

# ETHNOGRAPHY OF THE OWENS VALLEY PAIUTE

BY

JULIAN H. STEWARD

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## ABBREVIATIONS USED

<b>A</b>	<b>Anthropos.</b>
<b>l'A</b>	<b>L'Anthropologie.</b>
<b>AA</b>	<b>American Anthropologist.</b>
<b>AAA-M</b>	<b>American Anthropological Association, Memoirs.</b>
<b>ArA</b>	<b>Archiv für Anthropologie.</b>
<b>AES-P</b>	<b>American Ethnological Society, Publications.</b>
<b>AGW-M</b>	<b>Anthropologische Gesellschaft in Wien, Mitteilungen.</b>
<b>AJPA</b>	<b>American Journal of Physical Anthropology.</b>
<b>AMNH.</b>	<b>American Museum of Natural History—</b>
<b>-AP</b>	<b>Anthropological Papers.</b>
<b>-B</b>	<b>Bulletin.</b>
<b>-M</b>	<b>Memoirs.</b>
<b>-MA</b>	<b>Memoirs, Anthropological Series.</b>
<b>-MJ</b>	<b>Memoirs, Jesup Expedition.</b>
<b>BAE</b>	<b>Bureau of American Ethnology—</b>
<b>-B</b>	<b>Bulletins.</b>
<b>-R</b>	<b>(Annual) Reports.</b>
<b>CNAE</b>	<b>Contributions to North American Ethnology.</b>
<b>CU-CA</b>	<b>Columbia University, Contributions to Anthropology.</b>
<b>FL</b>	<b>Folk-Lore.</b>
<b>FMNH</b>	<b>Field Museum of Natural History—</b>
<b>-M</b>	<b>Memoirs.</b>
<b>-PAS</b>	<b>Publications, Anthropological Series.</b>
<b>IAE</b>	<b>Internationales Archiv für Ethnographie.</b>
<b>ICA</b>	<b>International Congress of Americanists (Comptes Rendus, Proceedings).</b>
<b>IJAL</b>	<b>International Journal of American Linguistics.</b>
<b>JAFL</b>	<b>Journal of American Folk-Lore.</b>
<b>JRAI</b>	<b>Journal of the Royal Anthropological Institute.</b>
<b>MAIHF</b>	<b>Museum of the American Indian, Heye Foundation—</b>
<b>-O</b>	<b>Contributions.</b>
<b>-IN</b>	<b>Indian Notes.</b>
<b>-INM</b>	<b>Indian Notes and Monographs.</b>
<b>PM</b>	<b>Peabody Museum (of Harvard University)—</b>
<b>-M</b>	<b>Memoirs.</b>
<b>-P</b>	<b>Papers.</b>
<b>-R</b>	<b>Reports.</b>
<b>PMM-B</b>	<b>Public Museum (of the City) of Milwaukee, Bulletin.</b>
<b>SAP-J</b>	<b>Société des Américanistes de Paris, Journal.</b>
<b>SI</b>	<b>Smithsonian Institution—</b>
<b>-AR</b>	<b>Annual Reports.</b>
<b>-CK</b>	<b>Contributions to Knowledge.</b>
<b>-MC</b>	<b>Miscellaneous Collections.</b>
<b>UC-PAAE</b>	<b>University of California, Publications in American Archaeology and Ethnology.</b>
<b>UPM-AP</b>	<b>University of Pennsylvania (University) Museum, Anthropological Publications.</b>
<b>USNM</b>	<b>United States National Museum—</b>
<b>-R</b>	<b>Reports.</b>
<b>-P</b>	<b>Proceedings.</b>
<b>UW-PA</b>	<b>University of Washington, Publications in Anthropology.</b>
<b>ZE</b>	<b>Zeitschrift für Ethnologie.</b>

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## CONTENTS

	PAGE
Preface . . . . .	233
Tribal distributions . . . . .	235
Population status, and psychology . . . . .	237
Seasonal occupations . . . . .	238
Seed gathering and preparation . . . . .	239
Pinenuts . . . . .	241
Other food plants . . . . .	242
Acorns . . . . .	246
Irrigation . . . . .	247
Salt . . . . .	250
Fishing . . . . .	250
Hunting . . . . .	252
Domesticated animals . . . . .	257
Trade and transportation . . . . .	257
Weapons . . . . .	259
Houses . . . . .	263
Pottery . . . . .	266
Weaving . . . . .	269
Blankets, cords, mats . . . . .	269
Basketry . . . . .	270
Clothing . . . . .	274
Miscellaneous arts and industries . . . . .	276
Fire making . . . . .	276
Paint . . . . .	276
Implements . . . . .	277
Glue . . . . .	277
Musical instruments . . . . .	277
Songs . . . . .	278
Games . . . . .	285
Astronomy and chronological divisions . . . . .	288
Birth and childhood . . . . .	289
Names . . . . .	292
Puberty . . . . .	293
Marriage . . . . .	294
Death . . . . .	296
Kinship terms . . . . .	299
Kinship usages . . . . .	302
Political organization . . . . .	304
Property . . . . .	305
Warfare . . . . .	306
Religion . . . . .	306
“Powers” . . . . .	308
Shamans . . . . .	311
Shamanistic performances . . . . .	313
Other curing . . . . .	316
Medicinal plants . . . . .	317
Jimsonweed . . . . .	318
Tobacco . . . . .	319
Dances . . . . .	320

	PAGE
Mythology . . . . .	323
Appendix 1. Place names and key to maps . . . . .	325
Appendix 2. Passes and trails . . . . .	329
Appendix 3. Vocabulary . . . . .	331
Appendix 4. Further botanical lore . . . . .	333
Appendix 5. Archaeology . . . . .	334
Appendix 6. Genealogies . . . . .	336

#### FIGURES IN TEXT

Figure 1. Potsherds and mortar . . . . .	240
Figure 2. Small-game trap . . . . .	254
Figure 3. Arrowpoints, arrowshafts, knives . . . . .	261
Figure 4. Sweat-house . . . . .	265
Figure 5. Clay pipe . . . . .	268
Figure 6. Bow loom . . . . .	272
Figure 7. Steatite pendants . . . . .	275
Figure 8. Facial designs . . . . .	275
Figure 9. Flute used in doctoring . . . . .	277
Figure 10. Jack Stewart's map of Big Pine . . . . .	326
Figure 11. Sage matting . . . . .	334

#### PLATES

1. Paiute Indians . . . . .	341
2. Habitat views and house ring . . . . .	342
3. Firedrill, bow, tule house . . . . .	343
4. Pipes, tinder, arrow-straighteners, mullers . . . . .	344
5. Pottery objects, arrowpoint being shaped, Mexican metate . . . . .	345
6. Sweat-house, basket-making, cave objects, hand game play . . . . .	346
7. Dance outfit . . . . .	347
8. Dance scenes and women carrying . . . . .	348
9. Basketry . . . . .	349
10. Basketry . . . . .	350

#### MAPS

1. Paiute subdivisions and boundaries . . . . .	<i>facing</i> 325
2. Ethnogeographical map of Owens valley . . . . .	<i>facing</i> 327

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## PREFACE

The following account of the ethnography of the Owens Valley Paiute is based on two visits of about six weeks each to Owens valley and Mono lake during the summers of 1927 and 1928 and a short visit in December, 1931. The first two trips were made under the auspices of the Department of Anthropology, University of California.

I wish to express gratitude to Mr. W. A. Chalfant for access to the manuscript of a new edition of his *The Story of Inyo*, which contains much excellent ethnographic material on the Paiute; to Messrs. Frank Parcher and Charles Forbes for much information and for permission to examine the material in the Eastern California Museum at Independence; to the Harry Mendenhall studio at Big Pine and the former Dietrich studio at Bishop for many of the photographs herein reproduced; to Field Museum of Natural History, Chicago, for permission to study some of its ethnographic material; to Dr. H. L. Mason of the Botany Department, University of California, for identifying the plant materials collected; to Dr. Walter P. Cotton of the Botany Department of the University of Utah for identifying plant materials; to Dr. Ralph Chamberlin of the Department of Zoology, University of Utah, for identifying some of the fauna; to Mr. Eickbaum, Stovepipe Wells, Death valley, for permission to study his excellent Shoshoni collection; to the proprietors of Furnace Creek Inn for permission to examine their ethnographic material; to the Century Company, New York, for permission to quote from *The Yosemite* by John Muir; to Houghton Mifflin Company, Boston, for permission to quote *My First Summer in the Sierra* by John Muir; and to the Century Company, New York, for permission to quote *The Mountains of California* by John Muir.

Abbreviations used herein are as follows: M.L., Mono lake; O.V., Owens valley; R.V., Round valley; B.P., Big Pine; Bish., Bishop; L.P., Lone Pine; F.S., Fish Springs; B.R., Black Rock; D.S., Deep Springs.

Mono Lake informants were: B.T., Bridgeport Tom, plate 5*f*, a shaman, about 60 years old, well informed and communicative; H.T., Harry Tom, B.T.'s son;

J.McB., Joe McBride, about 45 years old; B.M., Big Mike, about 60 years old, the least useful of these informants.

Owens Valley informants were: A.G., Andrew Glenn (L.P.), about 45 years old, fairly reliable; B.M., Billy Murphy (R.V.), about 50 years old, a famous singer; E.L., Ed Lewis (F.S.), plate 1*d* (center), about 40 years old, not well informed but cooperative and intelligent; G.C., George Collins (F.S.), plate 1*b*, about 40 years old (died in 1930), well informed and cooperative; H.D., Harrison Diaz (Bish.), plate 1*a* (left), about 40 years old; J.S., Jack Stewart (B.P.), plates 3*a*, 8*e*, *f*, about 100 years old, now feeble, but formerly an excellent informant though requiring an interpreter; J.Sm., John Sumerville, about 45 years old, half-white, a willing informant though not well informed; M.W., Mose Weyland (Bish.), plate 1*a* (right), H.D.'s uncle, about 70 years old, an excellent informant but necessitating an interpreter; M.W., Mary Westerville (F.S.), about 80 (?) years old, said to know how to make pottery; T.S., Tom Stone (Bish.), plate 1*c*, about 40 years old, very communicative and with an extraordinary memory for old customs described by his grandfather; S.N., Sam Newland (Bish.), about 90 years old, a fair informant; M.H., Marry Harry, plate 5*g*, about 85 years old.

Shoshoni informants were: M.S., Maggie Shaw (Fish Lake valley), plate 6*b*, about 40 years old, little used but probably good; I.H., Indian Harry (D.S.), M.H.'s husband, plate 1*e*, died 1920, age about 90 years; F.B., Frank Bellas (L.P.), about 50 years old, well informed but restrained.

