.

202-8299. River pebble of disk shape, partly chipped on two edges.

202-8300. River pebble of disk shape, partly chipped on one edge.

202-8301. River pebble of disk shape, partly chipped on two edges.

202-8302. River pebble of disk shape, partly chipped on four edges (Fig. 53).

202-8303. River pebble, partly chipped.

202-8304. River pebble of disk shape, chipped around the edge from one side only.

202-8305. Disk-shaped river pebble, chipped around the edge from both sides.

202-8306. Disk-shaped river pebble, chipped in two places, opposite each other from both sides, and at a place equi-distant from these two from only one side.

202-8307. Scraper or knife chipped from a pebble (Fig. 54).

202-8308. Chipped pebble.

202-8309 to 202-8322 are oblong flat river pebbles with a notch chipped in the edge at each end from both sides. They are probably sinkers for fish nets. (202-8313, see Fig. 13c; 202-8318, see Fig. 13b).

to
202-8322.

- 202-8367. Chipped arrow point.
202-8368. Chipped arrow point made of opaline whitish chalcedony (Plate II, Fig. 9).
202-8369. Chipped arrow point made of chalcedony (Fig. 1).
202-8370. Point for a drill chipped from chert (Fig. 48).
202-8371. Scraper chipped from petrified wood (Fig. 49).
202-8372. Scraper chipped from agate (Fig. 50).
202-8373. Scraper chipped from chalcedony (Fig. 51).
202-8374. Chipped piece of chalcedony.
202-8375. Chipped piece of petrified wood.
202-8376. Flake of stone.
202-8377. Flake of stone.
202-8378a. Piece of antler showing knife marks.
202-8378b. Part of a wedge made of antler.
202-8379. A piece of antler that has been whittled.
202-8380a, b, c. Three pieces of antler.
202-8381. Bleached barb for a fish spear made of bone (Fig. 12).
202-8382. Six clam shells from the Columbia River.
202-8383. Seventeen clam shells from the old shell bed shown in Plate V, Fig. 1.
202-8384. Four shell disks found among the refuse of a rock-slide grave near the head of Priest Rapids (Fig. 76).
202-8385. One dentalium shell found among the refuse of a rock-slide grave near the head of Priest Rapids.
202-8386. Pendant made of haliotis shell, triangular in form, perforated at the most acute corner. This shell came from the Pacific Coast. Found in the grave of a child in a rock-slide near the head of Priest Rapids west of the Columbia River near the home of Mr. Craig (Fig. 89). Numbers 202-8387 to 202-8390 were also found here.
202-8387a, b, c, d. Vertebrae of a fish.
202-8388. Pendant made of a shell probably a young *Pectunculus gigantea*. The hinge side has been smoothed off (Fig. 88).
202-8389. Three dentalium shells.
202-8390. Twenty-eight shell disks or beads.
- Grave No. 38. A rock-slide grave located on the east side of the escarpment that runs south to the Columbia River about two miles southwest of Mr. Craig's house near the head of Priest Rapids. Stones were heaped up over this grave and sticks about 6 feet long were standing up and extended from the earth above the skeleton to 3 feet above the surface. Numbers 99-4333 and 202-8391 to 202-8392 were found in the grave.
- 99-4333. An adult skeleton was found at a depth of 3 feet from the top of the rock heap. The head was east. The skeleton was flexed and it was lying on the left side.
- 202-8391. Stitched rush matting, probably recent, found in contact with the skin on this skeleton (Fig. 70). Part was of the stitch shown in Fig. 71.
- 202-8392. A roll of birch bark.
- Grave No. 39. Grave of a child near grave No. 38. This child's grave was of the same kind as grave No. 38.
- 202-8393. Pendant or bead made of sea shell (Fig. 87)

Grave No. 40. A rock-slide grave found 8 miles above Mr. Craig's house in a small slide at the foot of the bluff. Upright cedar slabs about 8 feet long were found along about 6 feet of the lower part of the grave. The skeleton of an adult lay flexed along the slabs with the head to the north.