The following phonetic symbols are used in native terms:

a, long as in far

á, as in awe

c, always with the value of sh

d, made with the tip of the tongue farther back against the palate than in the

English *d*, giving it a resemblance to *r*

x, a voiceless fricative, resembling the German *ch* but farther forward

ǵ, the same voiced

i, has its Continental value

ö, ü, somewhat like the German in effect, but less clear

õ, ü, etc., nasalized

ŋ, ng as in sing

v, bilabial, often resembles *b* (which probably does not occur) when carelessly pronounced

Small, elevated letters, usually ending words, are whispered

<sup>3</sup> written elevated is a glottal stop or catch

Other letters are pronounced as in English.



## TRIBAL DISTRIBUTIONS

The Owens Valley Paiute are the southernmost of that widely distributed Shoshonean group, the Northern Paiute, which occupies most of northern Nevada.

They call themselves *nüm*<sup>1</sup>, the "people," and were called by the Shoshoni, *pana<sub>7</sub>witü*, "western place" people, which term they [Paiute] used for people west of the Sierra Nevada mountains. "Paiute," probably derived from *pa*, water, and *ute*, has little meaning to the Owens Valley Paiute, though it is a name used in the region today. E.L. derived it from Payote, a "South Fork" (Tübatülabal ?) Indian with a remarkable character and a charmed life. G.C. thought it meant "fish-eater" in some other language. G.C. gave this designation for the Owens Valley people: *nü<sub>7</sub>'wa paya hüp ca'a' otüü'm*<sup>2</sup>, we are water ditch coyote children.<sup>1</sup> Eastern Mono,<sup>2</sup> a name now generally employed for these people, has no justification. The Indians never heard it; anthropologists cannot explain its origin. Paiute, rightly implying a cultural and linguistic relationship with the Great Basin people rather than with the Western Mono, is preferable.

*Paiute boundaries.*—On the west, the boundary is the Sierra Nevada, the watershed between the Sacramento-San Joaquin rivers of California flowing west and those flowing east into Great Basin salt lakes. (See map 1.) Western neighbors are the Miwok, south to the Fresno river, and the Western Mono or Monachi south of them, called by the Paiute, *pana<sub>7</sub>witü*. Tübatülabal, south of the Monachi, probably abutted Paiute territory at Owens lake. Paiute intermarried and traded with all three, especially with the Western Mono, their cultural and linguistic kin.<sup>3</sup> The San Joaquin valley Yokuts were called *wa'avite*, "stranger."

On the north of Yerington, Nevada, were Washo, traditional enemies of the Paiute.

On the east and south were Shoshoni, called *tavainua*, "people who live beyond" (perhaps beyond the mountains), and differing in lan-

<sup>1</sup> Mythologically, the Paiute are Coyote's children. Owens valley is the "water ditch."

<sup>2</sup> A suggested origin is Mono, Spanish for monkey. A relatively unimportant Paiute food plant, *mono*, could hardly be the source. See Kroeber, *Handbook of California Indians*, BAE-B 78:584.

<sup>3</sup> Although the Paiute said they were at peace with these people, Muir mentions "Digger Indians" below Yosemite, probably Miwok, seeking protection from Paiute enemies who plundered their stores and stole their wives (My First Summer in the Sierra, 31).

guage, somewhat in mythology,<sup>4</sup> and slightly in culture from the Paiute. The Shoshoni-Paiute dividing line ran from the Pilot mountains, Nevada, south through Columbus salt marsh, through Fish Lake valley (occupied by both tribes), through Eureka valley (uninhabited and seldom visited by either), through the Inyo mountains, and around the south shore of Owens lake. Saline, Death, Panamint, and Koso valleys were occupied by Shoshoni groups differentiated by habitat. Although C.D., a Shoshoni, regarded the Panamint as distinct linguistically, A.G. and others said they did not differ from other Shoshoni. Paiute-Shoshoni relations were generally friendly, with occasional intermarriage. I.H., whose first wife was Shoshoni like himself, married M.H., a Deep Springs Valley Paiute.

*Paiute subdivisions.*—Though fairly homogeneous culturally, the Paiute were differentiated by habitat and dialect. Owens valley even had differences of dialect, though all were mutually intelligible.<sup>5</sup> Distinctive dialects occurred at: Owens lake and Lone Pine; Fish Springs; Independence; Big Pine; Deep Springs valley; Bishop, Laws, and Round valley. Benton, said by some to resemble Mono Lake, was difficult to Owens valley people. Mono lake speech, which Bridgeport resembled, was more difficult; Walker lake was scarcely intelligible.

Groups north of Benton were designated by a characteristic, though not always important, food or by a geographical term. The suffix *dika* means "eater"; *witü*, place. North of Walker lake were the *cuiyui dika*, from a fish. *Winnemuka*,<sup>6</sup> applied to people north of these, has doubtful significance. Walker Lake Paiute were *agai dika*, fish-eaters. East of them are the *pahu mu witü* (some derivative of *paya*'<sup>a</sup>, water). The Soda Springs Valley Paiute, easternmost in this latitude, are *ozav dika*, alkali eaters. Mono Lake Paiute called themselves *cutza dika*, and Bishop called them *cuzavi dika*.<sup>7</sup> G.C. at Fish Springs called their habitat *tuniga witü*, "around the foot of the mountain"-place.

South of Mono lake, Paiute are designated by terms descriptive of their habitats. Benton was *ütü'ütü witü*, hot place. The following were districts of Owens valley and neighboring valleys, each with communistic hunting and seed rights, political unity, and a number of villages: Round valley, *kwina patü*, "north place"; Bishop, *pitana patü*, "south place,"<sup>8</sup> extending from the volcanic tableland and Horton creek in the

<sup>4</sup> Leonard, 166-167, found Shoshoni ("Sho-sho-coe") at Humboldt lake.

<sup>5</sup> Compare the Mono Lake and Owens Valley vocabularies, pp. 331, 332.

<sup>6</sup> Supposed by early explorers to be the chief of all Paiute.

<sup>7</sup> *Cutza*, *cuzavi*, the larvae breeding in Mono lake. See p. 256.

<sup>8</sup> Chalfant says these reciprocal terms, *kwina patü* and *pitana patü*, were used between Mono lake and Owens valley also.

Sierra to a line running out into Owens valley from waucodayavi, the largest peak south of Rawson creek; ütü'ütü witü (also applied to Benton), "hot place," from the warm springs, now Keough's, south to Shannon creek; tovowahamatü, "natural mound place," centering at Big Pine, south to Big Pine creek in the mountains but with fishing and seed rights along Owens river nearly to Fish Springs; panatü, the Black Rock territory, south to Taboose creek; tunuhu witü, of uncertain limits. Other Paiute districts extended to the south shore of Owens lake, east and south of which were Shoshoni. Deep Springs valley was ozaηwitü, "salt place," from the saline lake. Saline valley, ka'o witü, "very deep valley" place, was Shoshoni with a few intermarried Paiute, but was accessible to Paiute for salt.

*Habitat.*—Owens valley falls within the geographical region of the Great basin, experiencing little rainfall, the few streams ending in salt lakes. Owens river ends in Owens lake. Hot summers and moderately cold winters are the rule. The aridity limits vegetation to hardy, drought-resisting plants, e.g., *Artemisia*, which is very common. Owens valley, however, had extensive marshes and grass lands watered by streams from the snow-capped Sierra Nevada mountains (pl. 2c). The arid Great Basin mountain ranges, always running north-south, supported junipers, piñons, and some pines above 6000 feet altitude (pl. 2d).

#### POPULATION STATUS, AND PSYCHOLOGY

Estimates have placed the Paiute population in and around Owens valley at near 1000. The following data were collected by Chalfant: In 1855 von Schmidt estimated the Owens Valley Paiute at 1000. In 1863, 906 Indians left Owens valley for Fort Tejon, and the commander thought twice as many remained. Indians had come from outside the valley for the war, however. Major H. C. Egbert, in 1870, estimated: Round valley, 150, Bishop creek, 150, Big Pine, 200, Independence, George's creek, and Lone Pine, 400 to 500, Cerro Gordo, 150, Koso and southeastern localities, 250, a total of 1350 approximately, or about 1000 for Owens valley proper. The United States census, somewhat unreliable in early years, gave: 1880, 637; 1890, 850; 1900, 940; 1910, 792; 1920, 632; 1930, 736. But a 1930 Indian Service survey recorded 970. Thus the population has been maintained at close to 1000 with relatively little decrease—about 2.5 persons per square mile.

The Owens Valley Paiute now live in "camps" at each of the towns. A living is made by ranch and highway labor, occasional hunting, pine-

nut excursions, and some seed gathering. Present native art products include: the summer willow house, baskets, some rabbitskin blankets, cradles, metates, and mullers. Doctoring by the shaman and use of herbs continues. The remainder of Paiute culture has practically disappeared.

The Paiute are more reticent and repressed than most Indians, especially before strangers. Once confidence is established, however, they are far more willing informants than the neighboring Shoshoni.<sup>9</sup>

Psychological abnormalities are rare. T.S. described a girl, about 16 years old, who was deaf and dumb but otherwise normal. She conversed by motions. Two brothers,<sup>10</sup> (254) Buster and (255) Brady Goodale, were both dumb and died by 20 years of age. Their sister, (253) Lula, was normal but died at 30. Another sister, (256) Florence, is normal and living. A boy, 3 or 4 years old, wore diapers and could not talk. His family was normal. An old woman talked and wandered in the fields all night, becoming normal in the morning and returning home. T.S. attributes this to old age. Indians have no special explanation for abnormalities. Insanity: a middle-aged man, weighing about 200 pounds, would not work, was shy, and hid from visitors. Once at his mother's home he chopped up the stove with an axe. He was finally put in an institution. His family seemed normal. One or two instances of temporary insanity, evidently stirred by sex jealousy and leading to murder, were reported.

Berdachism is called *tüdayap'*, "dress like other sex." One such man dressed like a woman, associated with females, and did woman's work, washing for the white people, and did not marry; but he had no other abnormality. A young boy dressed like a girl, went to a girls' dormitory in a Nevada school, was put into the boys' dormitory, then put out of school, married a boy who was granted a divorce when the judge learned the facts. He is probably in Nevada now. Berdaches were not shamans.

### SEASONAL OCCUPATIONS

*Summer.* People kept headquarters in valley villages, fishing, seed gathering in the valley or hills—sometimes traveling as far as Fish Lake valley from Big Pine, for certain seeds—or making trips north in small family groups for *piüga*.

*Fall.* When seeds were gathered, people of large districts assembled at certain villages for a week or so of dancing and gambling and communal rabbit drives. These were the only communal endeavors, except occasional hunting and fishing parties.

<sup>9</sup> Early explorers in the Great basin found the Shoshoni to be most hostile.

<sup>10</sup> See appendix 6, Genealogy.

*Winter.* Pinenut expeditions of small groups wintered in the mountains in the timber when crops were good. When pinenuts failed, they wintered at valley villages, eating stored seeds gathered in summer and fall.

*Spring.* People wintering in mountains moved to valleys, bringing remaining pinenuts.

Hunting occurred at all seasons, communal hunting chiefly in the fall. Seasonal movements were within an average radius from the valley village of 15 or 20 miles, within prescribed bounds, the territory being owned by the district.