99-4334. The skull.

Several similar graves, most of which have been rifled, were seen at this place.

Grave No. 41. Grave found about 5 miles south of Mr. Craig's house on the western bank of the Columbia. It was in the sand, covered with flat river boulders. No artifacts were found in the grave.

99-4335. Adult skeleton, bleached. Much of the skeleton was found exposed and parts were missing. The head was north.

Grave No. 42. Boulder-covered grave in sand was located at the edge of the river 12 miles up the Columbia from Mr. Craig's house. Numbers 99-4336 and 202-8394 to 202-8395 were found in this grave.

99-4336. An adult skeleton was found in this grave with the head north, face down, and flexed.

202-8394 Fragment of a large mortar made of stone (Fig. 18).

202-8395a, b, c. Three pestles found among the covering boulders of this grave.

Numbers 202-8396 to 202-8398 were presented by Mrs. J. B. Davidson of Ellensburg. The specimens were collected at the head of Priest Rapids.

202-8396. Pipe made of limestone decorated with the circle and dot design similar to that used in the Thompson River region (Fig. 106 also negative 44505, 6-6).

202-8397. Double notched point chipped from black glassy basalt or trap (Plate II, Fig. 6).

202-8398. Point for a drill or perforator chipped from chalcedony (Fig. 47).

202-8399. River pebble partly pecked into the form of a pestle. Found on the surface 8 miles above the head of Priest Rapids (Fig. 23).

VARIOUS LOCALITIES.

Numbers 20.0-1463 to 20.0-1471 were collected and presented by Mr D. W. Owen of Kennewick.

20.0-1463. Bone object broken and partly missing from Blalock Island fifteen miles below Umatilla in the Columbia River.

20.0-1464. Wedge made of antler from the surface near the Columbia River near the mouth of the Snake River (Fig. 39).

20.0-1465. Bleached awl made of bone from an island in the Columbia River, forty miles above the mouth of the Snake River (Fig. 57).

20.0-1466. Bleached awl made of bone from the surface of an island in the Columbia River near the mouth of the Snake River (Fig. 56).

20.0-1467. Awl made of brownish bone nearly circular in section with five incised lines on two sides, four on one, and none on the other which is plain

because worn smooth probably by age or use. From a grave on Blalock Island, a long island in the Columbia River fifteen miles below Umatilla.

- 20.0-1468. Awl made of brownish bone. The shaft has nearly parallel sides and rounded corners but the base is nearly circular in section. Striations such as are made by a gritstone show on the surface. Found with another in a grave on an island in the Snake River five miles above its mouth (Fig. 10).
- 20.0-1469. Sculptured arm with hand made of black slate having four nearly parallel sides and rounded corners. From Umatilla, Oregon.
- 20.0-1470. Pipe made of sandstone bearing design. From the Snake River Indians (Figs. 107 and 115).
- 20.0-1471. Sculptured handle broken from a club made of serpentine. The broken surface is smooth. There are notches $\frac{1}{4}$ inch long on the edge. From Blalock Island opposite Umatilla in the Columbia Valley (Fig. 167h, Smith, (b).).
- 20.0-3343. Fluted stone, possibly an unfinished pestle. From near Lewiston, Idaho. Presented by Mr. Henry Fair, Spokane, Idaho.

Numbers 20.0-3344 to 20.0-3346 are from an old village site near Fort Simcoe. Collected by Dr. H. J. Spinden.

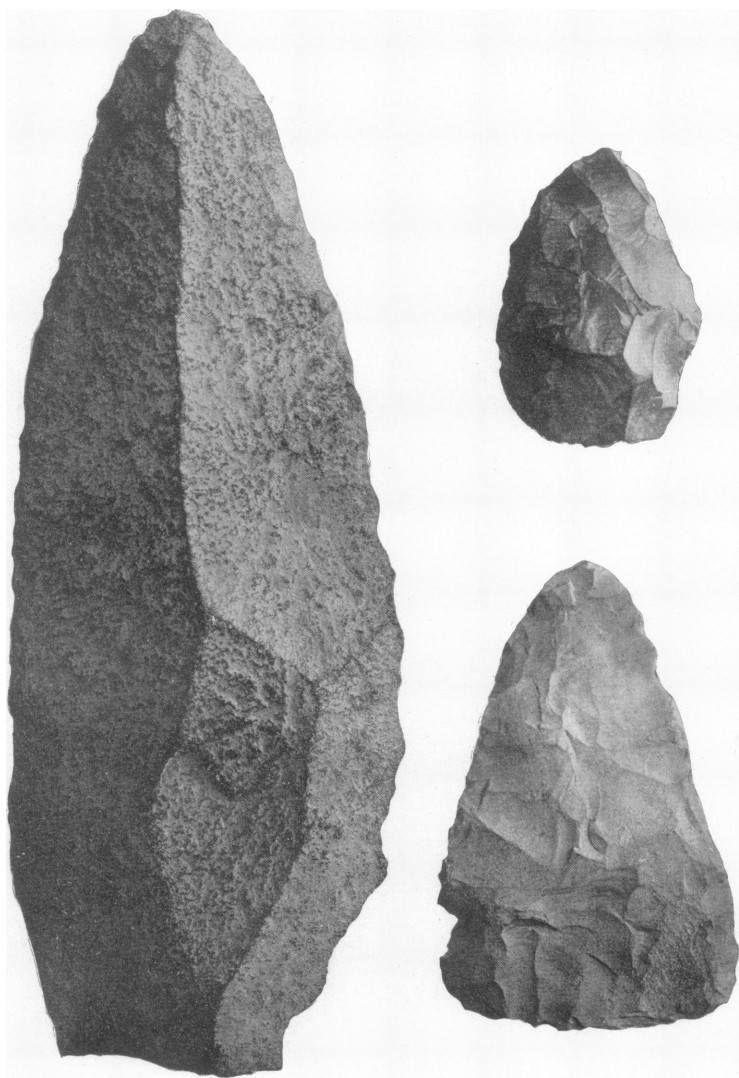
20.0-3344. Mortar.

20.0-3345. Pestle.

20.0-3346. Pestle.