*Daily activities.* People arose before daybreak. Hunters in bed after sunrise had bad luck. Two meals a day were eaten, one at early morning and one in the afternoon. Women gathered seeds and men hunted, when food could be had, to lay up supplies for future use. Leisure time was spent gambling. Winter evenings were devoted to relating myths. In valley villages, old and young men lived at sweat-houses, smoking, talking, and gambling.

#### SEED GATHERING AND PREPARATION

Women, working in groups, gathered seeds by beating them from plants with seed beaters, tanugu (Bish.), tsignu (M.L.), into conical carrying baskets, cudusi. Mixed seeds were later separated by sifting through a twined basket. Heads of some plants were picked, carried home, threshed and winnowed—e.g., sunflowers. Tubers and roots were dug with sharp pointed sticks, tavodo, of a hard species of mountain mahogany, *Cercocarpus*, called tunap, or robbed from rodent stores.

Seeds and roots, collected mostly in summer and fall, were stored in the ground in pits lined with grass and covered with grass and earth against future need. The California elevated cache was not used.<sup>11</sup>

For eating, seeds were ground on a metate, mat<sup>a</sup>, a slab of rock about 12 by 18 inches and 2 to 5 inches thick,<sup>12</sup> with a muller or mano, tusu, a flattish, hard rock roughly rectangular and worn on both sides. To remove husks they were then winnowed. Sometimes roasting in coals preceded this, the meal being ground into a flour and eaten dry. Meal was

<sup>11</sup> Simpson (482) found in Owens valley some water plants plaited together like onions for keeping.

<sup>12</sup> E.g., U. C. spec. 1-27046. See pl. 4h, i. A 3-legged lava metate, of Mexican origin, was collected from M.H. (see pl. 5g). Two similar ones were observed in Death valley at Stovepipe Wells.

also boiled in pots in Owens valley to make mush, meat frequently being added. It was stirred with the looped stick. At Mono lake mush was made in baskets with hot rocks. Generally several species were mixed, pine-nuts being the base.

In Death valley, the mortar and pestle replaced the metate. Mr. Eickbaum at Stovepipe Wells has a large collection of mortars, some being tree sections up to nearly 2 feet tall and 12 inches in diameter, others

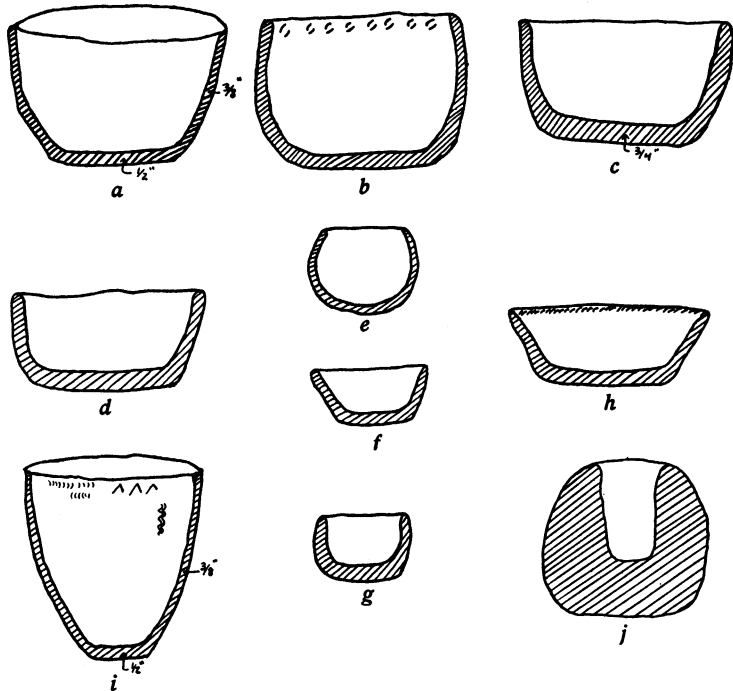


Fig. 1. *a-i*, potsherds; *j*, cross-section of mortar.

spherical boulders about 10 inches in diameter with holes about 4 inches in diameter and 6 inches deep. Figure 1*j* gives a typical cross-section. Pestles, worked and unworked, were of stone, about 12 inches long, 3 inches in diameter. One was said to be 3 feet long by  $2\frac{1}{2}$  to 3 inches in diameter. Indians at Furnace creek were observed pounding screw beans in a tree section mortar, 12 inches tall, 10 inches in diameter with a hole about 4 by 6 inches. An iron bar served as pestle. Metates and mullers of the Paiute type though occurring in Death valley were rare. Furnace Creek Inn has several metates from the vicinity, one having a double depression, suggesting the Utah type found in Pueblo II mounds.

The food plants listed below were identified in Owens valley by J.S., T.S., and several others. As names and uses assigned by different people were very similar, plant lore must have been known to all individuals. B.T. identified those at Mono lake.

#### PINENUTS

Pinenut or piñon, *tūvā*<sup>13</sup> (*Pinus monophylla* Torr. & Frem.), occurred chiefly in the arid ranges east of the Sierra Nevada mountains, especially in the Inyo and White mountains between 6000 and 9000 feet altitude. It is the most important Paiute food plant. Abundant crops lasted through the winter and into summer. Individuals gathered 30 to 40 bushels in the fall.<sup>13</sup> Good crops were irregular, coming every few years.

*Ownership.*—Each district owned pinenut territory. Permission to gather nuts was sometimes granted others but trespass was resented and led to quarrels or rock throwing. This was the most frequent trouble between otherwise peaceful Paiute districts. Property rights were respected because of tradition and fear of magic. Muir says that white men were killed for felling piñons.<sup>14</sup> Pitana patü people went north to tupi mada or, if that crop failed, east to Black canyon on the western slopes of the White mountains. Tovowahamatü people went into the White mountains. For other pinenut territories, see map 2.

*Harvest and storage.*—The district head man decided when it was pinenut time, and organized and led the harvesters. Bob Riddle did this until recently at Big Pine. Large parties went, prepared to spend the fall or winter. Muir saw, about 1870, Mono Lake Paiute making ready long beating poles, bags, baskets, mats, and sacks; a large party went out, men, women and children taking part in the harvest.<sup>15</sup>

By means of wooden hooks tied with buckskin to long poles, men pulled from the trees cones containing nuts sealed in with pitch. Many ripe nuts fell from cones. Women gathered these from blankets and sacks spread on the ground under the trees and packed them to camp in conical carrying baskets, *kū'dūs*. The women wore basketry hats for protection against pitch and the tumpline. Men wore no hats. Small crops were

<sup>13</sup> Muir found the nut pine, *Pinus sabiana*, growing up to 4000 feet altitude on the western slope of the Sierra Nevada. Indians climbed the trees and beat off the cones with sticks or cut-off branches, then roasted the nuts in the cones (The Mountains of California, 148). He asserts that piñons furnished the Mono, Carson, and Walker river Indians "more and better nuts than all other species taken together . . . the nut crop is perhaps greater than the California wheat crops." This was 1870 (*ibid.*, 220-221).

<sup>14</sup> *Ibid.*

<sup>15</sup> Mountains of California, 221-222.

taken down to the valley by the women in conical baskets, by the men in buckskin bags slung over their shoulders.

When crops were good, most Owens Valley people wintered in the mountains, living in "mountain houses"<sup>16</sup> scattered through the timber. Proximity to springs was preferred; but snow could provide water. Cones were stored on sunny hillsides in bins, ūnāgāunū'n, which were lined with rocks and covered with needles, boughs, and finally rocks. Nuts fallen from cones were kept in pits lined and covered with grass, hūki'va.<sup>17</sup> These were opened as needed, the hūki'va first until the loose nuts were exhausted, then the ūnāgāunū'n. The cones were sun-dried (sometimes roasted) until open, threshed in a pit, and the nuts winnowed from the dirt in a winnowing basket, pātsā'. Nuts remaining when spring came were packed to the valley. Subsequent trips were made for any left behind.

*Cooking.*—Cones and sometimes loose nuts were roasted over night, covered with coals, dirt, and boughs. The nuts, now all loose, were winnowed from the dirt. Nuts were also quickly roasted in a loose-twined basketry tray holding coals, the tray being shaken to avoid burning. Such a tray, only slightly charred, was collected from Fish Lake Valley Shoshoni. Rubbing on a metate loosened the shells and winnowing removed them. Nuts were eaten whole (boiled in water and called ūnavū'cizau'an); or dry, as flour (ground on a metate, then dumped into a tight basket and the hard particles picked out); or as a paste of water and flour called unāvā'n (unāvā'n is sometimes frozen in cold weather); or as a soup or mush of varying water content (cooked in a clay pot, stirred with a looped stick), called untas'igan.<sup>18</sup> The middle and index fingers were dipped into this soup and sucked. Other seeds, e.g., tupusi<sup>19</sup>, wai, etc., and recently wheat, were often added to pinenut dishes.

#### OTHER FOOD PLANTS

The foods listed below were described or identified at Big Pine or Bishop, Owens valley, unless otherwise specified. The major occurrence of many of these is shown on map 2.

Akü, M.L. (*Wyethia ovata* T. & G.) formerly abundant near Bridgeport.

Ā'tsā, M.L. and O.V. (*Radicula curvisiliqua* Hook.), western yellow cress; small seeds. Irrigated land in O.V.

Ā'vānāva (*Asclepias speciosa* Torr.), milkweed. Occurred along creeks on western side of Owens valley; only occasionally used.

<sup>16</sup> See p. 263.

<sup>17</sup> From huki (*Stipa speciosa* Trin. & Rupr.), porcupine grass.

<sup>18</sup> "Stirring" or "stirred."



Cō'nu, a salty-tasting brush near alkaline water. Occasionally eaten.

Cuyutsiva, a species of *Parosela*, pea family, perhaps iron root, thorny shrub. Foothills of the Sierra south of pitana patū.

Hū'ki (*Stipa speciosa* Trin. & Rupr.), porcupine grass. Base of hills east of mouth of Bishop creek canyon; harvested in late spring. Very important; seeds favored for mush.

Ko'do'ova (*Oenothera hookeri* T. & G.), evening primrose. Used in O.V.; use denied at M.L.

Kosidava. Unidentified.

Kō'yo (*Chenopodium fremontii* Wats.), goosefoot or pigweed. Called kōyo when tall, tuc when short. A specimen which may be *C. fremontii* was called wata'va wada'va at Big Pine. May be same as waidavi.

Kū'ha, F.S.; kū'ha, M.L., gathered at Bridgeport Tom's ranch, probably same. Has large yellow flower. Seed clusters gathered, dried on flat rocks, and then threshed.

Mō'nō (*Eragrostis secundiflora* Presl.) love grass. Occurred: Owens river, north of Bishop, in a large patch southeast of Bishop, in irrigated land on Baker creek, and in most wet places. Very important. A specimen of *E. secundiflora* also called tsikava, and grew below the irrigated area at Bishop.