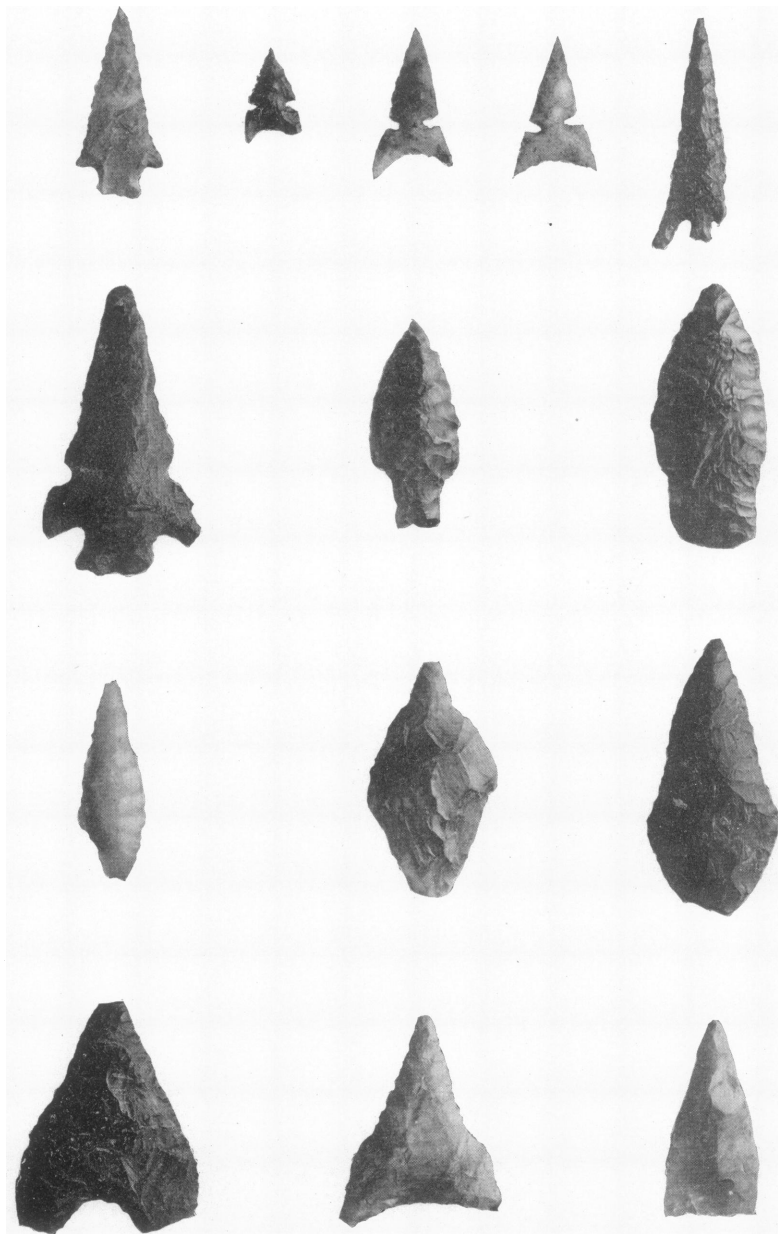
T-21184 (H-180). Fragment of a leaf-shaped point made of chert. From Wallula near the Columbia River, Oregon. Collected by Judge James Kennedy in 1882 (Fig. 6).

T-22107 (H-177). Fragments of a figure made of antler. From Umatilla, Oregon. Collected by Mrs. James Terry (Fig. 123).



CHIPPED POINTS.

(Page 24)



CHIPPED POINTS.
(Page 25)



QUARRY NEAR NACHES RIVER.

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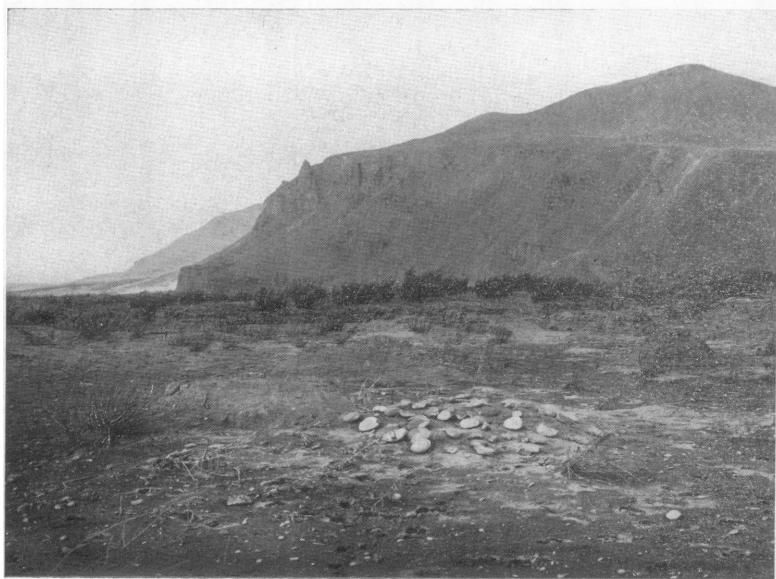


HOUSE SITE NEAR NACHES RIVER.