Ō'ka, an unidentified species, probably of *Helianthus*, resembling pākū and pāk. Grew in mountains; seeds even larger than these two.

Pākū, O.V. and M.L. (*Helianthus bolanderi* Grey), sunflower. Major importance; widely distributed, especially Baker creek near pazida witū. Irrigated in some localities. Harvested about August; flowers dried in sun, threshed, and winnowed.

Pāk. G.C. said like pākū but larger seeds and grew in mountains and in Coyote valley.

Pau'pōnīva, unidentified seed plant; very important. Occurred: below irrigated fields, Bishop, and in a large region just south of this. Now nearly exterminated.

Pā'wai (*Echinochloa crusgalli* L.), water grass, sometimes in irrigated land.

Pawa'va, unidentified tall grass, like wild oats.

Pawatsiva, a species of *Haploppapus*.

Pāsī'da, pāzī'da. Probably *Salvia columbariae* Benth., chia. Occurred: along sunny slopes where Coyote creek enters Bishop creek, and on Baker creek, at pasida witū. Important; a favorite for mush. Whole plant gathered when dry and seeds threshed out. Used also by the Pomo as food.<sup>19</sup>

Posī'da, pozi'da (*Trifolium tridentatum* Lindl.), tomat clover. Not same as last. Besides seeds, the entire plant used, without cooking, as greens.

Sāwā'va, B.P.; sāwā'vi, Bish.; sāwāvū'va, F.S.; sawapi, M.L. (*Artemisia tridentata* Nutt.), common sage. Unimportant because bitter seeds. Used, generally mixed with other seeds, in times of food shortage. Seeds roasted, ground into flour, and eaten with water.

Sigū'vū, an unidentified grass sometimes in irrigated land. Small seeds.

Sinā'va, F.S.; pāwāhāpū'hia, Bish. (*Juncus balticus* Willd.), wire rush. Both seeds and prairies of this grass called pawahava.

Sī'yū, an unidentified grass much like mono, growing near Toll house on Deep Springs valley road.

Sū'nū'ū, tsū'nū'ū, a species of *Agropyron*, wheat grass. A specimen of *Agropyron* was called waiya, B.P., but probably should have been sū'nū'ū. Common: Owens river, especially below and south of Bishop irrigated land.

<sup>19</sup> Jepson, 869.

Sunuva, tüsi, Bish.; kã'ap<sup>a</sup>, B.P.; kã'ava, F.S., a species of *Atriplex*, salt brush. Its relative, *A. canescens* James, shad-scale, called to'nova, not used.

Tiã'kãraŋã'va, a species of *Polygonum*, knotweed.

Tsia'va, M.L. and O.V., a species of *Rosa*, wild rose. Bishop specimen identified as *Rosa pisocarpa* Grey. Only occasionally used.

Wãhã'gi, an unidentified mountain grass bearing seeds on its tops.

Wai. Two specimens of this were *Oryzopsis hymenoides* (Roem. & Schult.) Ricker, sand bunch grass or Indian mountain rice, and *O. miliacea* (L.) B. & H., rice grass. Very important, like pinenut. Wide distribution. Grew: about sloughs, with kuha; never irrigated. Pitana patü owned wai area on northern volcanic tableland with regular campsite at small lake in Fish slough. Occurred also: below Mt. Goodale; lower end Deep Springs valley, owned by ozoŋwitu; large area in Fish Lake valley, between Oasis McAfee ranch, accessible to all districts. Trips made to last even from Pig Pine. Wai in Eureka valley also open to all districts. Harvest, early summer; beaten from the grass or stolen from caches of kangaroo (?) rats, located by punching ground with digging stick. Very important at M.L., grew on flat warm land near the lake. Generally roasted, ground into flour.

Waid'avi, an unidentified plant. Minor importance. See kö'yo.

Wai'ya. This name given at Big Pine to specimen of *Agropyron*. Wai'ya, M.L. and O.V., probably applies to *Elymus condensatus* Presl., giant rye grass; called wad'odova at Fish Springs. Very important. Sources: Bishop creek, near its mouth; Oasis, Fish Lake valley. Muir, about 1870, saw M. L. Paiute gather it 5 miles below Moraine lake; grain was "six to eight feet high, bearing heads from six to twelve inches long"; seeds about 5/8 inch long. "Indian women were gathering it in baskets, bending down large handfuls, beating it out, and fanning it in the wind."<sup>20</sup>

Wã'tã, M.L. and O.V. (*Chenopodium album* L.), white pigweed; white goose-foot. Occurred: O.V. on irrigated land. Harvested late August. Ä'tã, Bish., may be the same.

Wiyütava (*Asclepias mexicana* Cav.), narrow-leaf milkweed. Occasionally eaten. Ävãnäva (*A. speciosa* Torr.), another species of milkweed, said not to have been eaten.

Wiyu'pi, M.L. (*Eleagnus asgentae*), a tree, 10 to 12 feet high, with edible seeds.

Wocã'va, an unidentified grass, on irrigated land. Seeds very small; seldom gathered.

Another seed plant was *Bidens levis* B.S.P., bur marigold. Paiute name unknown.

The following plants were eaten uncooked as greens:

Hup'u'ya, müzã'wi, pagüü and ü'zi, unidentified species, and paiduc', a wild onion, gathered by men; harvested from wet places in the spring and eaten green with salt.

Po'tsidava, F.S. (*Trifolium involucreatum* Ort., var. *Fendleri* McDer.), cow clover.

Posi'da (*Trifolium tridentatum* Lindl.), tomat clover. Young, tender plants used.

The roots, tubers, or bulbs of the following plants were dug with mountain mahogany or buckbrush (*Ceanothus cuneatus* Hook.) digging sticks:

Ica'düma, M.L., a species of *Spiranthes*.

Masa'da M.L., Ma'saŋwita, Bish. (*Lillium parvum* Kell.), small tiger lily.

<sup>20</sup> Mountains of California, 95.

Nā'hāvīta, O.V.; mā'hāvīta, M.L., a species of *Eleocharis*, spike rush, having a number of bulbs. Very important. Irrigated at pitana patū and Freeman creek. Occurred also Baker creek, and mouth of Birch creek. Harvested and prepared like tupusi<sup>1</sup>.

Si'go, an unidentified mountain plant with small tubers.

Tūpū'si<sup>1</sup>, probably *Brodiaea capitata* Benth., grassnut or blue dicks. Very important O.V.; none at M.L. Occurred: irrigated areas at Bishop and Black Rock; large natural plot mile north of Sunland; lower Tinnemaha creek. Harvested in fall; plants dug with stick, or rat or gopher caches robbed. Sometimes eaten raw when fresh; greater part dried and stored. Roasted, ground into flour.

A number of berries were utilized, being boiled in pots in a small amount of water when they could not be eaten fresh. To be preserved they were spread on rocks and dried in the sun, then stored in buckskin bags and hung up for winter use. T.S. denied that any drinks were made; G.C. said that wild cherries were boiled into a drink.

Pā'gūbūxia, B.P., hūbū'xia, M.L.; sai'inoiya<sup>a</sup>, sainō'wiyu<sup>u</sup>, Bish. (*Sambucus mexicana*), elderberry. Gathered in the Sierra or traded from the west. Evidently a confusion of names, for G.C. described hū'ūpuhia as a sweet berry, like the currant, growing on a bush, and said the same name applied to wild cherries.

Paṅwāvū'hia (*Ribes aureum* Pursh.), golden currant, and pōgōpū<sup>h</sup>ia (*Rhamnus californica* Esch.), the coffee berry. The former usually cooked. The "buffalo berry" was, according to John Muir, eaten at M.L. where for weeks it constituted the chief food.<sup>21</sup>

Pō'gōbic, an unidentified edible berry in O.V.

Apōsō'gwa, M.L.; apōsō'ā'gwa, O.V., a species of *Arctostaphylos*, manzanita. Traded from the west. Mashed, soaked in water to make a non-fermented drink.<sup>22</sup>

Several drinks were prepared by boiling plants in pottery vessels.

Kwā'nānuva or wai'yanuva (*Mentha arvensis* L.), tulle mint. Leaves boiled into refreshing drink.

To'yatudu'va (tōyā'vi, mountain; tudu'va, tea), (*Ephedra viridis* Cov.), Mexican tea or joint pine. Found: moist places on mountain sides. Leafless needles boiled short time. Used also by whites. Similar species, *E. californica* Wats., called tudu'va and growing in valleys, not used.

Sweets or candies were made from several plants:

Hau've (*Phragmites communis* Trin.), cane or reed; most important. Common Bishop creek, at Irving school, and center of town. Sugar, called hauva-hauva, the dried sap brought to surface by small green insects, gathered by beating into baskets; many insects remained in sugar. Made into balls. Later softened by fire and eaten like sugar. Much less sweet than commercial cane sugar. Formerly popular. A.G., Lone Pine, gave this process: Green cane gathered in summer when leaves are thick. Entire plant cut up; dried until sap is on surface in lumps; cane piled on canvas, beaten with sticks to loosen sugar; sugar gathered up, cleaned

<sup>21</sup>My First Summer in the Sierra, 226-227.

<sup>22</sup>A Paiute brush in the University of California Museum of Anthropology (1-19676) resembles three in Field Museum (E-71143, 71463, 71504) catalogued as cider soap brushes.

by winnowing, and stored in shallow baskets, about sixteen inches diameter, made of tule. Tule preferred to willow, believing it preserves the sugar but does not give it taste nor change its color. Now ready to eat as candy.

Pa'wahapu'hia, Bish.; sina'va, F.S., a species of *Juncus*, probably *balticus*. This rush, which furnished edible seeds, was a minor source of sweets. Sugar, forming along tops of plants, called pa'waha'vihavi, Bish., sinaha'vihavi, F.S., gathered, eaten as candy.

Pi'teinüpuva, a species of *Castilleja*. Not used M.L. O.V. sometimes sucked its sweet base.

#### ACORNS

Acorns, though of minor importance, were used according to the California "acorn complex." Acorns were secured from the Western Mono or were gathered (two species) from small areas in Owens valley: a small grove of *Quercus kelloggii* Newb., tcakicavü'<sup>u</sup> (the acorns called teiginü), on Division creek, and *Q. palmeri*?, wiya, on Oak creek and near Fort Independence and the Fish hatchery. These were pounded in mortars (pa'ha), usually in bedrock occurring at several places,<sup>23</sup> with pestles, pahawuḡanü. No basket hoppers were used. Metates served for other seeds. The acorns were placed in or on a sack in a crater in a small hill of clean sand, and hot water was poured through until they were mushy; then they were boiled into mush, stirred in pots—never in baskets—with the looped mush stirrer. Meat, especially rabbit, was usually added. A.G. said the Lone Pine treatment was similar, but the metate was used and the leeching pit was lined with bark.

Mono lake stored acorns with shells removed in pits lined and covered with sage bark (like pinenut caches). When wintering in Yosemite, they stored them in the shell in elevated baskets, winügüpi, like the Miwok. They ground, then leeches them in pits about four feet in diameter, gravel-lined, by pouring hot water through. The acorns were then put into a semi-spherical basket, wavoi', with water, one person heating rocks, then washing and placing them in the basket with two looped sticks, tanapa, about three rocks at a time, a second person stirring with a looped stick (tsa'nu) similar to the first and made of hard wood<sup>24</sup> and removing cold rocks.

<sup>23</sup> Chalfant said a wooden mortar found near Benton made from a tree knot had a bowl 15 inches deep by 15 inches in diameter.

<sup>24</sup> Field Museum has a similar looped stick mush stirrer (spec. E-61491) from Pyramid Lake Paiute.

IRRIGATION<sup>25</sup>

*Description.*—Irrigation increased the natural yield of several wild seed plots in Owens valley. Tilling, planting, and cultivating were unknown. Plots were chosen for convenience of dam and ditch building, soil drainage, and seed yield. The greatest development was at pitana patü where natural facilities were best. A plot with tupus<sup>1</sup> and nahavita, on each side of Bishop creek, sloping gradually up the valley floor, was irrigated. The northern plot measured 4 by 1 to 1½ miles; the southern comprised approximately 2 square miles. Map 2 shows plots, dams, ditches, etc.

The system comprised a dam in Bishop creek canyon a mile below the mountains and a ditch to each plot. The northern ditch, used recently by ranchers and called "Paiute ditch," is still traceable from the dam up the canyon side and across the valley. Dam and ditch construction involved no problems but entailed considerable labor.

At pitana patü the position of irrigator, tuvaijü<sup>u</sup> (tüva<sup>ʔ</sup>a<sup>ʔ</sup>düt, to irrigate), was honorary. He was elected at a popular meeting each spring. Time to commence irrigation was then announced by the district head man and approved by the people. S.N.'s brother-in-law was once irrigator. (The Big Pine district head man was irrigator, but had an assistant.) The dam of boulders, brush, sticks, and mud was built by the irrigator, assisted by about twenty-five men. After water was turned into the ditch, the irrigator alone was responsible, watering the plot by small ditches and dams of mud, sod, and brush. The water, once started, needed little attention. A pole, pavodo, 4 inches diameter, by 8 feet long, was the irrigating tool.

Overflow water below the plots inadvertently irrigated land bearing: mono, sunu<sup>u</sup>, pauponida, waiya, pak, and tsikava.

The northern and southern plots were annually alternated; "to prevent soil exhaustion" (T.S.), but probably really for natural seeding. Water was turned in spring to one plot (fish were gathered in the creek bed!); at harvest time the dam was destroyed and water flowed down the main channel (fish were gathered from the ditch). The following year the other plot was irrigated.

Irrigation at pitana patü was communal. All men assisted in dam building. All women might harvest. This was probably true of other districts.

<sup>25</sup> Steward, 1929.

Ütü'ütü witü (Hot springs) dammed Freeman creek to irrigate nahavita. Baker creek below pasida witü was dammed for irrigation. Other Owens Valley settlements irrigated. Mono Lake did not.

*Theoretical aspects.*—The Owens Valley Paiute were thus on the verge of horticulture but did not quite achieve it, for planting, tilling, and cultivating were unknown.<sup>26</sup> There are three possible explanations of this unique and almost anomalous occurrence of irrigation without agriculture, each of which has an important bearing on the origin of agriculture in America.

(1) An ancient practice of irrigation may actually have preceded the diffusion of cultivated plants in the Southwest and survived in eastern California. This hypothesis, however, is highly improbable, for there is not, so far as I know, a shred of evidence elsewhere to support it.

(2) Irrigation may have diffused from a horticultural complex of the near or remote past in the Southwest. It is, however, unlikely that borrowing either from the south or east occurred in recent times. For although Owens valley is less than two hundred miles from the Chemehuevi, occasional tillers of the soil, and not more than three hundred miles from the truly horticultural Mohave,<sup>27</sup> not a single cultivated plant of these people was known to the Paiute, while the Chemehuevi and Mohave did not practice irrigation. It is indeed remarkable in view of the antiquity of horticulture in the Southwest<sup>28</sup> and its wide distribution in the east that it should have gone but little beyond the Colorado river into California. But this halt in its diffusion, Kroeber suggests, may be explained by the adequacy of the natural food supply of California.<sup>29</sup> The absence of horticulture is affirmed for all the Great Basin Shoshoneans, except the Kaibab and Shivwits Paiute of southern Utah who irrigated corn and squash<sup>30</sup> but could hardly have passed their knowledge across Nevada to the Owens Valley people.

A diffusionistic explanation of Paiute irrigation is more plausible when the ancient Pueblo culture of the Southwest is considered. Harrington's work at "Lost City," near Las Vegas, Nevada, showed the presence there of a horticultural people somewhere between the Basket Maker and Early Pueblo cultures.<sup>31</sup> Further investigation in Nevada

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<sup>26</sup> Tobacco was pruned and the land was said to have been burned over in the spring. See p. 319.

<sup>27</sup> Kroeber, 1925, 597, 735.

<sup>28</sup> Kidder, 1924, 119, places the Basket Makers, the first agriculturalists of the Southwest, at between 2000 and 1500 B.C.

<sup>29</sup> 1925, 815.

<sup>30</sup> Lowie, 1924, 200-201.

<sup>31</sup> Harrington, 1927, 262-277.

yielded evidence in the form of pottery of a Pueblo culture, which presumably included horticulture, as far west as Wellington, Beatty, and the eastern side of the Amargosa desert; that is, nearly to the boundary of California in the latitude of Owens valley.<sup>32</sup> Influence of a Basket Maker culture, lacking domesticated plants, has been found as far west as Lovelock cave,<sup>33</sup> west central Nevada, and in the Mohave sink region in southern California.<sup>34</sup> The distribution of Shoshonean pottery in southern California and eastern California<sup>35</sup> strengthens the hypothesis developed by Strong from social and ceremonial data that a strong connection between southern California and the Southwest once existed but was cut off at an early date by the intrusion of Shoshonean tribes of a low cultural status.<sup>36</sup> Some early, widely distributed Southwestern culture, most probably Pueblo II, may have introduced the idea of irrigation which was taken over by the Owens Valley Paiute.

If, however, diffusion explains Paiute irrigation, it did not operate in the conventional manner, for there was a differential borrowing in which a close-knit horticultural complex was broken down and the seemingly dependent or secondary element, irrigation, diffused without the carrier or *raison d'être* of the complex—the nucleus of cultivated plants. Even if this apparently unreasonable, selective diffusion occurred, however, it indicates that irrigation was a part of early horticulture in the Southwest, a contention now supported by much archaeological evidence.

(3) Paiute irrigation may have had a local and independent origin, the original idea probably coming from the swampy lowlands of Owens valley where it is obvious that moist soil—a natural irrigation—produces a very prolific plant growth. Irrigation, in this case, is simply an artificial reproduction of natural conditions. Although people are slow to take advantage of what seems “obvious” after its merits are known, the possibility of this origin must not be disregarded, for if the Owens Valley Paiute were among those intrusive tribes which cut off the connection between southern California and the Southwest, this explanation may be necessary. Whatever the source of irrigation among the Owens Valley Paiute, it supports Spinden’s contention that irrigation in a semi-arid country, e.g., Egypt, Mesopotamia, and Peru, may be a “conception which accounts for the very origin of agriculture itself.”<sup>37</sup>

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<sup>32</sup> Harrington, 1928, 235–240.

<sup>33</sup> Loud and Harrington, 1929.

<sup>34</sup> Rogers.

<sup>35</sup> See p. 269.

<sup>36</sup> 1927.

<sup>37</sup> 1922, 47–49. This view is more fully expressed in Spinden, 1915, 269–276.

For if the Paiute came by irrigation through borrowing, the borrowing demonstrates that irrigation was present in an early phase of American agriculture, whereas if it were a local invention, it marks a people who were on the verge of horticulture and suggests the possibility of such an origin of horticulture elsewhere.

### SALT

Salt,  $\tilde{o}\eta\tilde{a}'vi$ , was scraped up with the hand from certain alkali flats (e.g., the south side of Big Pine lake), where a characteristic species of brush, *tonavi*, grew, then put with water in a basket and the paste moulded into flat cakes about 8 inches in diameter, for storage or trade. Balls, sometimes made, were preferred by Western Mono in trade. Salt was obtained in large quantities in Saline valley, and at Klondike lake, Silver peak, and Fish lake.

Mono Lake Paiute traveled to Nevada to get salt,  $t\tilde{u}'vi\ on\tilde{a}'vi$ , in a manner similar to Owens Valley people. It occurred around a brush,  $ton\tilde{a}'vi$ . This, being red and bitter, was only eaten with mush.

### FISHING

Fish occurred in Owens river, fresh-water sloughs, and the Sierra Nevada streams.

$P\tilde{a}'\eta wi$ , generic term for fish.

$Ts\tilde{o}n\tilde{i}'ta$ , the native minnow.

Huwa,  $\check{a}d\check{a}p\check{u}'u$  or *atava*, native sucker. Young were called *pohivana* or *pohipana*.

$P\check{u}gwi$  or  $pa\eta wi$ , golden trout, asserted not to be native by Chalfant.<sup>38</sup> J.Sm. said they were native in Birch creek.

$P\tilde{o}'teigi$  or  $pu\tilde{i}'teigi$ , unidentified species. Young were called *tsiävaka*. Occurred in Freeman creek, now gone.

Aka  $pa\eta wi$  (aka, red), rainbow trout, probably introduced recently.

Sections of rivers and sloughs were fished exclusively by districts owning them. Others were sometimes given permission to fish them. See map 2.

Fishing was individual or communal. Villages or whole districts sometimes fished, being organized and directed by the district head man, and the catch being divided equally among all participants.

<sup>38</sup> MS. He says only suckers and minnows were native.



Live fish were kept in small-mouthed, open-twined baskets in streams; later baked, like jackrabbits, in a hole under hot ashes. G.C. said large catches were cleaned by people on the banks and smoked for storage. T.S. denied this.

No fishing magic was known.

*Fishing methods.*—(1) Stranding. Streams diverted in irrigating left stranded fish which were collected.

(2) Stupefying. Tü'üḡwava or tüg'ü'va (*Smilacina sessilifolia* Nutt.), slim solomon, was mashed with rocks, wrapped and sewed in worn-out baskets, and dipped into pools formed by dams<sup>39</sup> and shaken. Five or six men swam with bundles of tū'üḡwava ahead of them in larger pools. Stupefied fish came to the surface or went to shallow water, the effect sometimes lasting 4 or 5 hours. Those strongly stupefied were gathered by men and women, wading with baskets. Active fish were shot with arrows or speared. Fish were piled on the bank.

(3) Arrows. Fish were shot with bows and featherless arrows having double points of hard, sharp wood.