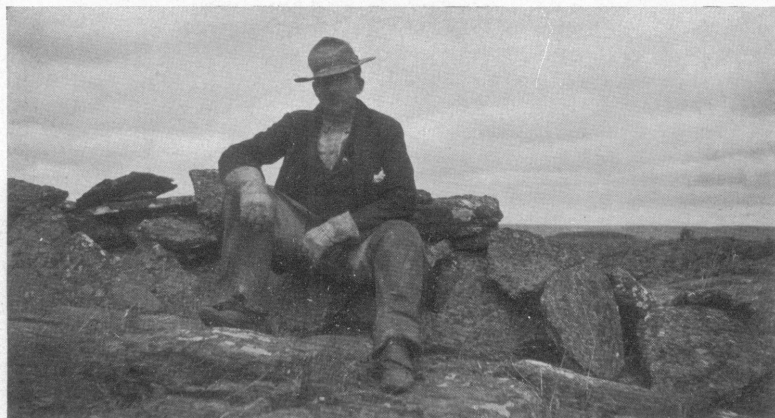
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HOUSE SITES NEAR NACHES RIVER.



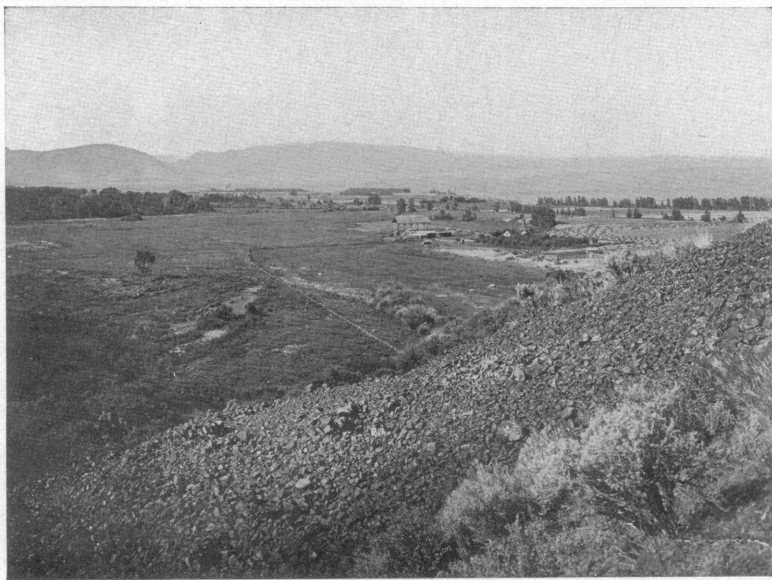
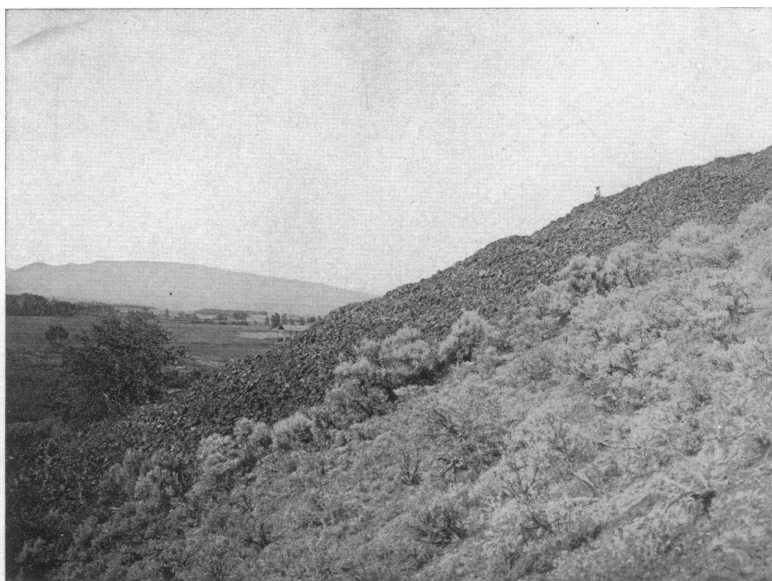
CAMP SITES NEAR SENTINAL BLUFFS.