(4) Spears. Short cane spears had two wooden prongs inserted into them. G.C. mentioned three bone prongs in a single plane, "like a pitchfork." Prongs were recently wire or umbrella ribs. Leonard said that at Humboldt lake fish were speared from rush rafts with spears tipped with an 18-inch leg bone of the sandhill crane, the spears evidently being cast, not merely thrust.<sup>40</sup> Field Museum has a two-prong fish spear with detachable bone points fastened harpoon-wise with string (spec. 71469), from the Western Mono of Hooker's cove, California. Chalfant says the spear was obsidian barbed (sometimes bone); and the spearing was done at night, the fish attracted by a light on the bank.<sup>41</sup>

(5) Hooks were of deer bone, G.C. T.S. said they were of a wildcat's foreleg or collar bone, the latter requiring little shaping. Leonard<sup>42</sup> saw at Humboldt lake some fishhooks of small bone, ground down on sandstone, a double "beard" or barb cut in them with flint, and a wild flax line attached nearest the barbed end. A pull on the line caused the sharp, barbed end to catch and turn the bone crosswise in the fish's mouth. These were often used. Grasshoppers and worms were bait, T.S.

(6) Baskets. Open-twined baskets were dragged through the water. Conical carrying baskets, cudusi, were fastened below dams to catch fish coming over with the water.

<sup>39</sup> Chalfant (MS) says a row of men formed a temporary breakwater for a sod and stone dam to be built.

<sup>40</sup> 166. Reny and Brenchley met an Indian on Carson river with a fish spear, 42.

<sup>41</sup> MS.

<sup>42</sup> P. 166.

(7) Nets of wicivüva, described as like rabbit nets, 50 by 3 feet.<sup>43</sup> Several people, holding a net, drove fish to the shallow end of a pool, there gathering them. Field Museum has a "gill net" (spec. E-71181), from the Western Mono of Big Sandy, California, which is set in streams for trout, etc.; it is made of milkweed and Indian hemp, *Apocynum cannabinum* L.

T.S. described minnow fishing:

Put a stick in tules to stand on. Stay quietly holding a three-foot line with a hook in a puddle made for the minnows. Sing and whistle: "Tsonita, come and take a bite. Never mind your little ones. Throw them away and come take a bite." This is for amusement, to keep awake.

## HUNTING

Hunting was individual or communal. Individuals might hunt anywhere; communal groups stayed within their district territory.<sup>44</sup> Hunters carried for large game a sinew-backed bow and obsidian-pointed arrows and fire outfits in their quivers. Contenance was not required of hunters. Use of charms was not recorded. Individuals had no private hunting places.

*Deer, tühi'na.*<sup>45</sup>—Buck, tuhi'a; doe, tühi'na opia'va (female); faun, a'watsi'. Individual hunters trailed, ambushed, or had barking dogs trained to round up deer. M.W. said some disguised themselves in deer skins and antlers, rubbing against rocks and brush, appearing angry, etc., to imitate deer, running away to make them curious, but keeping to their lee to keep the human odor from reaching them. If several hunted, some drove deer down trails where others hid. Nets and pitfalls were denied, but some kind of trap was affirmed for deer and mountain sheep.

T.S. said a hunter left a killed deer in the mountains, went to the sweat-house that night saying, "Old men, light your pipe. We will smoke." After passing the pipe, they asked his luck. He told his experiences in detail. Next day they fetched home his deer. He kept the skin, neck and shoulders to the next to the last rib, giving away the remainder. This share falls to the one of a group of hunters who makes the kill. To carry, they tied the four legs together over the carrier's forehead and hung the body down his back.<sup>46</sup>

<sup>43</sup> Simpson, 85, saw Carson Valley Paiute catching chub and mullet with seines then sun-drying them.

<sup>44</sup> See p. 305.

<sup>45</sup> Tühüd, Mono lake.

<sup>46</sup> Muir, *My First Summer in the Sierra*, 205-206.

The deer drive was communal, directed by the district head man, whole families moving to the hunting country. Women and old men kept camp and cured the meat. Men, stationed 100 yards apart, hunted a large region, advancing with sage bark torches, 3 inches in diameter, 3 feet long, firing brush and closing in to drive deer into a great circle,<sup>47</sup> then shooting them down. The kill was equally divided, the head man perhaps getting a double share, or a whole deer (more than the hunter's share). Some cured meat was left hanging in the mountains, theft being impossible as anyone in need was welcome to it.

Shamanistic activities, driving over cliffs, and magic were unknown.

*Mountain sheep, koip<sup>a</sup>* (M.L. and O.V.), and *antelope wā'dzi or kwahā'du*.—Usually hunted by large communal groups under the head man, supposedly a good hunter. Skilled hunters concealed themselves on trails while the others drove sheep and antelope up the mountain to them. J. McB. said sometimes brush corrals in narrow canyons caught sheep driven by hunters. On the top of nearly every Nevada mountain he visited, Muir found small stone enclosures where hunters hid while others frightened sheep, knowing they would run to the summit. On Mount Grant, west of Walker lake, was a high-walled stone corral with diverging wings into which sheep were driven by men, women, and children, aided by rows of dummy, rock "men" along ridge tops in and out of which several men moved. He pictures a sheep hunter with a head gear suggesting an antelope.<sup>48</sup>

Owens Valley people hunted sheep and antelope mainly in the White and Inyo mountains, the precipitous Sierras affording protection to game unless heavy snows drove the animals down.

Like deer, sheep and antelope were divided among hunters. No shamanistic activities or magic were recorded.

*Bears, pahavitci'<sup>t</sup>*.—Too much resembling humans and too much feared to be hunted. Occasional skins were traded from the Western Mono.

*Rabbit drives*.—Rabbit, *kā'mu*. Large communal groups under district head men hunted many places in Owens valley. Old men placed their nets, 3 feet high and up to 50 feet long, end to end in a great arc and hid to club rabbits caught, which others, forming a long line, drove,

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<sup>47</sup> Muir saw Indians in the Sierra burning brush to facilitate deer hunting (The Mountains of California, 199).

<sup>48</sup> The Mountains of California, 322. Reny (128) saw "Snake" Indians at the source of the Humboldt river using antelope head masks with red cloth attached to attract game. Simpson saw in Pah-hunpu valley, Nevada, brush barriers, converging to narrow passes where concealed hunters killed deer attracted at night by fires (p. 70), and, at Walker Lake, a large deer corral of sage and cedars (p. 481).

shooting and clubbing as they closed in.<sup>49</sup> The latter got most. Each kept his kill. Slain rabbits were carried by tucking their heads under belts of wicivi fiber around hunters' waists.<sup>50</sup> T.S. denied participation of women and use of fire. Crescentic rabbit sticks were unknown.

The last night of a successful drive the people held a celebration, tsoa wunut or tuwapait, in the sweat-house. Men put their rabbits in one pile; women put various seeds in another. Men took seeds they wanted, and the women whose seeds were taken took their share of rabbits. After a big feast, they entered the sweat-house, and paid singers sang special songs, tsoa huvia,<sup>51</sup> the people joining. Communal deer drives, seed gathering, fishing, etc., and "fandangoes" were planned.

Mono Lake held drives around the lake flats. Muir said men, women, and children participated, and brush fires helped frighten rabbits. Nets, clubs, and bows were used.

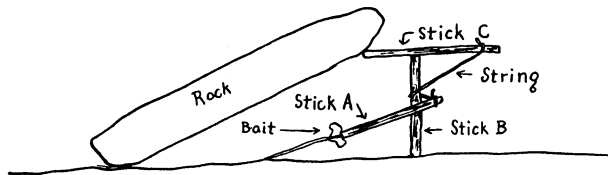


Fig. 2. A trap for small game.

Drives occurred usually in the fall in connection with other communal undertakings.

*Traps.*—Rabbits and wildcats<sup>52</sup> were caught in unbaited loops tied to birch rods planted in the ground and bent over, on game trails.<sup>53</sup> The animal kicked a willow trigger which allowed a string wrapped around a willow staple set into the ground to unwind releasing the bent birch and pulling up the loop. For wildcats these were larger. For smaller game, e.g., ground squirrels, tilted rocks supported by sticks dropped when bait underneath was gnawed. In figure 2, willow stick A tied with a string wrapped around upright B supporting horizontal stick C is released, C and the rock giving way. Small string nooses for quail, like those of the Surprise Valley Paiute,<sup>54</sup> those found in Lovelock cave,<sup>55</sup>

<sup>49</sup> S.N. recounts a long rabbit drive, Steward, Autobiog. Simpson (54) saw rabbit nets 3 feet long, draped on sage brush pulled up and piled with cedar boughs in a fence used by Goshutes near Salt desert.

<sup>50</sup> Simpson (53) observed a Goshute carrying rats by this method.

<sup>51</sup> See p. 279.

<sup>52</sup> Tukupitel.

<sup>53</sup> Siupa (*Distichlis spicata* Greene), salt grass gum was chewed and put on hands and feet when setting traps to deodorize them.

<sup>54</sup> Kelly, 89.

<sup>55</sup> Harrington and Loud, 115.

and those in Field Museum from the Western Mono of Hooker's cove (spec. E-71460), were not recalled.

*Small game.*—Also shot with wooden pointed arrows. Burrowing animals were dug or smudged out of their holes. Twisting a stick into their skin was not known.

*Water fowl.*—Killed in early morning by hunters concealed in blinds resembling wickiups or summer houses. Decoys,<sup>56</sup> nets, and communal hunts were unknown.

*Meat preparation.*—Large game was boiled in pots or, in the mountains, broiled on coals. To preserve, small strips were dried, perhaps over a fire, and left hanging or wrapped in buckskin. Purposeful smoking, grinding, and mixing with grease or berries were unknown. Intestines were split open, cleaned, hung to dry, and boiled to eat.

Porcupines, mū'hu, ground squirrels, a'ηwa, wood rats,<sup>57</sup> cawa, mice, puηa'ji (Bish.), poηūzi (F.S.), large mountain ground hogs, yah<sup>a</sup>, short-tailed ground squirrels, ku'pa, kū'vi, gophers, mü'ya, badgers, hū'na, chipmunks, tava'<sup>ya</sup>, and possibly wildeats, tü'kuvite', were roasted buried in coals after the entrails were removed and the skin was sewn up with a stick.

Water fowl were boiled in pots. These included: geese, nü'gūta, mallard, eu'davia, canvas back, sakwi'kwiu, brown head, yuhā'da, pintail, wū'ūadji, spoon bill, ha'giva, teal, paga'wihatā'niyuwa, kuwa'natsi'<sup>1</sup>, or kuwa'tcuwiti'<sup>1</sup>, and other ducks generically called pū'yū (O.V.), pūhū' (M.L.). Quail, tāknā'ka, caught in traps or shot, were cleaned and broiled on coals or boiled in pots.

*Other animal foods.*—Sage hens, kā<sup>h</sup>hu, grouse, hū'ja'<sup>a</sup>, and bluejays, tcai, but not swans, iηa'dateoi'<sup>1</sup>, were eaten. Although several denied eating grasshoppers, ā'tākica'<sup>a</sup>, and crickets, tsū'nūtūgi'<sup>1</sup>, Muir saw Mono Lake Paiute, 1870, eating larvae of ants, wasps, bees, and other insects, and "Diggers," probably Miwok, eating ants after biting off their heads.<sup>58</sup> Lizards, tüpo'dozo and mokidū'na (O.V.), tüvo'dza (M.L.), were eaten. Chalfant says Panamint Shoshoni<sup>59</sup> and Parcher says Death Valley Shoshoni ate chuckwallas. Snakes were sometimes eaten, dogs rarely. Cöyö'dö, a species of shellfish from Owens river, was boiled in the shell.

<sup>56</sup> Simpson found Carson Lake Paiute using duck decoys "perfect in form and fabric" (p. 85), and at the mouth of Walker lake a skin stretched over a bullrush float (p. 480).

<sup>57</sup> Simpson saw a Woodruff Valley (Nevada) Paiute with 27 rats for food (83).

<sup>58</sup> My first Summer in the Sierra, 46, 206, 226-228.

<sup>59</sup> MS.

Coyotes, eagles, buzzards, and hawks were not eaten.

Piüga, the fleshy caterpillar of *Coloradia pandora* Blake, occurring on *Pinus jeffreyi* in the Sierra west of Mono lake, chiefly around Mono Mills, every other year, were gathered when descending to pupate.<sup>60</sup> Communal trips, including whole families, were made in July. Trenches with vertical outer walls, 2 feet wide, 10 to 16 inches deep, encircled the trees. Though the caterpillars descended normally, J.Sm. said smoke helped to bring them down. They were gathered in special open-twined, round-bottom carrying baskets (pl. 10f), killed by smoking over or dumping into a fire. Aldrich says they were baked for an hour in a mound of earth which had previously been heated by a fire on top.<sup>61</sup> Dirt is removed by sifting in a cone-shaped sieve or by winnowing; they are sun-dried, spread on the ground in bark for several days, sacked, and stored, preferably in the mountains until fall, as heat spoiled them. "Chief Jake Garrison" put up a ton and a half in 1920.<sup>62</sup> For eating, they were boiled in pots or baskets.

Piüga were gathered by Owens Valley Paiute and probably Western Mono as Field Museum has a typical basket (spec. E-71294). They were traded widely.

Cüzä'vi, O.V., cū'tza, cutza<sup>v1</sup>, M.L., the pupae of *Ephydra hians* Say., breeding abundantly in Mono lake.<sup>63</sup> It is greasy and bitter like the lake water, but a favorite food and traded widely. Muir says "families and tribes" claim sections of the shore where the windrows of pupae wash up; disputes arise over encroachment on neighbor's territory.<sup>64</sup> They are dried, and, Aldrich says, the shell is rubbed off by hand leaving a yellowish kernel.<sup>65</sup> They are boiled one-half hour into mush and are important as food at Mono lake. In̄ara or picawada, O.V. (*E. hians* Say.), in Owens lake,<sup>66</sup> were used like cuzavi but less relished. Leonard says a small fly in Humboldt lake, probably the same, was gathered in baskets where blown up on the shore and dried with seeds and rabbits for winter food.<sup>67</sup> *Ephydra hians* also occurred in Walker lake, called "koo'-tsabe," Pyramid lake and Soda lake, near Carson, Nevada, where they served as food.<sup>68</sup>

<sup>60</sup> Aldrich, 1921, 36-38.

<sup>61</sup> *Ibid.*

<sup>62</sup> Aldrich, 1921.

<sup>63</sup> Aldrich, 1912, 85.

<sup>64</sup> Muir, *My First Summer in the Sierra*, 227.

<sup>65</sup> Aldrich, 1912, 90.

<sup>66</sup> Aldrich, 1913, 200.

<sup>67</sup> 166-167.

<sup>68</sup> Aldrich, 1912, 90-93; 1913, 217-220.

## DOMESTICATED ANIMALS

*Dogs*.—Dogs, i'cavuk<sup>ü</sup> (icā'<sup>a</sup>, coyote; vuk<sup>ü</sup>, tame ?), O.V., wi'civuk or tog<sup>ü</sup> (from "dog"), M.L., resembled coyotes in build and fur but had shorter ears and were marked black, white, brown, and tan. They were chiefly pets. They were eaten only during famine. Old and stupid dogs were killed.

*Horses*.—Never of importance to Paiute; were got by Owens Valley from the south, by Mono Lake from the west, and were eaten prior to 1860. Pugu, M.L., means horse or any quadruped.

*Eagles*.—Eagles, kwi'ŋa'a, O.V., kwi'na', M.L., and sometimes hawks, kini'<sup>71</sup>, were captured on their nests when young and raised in small wickiups, hava toni, for feathers and eagle down, being fed raw rabbit meat. They were preferably in pairs or fours. T.S.'s grandfather raised an eagle which when grown, would fly away and return, being very tame.

No other wild animals kept as pets were recorded.

## TRADE AND TRANSPORTATION

Little trade was carried on in the Great basin, except in salt from Saline valley and pottery chiefly from Big Pine. Trading was done across the Sierra Nevada by Owens Valley Indians with Western Mono, Mono Lake with Miwok. Routes are shown on map 1; people crossed from both sides, making hurried trips.<sup>69</sup>

S.N.'s account pictured only men trading. Muir in 1870 saw women in a party, traveling barefoot, carrying the loads.<sup>70</sup>

Owens Valley carried salt, pinenuts, and other seeds, obsidian including the "poisonous" variety, rabbitskin blankets, balls of tobacco, baskets, and buckskins. They received principally shell money (later glass beads), acorns, manzanita berries, äpäsa', and baskets.

Mono Lake traded pinenuts, piüga, cuza'vi, baskets, red paint, pijapi, white paint, ivi, and salt<sup>71</sup> for bead money, acorns, manzanita berries, apo'sogwa, sow berry, tama, and elderberries, hubu'xia. They often wintered in Yosemite, especially when pinenuts were scarce, frequently

<sup>69</sup> An account of a trading expedition is given in Steward, *Autobiography*.

<sup>70</sup> *The Mountains of California*, 80-81.

<sup>71</sup> Muir mentions salt as their most important trade article, *My First Summer in the Sierra*, 228.

marrying Miwok. Muir says Miwok went to Mono lake to trade or attend dances.<sup>72</sup>

Strings of small, white shell discs, *natsi'buhüd*<sup>u</sup>, O.V., *numu'kwa*, M.L. (white glass beads later had the same purpose and name) were money. One turn around the edge of the outstretched palm, starting and ending at the wrist bone, was called *nätsäkwi'da*.<sup>73</sup> Two turns, *tagiva*, O.V., equalled \$.25. Mono Lake also had long shell beads, perhaps dentalium, called *pakuda* (applied also to blue glass beads). Abalone, dentalium, and olivella shells were rare, if present, in Owens valley. Silver coins were called *nau'aku*.

In gambling, the unit bet was the *kiva*, 2½ turns around the hand, from the index finger, in front of the third and fourth fingers, behind the little finger, around the wrist, behind the thumb to the index finger.

A borrower of money returned a little more than he received, but custom fixed no interest rate.

For transportation, the dog was used in no way. Women used conical carrying baskets (pl. 10a, b, c, f), supported on their backs by tumplines passing over their foreheads. Basketry hats protected their heads, especially in pine-nutting. Men bundled their goods in buckskins, tied with knots slung over the shoulder or with carrying straps of braided *wiciva* (*Amsonia brevifolia* Gray) (one said three-ply twisted ropes) or buckskin straps tied to the pack knot and this slung over the shoulder. Women sometimes use pack straps. Pieces of rabbit net sometimes served as carrying nets. One Field Museum buckskin carrying strap (E-71248) is from Western Mono of Jose basin; another (E-71377), braided of *Fremontica californica* Torr., is from Hooker's cove. A Western Mono carrying net (Field Museum spec. E-71373) is woven of *Asclepias speciosa* Torr., milkweed, and a species of *Gomphorcarpus*, milk plant.

For duck hunting and some fishing a bundle of tules, *saiw*<sup>a</sup> (*Scirpus*, probably *acutus* Muhl.), was bound with willows into a double-pointed bundle, 10 feet long, having, according to T.S., slight sides. Others described it as rather shapeless.

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<sup>72</sup> The Mountains of California, 80-81.

<sup>73</sup> Chalfant's informant corroborates this (MS).



## WEAPONS

Spears were used little, if at all, except in fishing. Slings, made of leather in recent days, were of minor importance. Throwing clubs, armor, shields, and atlatls were unknown.

*Bow, a' dukū.*—Bows were made by professionals (T.S. denied this). Juniper ("cedar"), *Juniperas occidentalis*?, abundant over 6000 feet altitude, was preferred. "Water birch," kugujava (*Betula fontanalis* Sarg.), was good. Willow, sagap, B.P., sugupi, M.L. (*Salix*), and "pussy" willow, served for children's and small game bows. Wood was cured, trimmed with a flint knife, polished with a rough rock (pata, river, payavi, file) first ground smooth against another rock. Treating with fire and ashes in some way straightened and supposedly gave elasticity. G.C. said large game bows were sinew-backed; small game bows were simple, of black willow or oak. One said the sinew was wrapped wet, sticking without glue. No specimens seen had it wrapped. T.S. said several layers of sinew in strips were stuck with antler glue, running out from one end of the bow to be twisted into the sinew bow string, after a couple of turns around the bow. The other end of the bow was notched for a loop at the string end. Self bows had both ends notched. Chalfant mentions some mountain mahogany bows with reverse curves at the ends, about 3 feet long, shaped by steaming, the sinew glued on, and says self bows, 6 feet long, had a simple arc.<sup>74</sup> T.S. said a string wrapped in some way around the hand and elbow gave the bow length, about 3 feet. Sinew came from deer backs.

Specimens: Mrs. Black, Big Pine, has an old bow about 3 feet long with sinew on the back. U. C. spec. 1-26934, made by Pike, Big Pine, is about 5 feet 3 inches long,  $\frac{3}{4}$  inch thick, and  $1\frac{1}{2}$  inches wide at the grip, which is wrapped for 5 inches with cord; the inside of the arc is flattish, the outside rounded; the string, looped at each end, is caught in notches. A specimen made about 75 years ago, owned by Mr. Will McCrosky, is in the Independence museum. The center is  $\frac{1}{2}$  inch thick,  $1\frac{3}{4}$  inches wide; the sinew backing,  $\frac{1}{8}$  inch thick, is brought around one end; the 3-ply string, twisted right, is wrapped many times around one end, looped over the other, but the end brought against the bow and held by 5 inches of buckskin-thong wrapping; 3 inches at each end and 4 inches in the center are painted red between which on the inside are three or

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<sup>74</sup> MS.

four sets of crossbands, each having a red, blue, and red line; some daubing appears over the sinew; length, about 3 feet. One made by T.S. is  $\frac{3}{8}$  by  $1\frac{1}{2}$  inches in the center, oval in cross-section; ends  $\frac{1}{2}$  inch wide. One made by Death Valley Shoshoni, owned by Mr. Eickbaum, Stovepipe Wells, is 3 feet, 6 inches long; the center  $\frac{5}{8}$  by  $1\frac{3}{4}$  inches, the ends, each notched,  $\frac{3}{4}$  inch wide. The sinew-backing is said to have been used there.