FORT NEAR ROCK CREEK.



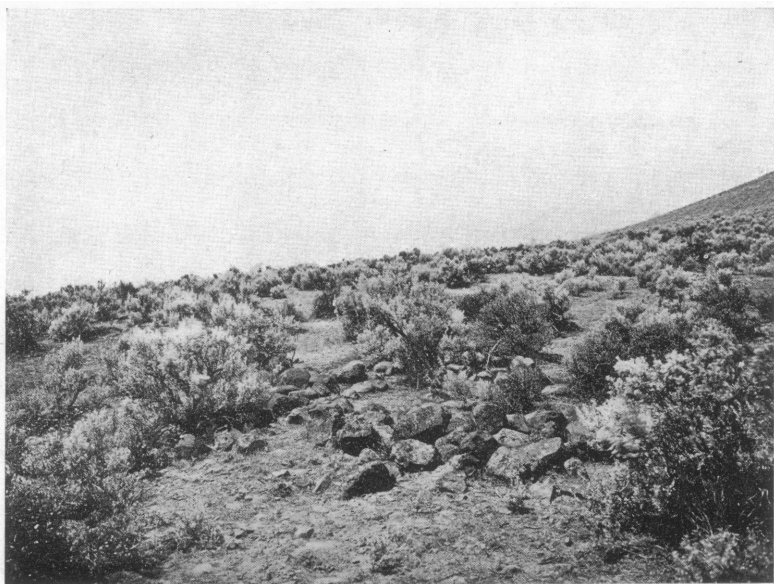
ROCK-SLIDE GRAVE ON YAKIMA RIDGE.



TERRACED ROCK-SLIDE ON YAKIMA RIDGE.

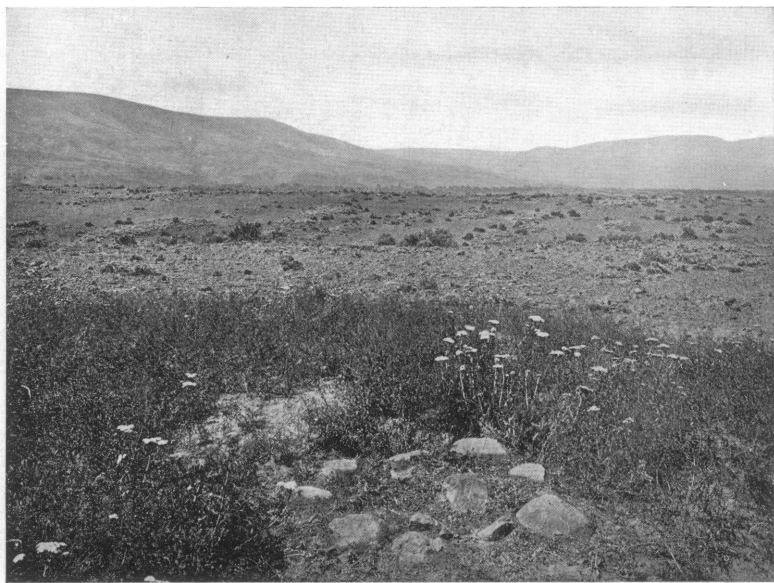


ROCK-SLIDE GRAVES ON YAKIMA RIDGE.



CREMATION CIRCLE NEAR MOUTH OF NACHES RIVER.

(Page 142)



GRAVE IN DOME OF VOLCANIC ASH NEAR TAMPICO.

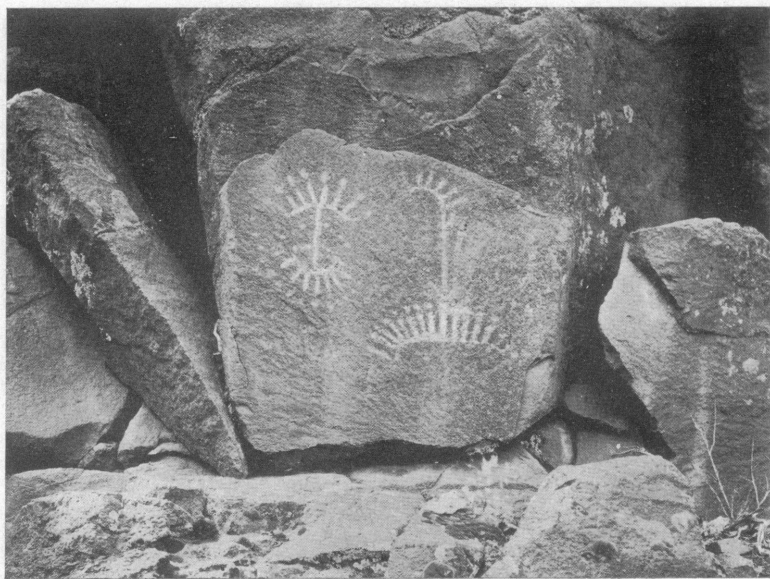
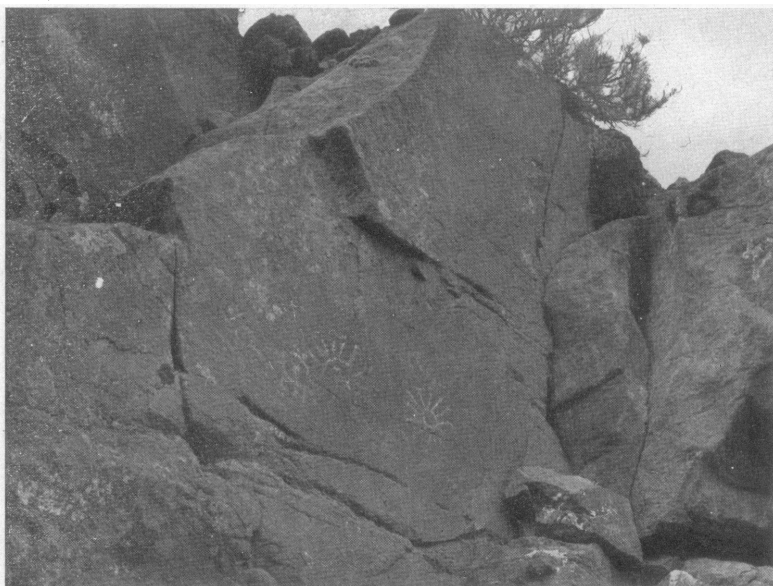
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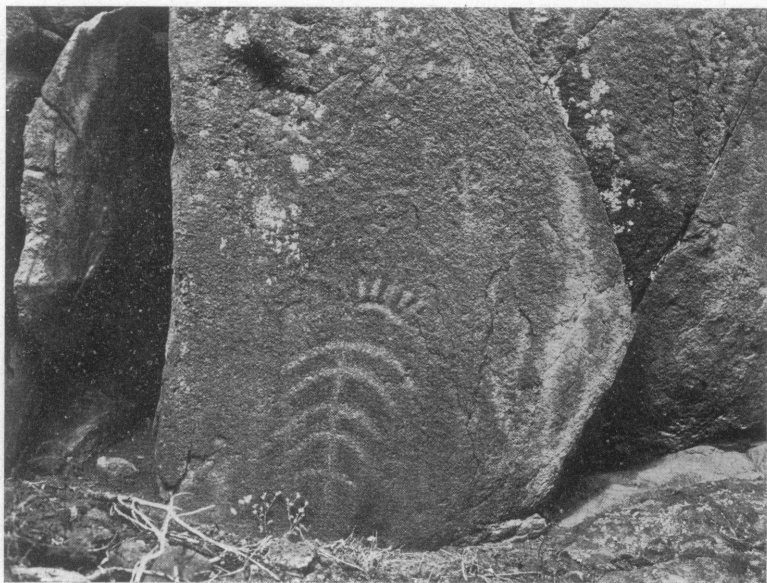
OPENED GRAVE IN DOME OF VOLCANIC ASH NEAR TAMPICO.



PETROGLYPHS NEAR SENTINAL BLUFFS.

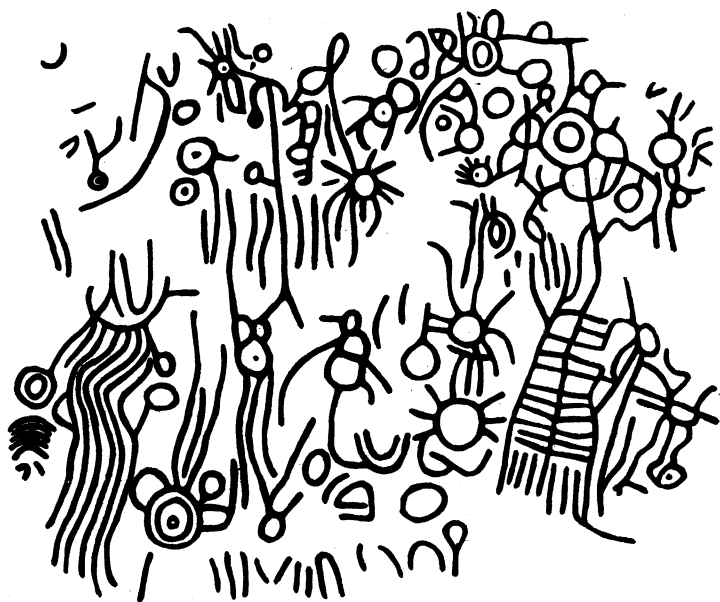


PETROGLYPHS IN SELAH CAÑON.



PETROGLYPH IN SELAH CAÑON.

(Page 123)



PETROGLYPH NEAR WALLULA JUNCTION.

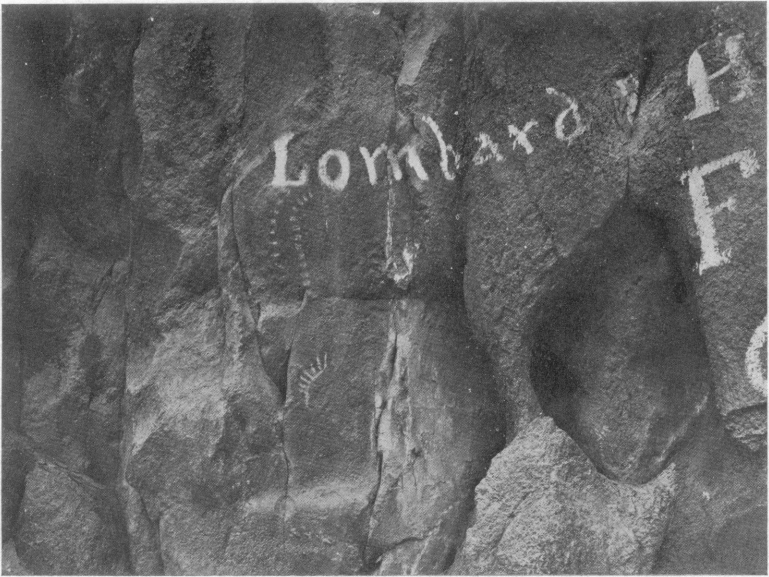
(Page 123)



PICTOGRAPHS AT MOUTH OF COWICHE CREEK.



PICTOGRAPHS AT MOUTH OF COWICHE CREEK.



PICTOGRAPHS AT MOUTH OF COWICHE CREEK.