*Arrow, hauvügå.*—Of cane or willow. Chalfant adds arrow wood from Saline valley.<sup>75</sup> Willow was heated over fire, bent by hand. Cane was straightened in grooves on stone straighteners. Several straighteners of obdurate steatite, with one to several transverse grooves, were found. Plate 4*f* and *g* are bun-shaped, scratched by a stone cutting tool. Field Museum has two (spec. E-71474 and E-71477) from the Western Mono of Hooker's cove, similar in form, one with one, the other two, grooves. Mr. Suhr of Deep Springs found at Deep Springs lake one of steatite, 4 inches square,  $\frac{3}{4}$  inch thick, having a groove on one side and another vertical to it on the reverse side. A Western Mono vesicular lava straightener (Field Museum spec. E-71479) has a single groove. Stone straighteners were fire heated, and the arrow pressed and rubbed in the groove. Wooden straighteners were not mentioned in Owens valley.<sup>76</sup>

Feathers, usually three (Chalfant mentions two),<sup>77</sup> were hawk or eagle,<sup>78</sup> 6 inches long, stopping 1 inch short of the butt,  $\frac{1}{2}$  inch wide. Cane shafts were sinew-wrapped under the feather to prevent splitting. One inch of feather quill was sinew-wrapped to the shaft as the arrow pointed the reverse of normal, then the feather was folded back and the rear end lashed (fig. 3*e*). Occasional feather spiraling seems accidental. Zigzags and other red designs were painted on the shaft and sometimes on the feathers. Sinew wrapping under the feathers prevented the butt from splitting.

Cane arrows had willow foreshafts (fig. 3), 6 inches long, with heads varying in type. A plain, blunt greasewood, pa'tonova, foreshaft served for rabbits (fig. 3*a*). Duck arrows were similar, but the foreshaft was wrapped with sinew to form a bulge, making the arrow skip on the water (fig. 3*d*). For birds, the striking surface was enlarged with two pairs of sticks about 2 inches long, tied at right angles across the end (fig. 3*c*); this was called witsa'na. The fish arrow had a willow shaft, no feathers,

<sup>75</sup> MS.

<sup>76</sup> Field Museum has a manzanita straightener, flattish, eight inches long with an ovoid hole in the center, from the Western Mono, Hooker's cove (spec. E-71480).

<sup>77</sup> MS.

<sup>78</sup> Birds raised in captivity.

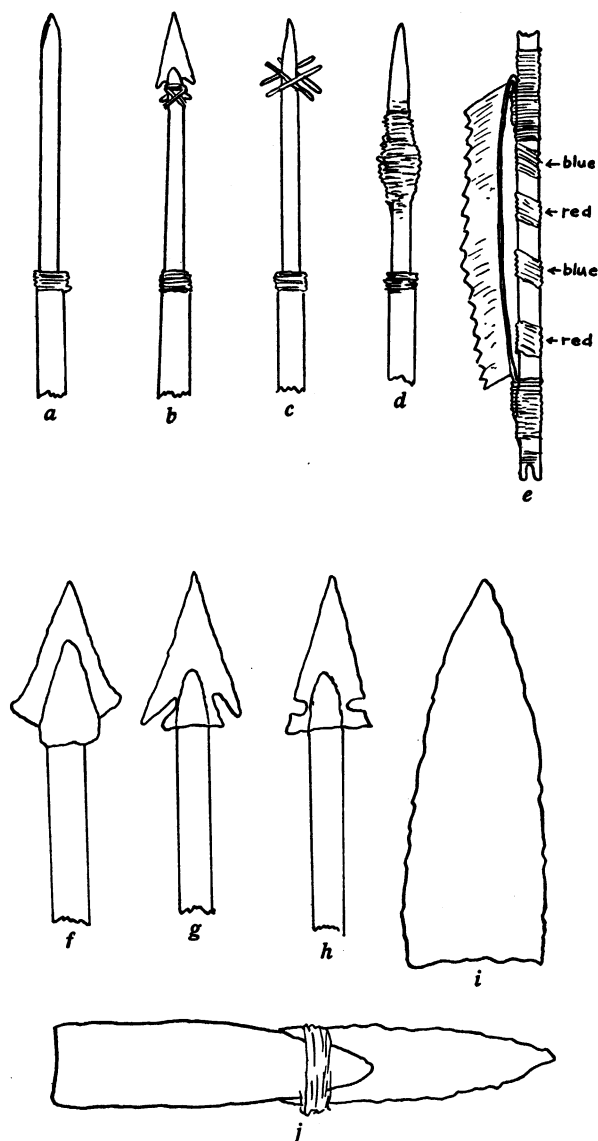


Fig. 3. *a*, plain, blunt greasewood foreshaft, used in taking rabbits; *b*, wooden foreshaft with obsidian point, for game or war arrows; *c*, two pairs sticks tied at right angles across end of foreshaft, used in taking birds; *d*, sinew-wrapped foreshaft, used in taking ducks; *e*, sinew-wrapping under the feather to prevent splitting of foreshaft; *f*, arrowpoint with projections at shoulders; *g*, arrowpoint with notches cut into the base; *h*, arrowpoint with notches cut into the sides; *i*, "skinning knife"; *j*, knife for general cutting.

and was tipped with two hard wooden points. Bone was not used. Game and war arrows were cane with wooden foreshafts and obsidian, ta'kapi, points (fig. 3*b*). Ninety-five per cent of the points are black obsidian, mostly from Glass mountain, between Bishop and Mono lake. Other sources of obsidian were: volcanic rock (bearing petroglyphs) at Fish Springs and probably lava south of Big Pine and near Bishop. A poisonous obsidian, which people avoided touching, was said to occur at the Bertrand ranch, 60 miles northwest of Benton. Mono Lake obsidian, pijü'um, came from Glass mountain. B.T. says his father placed obsidian flakes in his left hand on buckskin and pried off flakes with a deer antler point held in his right<sup>79</sup> (pl. 5*f*). Archaeological points in the region are well worked, thin in cross-section, basically triangular, an inch to 1½ inches in length, with two types of notching, both being found associated with pottery and therefore probably of Paiute make. Notches cut into the base leave a tang set into the arrowshaft and barbs projecting back (fig. 3*g*); some are cut into the side (fig. 3*h*).<sup>80</sup> Pike wanted to cut side notches into archaeological points of the first type. Unnotched triangles, perhaps unfinished points, also occur. Points were wrapped to the shaft with sinew and glued with a kind of shellac from sage infected by insects.

The Eastern California Museum at Independence has several arrows about 2 feet 10 inches long; 3 feathers, each unpainted but with serrated edges; one-piece solid wood shafts, encircled by about 10 bands, ½ inch wide, of red; obsidian points about 1 inch long, distinctive in having projections at the shoulders, stuck to the shafts with a gummy substance (fig. 3*f*).

Mr. Eickbaum has very long, recently made, Death Valley Shoshoni arrows. "Short flight" arrows are about 3 feet 4 inches long, 5/16 inch diameter; 4 inch wooden foreshafts fitted into cane, bound with sinew; two feathers spiraling to spin counterclockwise; gum and sinew under the feathers to prevent the bowstring splitting the butt. "Long flight" arrows are up to 3 feet 7½ inches; 3 non-spiraled feathers, 5 inches long, 7/8 wide; foreshafts 5½ inches long.

<sup>79</sup> A mythological character splits a boulder in two with a flaking point. Mr. Don McGuire of Ogden, Utah, saw Indians in Round valley, 1878, flaking points held near the fire for a few seconds with tough cedar splinters covered with moist buckskin. Three to five minutes were required to finish a point. Iron points were also used.

<sup>80</sup> This type, probably of Ute make, is common in northern Utah. Mr. Barnum Brown said points probably of Shoshoni origin found at an ancient buffalo kill in Yellowstone were of this type. It is probably typically Shoshonean, though notches were similarly cut in Basket Maker dart heads.

Arrow poisoning. (1) A yellow mineral, *mo'ata*, from near Koso Springs was daubed on the point. (2) A decayed substance from a "sack" on the left side of a dead deer's or mountain sheep's stomach kept dried and moistened to smear on points. It was used in war and hunting, not rendering meat inedible. G.C. (3) Deer heart blood, salt, ashes, ground rock, and cactus-needle scrapings mixed and sewed in a cleaned section of intestine; this is suspended from a stick across a hole in the ground, covered and left to "ripen" several months in warm weather. Arrow points dipped in it are fatal, but do not make meat inedible.

*Quiver, hūgū'na*.—For hunting, sack of tanned buckskin. For war, a sack of gray fox fur, *pādōgō'na*. It is slung over the left shoulder, the hunter reaching under his left arm for arrows.

*Shooting*.—The bow is strung by placing one end against the outside of the left foot, the middle inside the left knee, and pushing out against the upper end, pulling the looped string over the end with the other hand. The bow is held diagonally in front of the body, the arrow between the thumb and forefinger in primary release, resting between the middle and index finger on the bow, and is pulled toward the shoulder (pl. 3*b*). After release, it is "cast" with the bow hand. No wrist guard is used.

*Spears* of some kind may have been used for rabbits. (See Fishing.)

*Slings* of buckskin straps were only used to hurl rocks in brawls over pinenut land.

*Other weapons*.—A "disc" is thrown in warfare in a myth. The identity is unknown.

## HOUSES

Men did most of house building, but in divorce or separation women kept them. A single family, plus perhaps grandparents, occupied a house, though most living was done outside. Guests were feasted and seated opposite the door on a blanket. Houses varied with seasons and habitats.

*Mountain house (wogani)*.—This was used in the mountains above timber line, i.e., 6000 feet altitude, during the fall and winter after pine-nutting. Construction: two upright posts, 6 or 7 feet tall, set 15 feet apart in the ground with crotches supporting a ridge pole; side beams, all the way around, sloped from the ground to this pole, somewhat tent-shaped; the roofing was pine boughs; the smokehole was top, center; the door, east; no earth covering was added. Men occupied one; women occupied another and cooked in it. Proximity to springs was desired, but snow could serve for water.

*Winter valley house (toni or siwanopi, "house of straw")*.—Used in valleys during winters without pinenuts. Construction: much like sweat-house; a cone of poles, 9 to 10 feet high and 15 to 20 feet in diameter, was built around a pit about 2 feet deep; smokehole in center; existence of center pole is uncertain. Woven wild rye, waiya, or willows were secured to the poles by willow withes. T.S. said mats of tule (*Scirpus acutus* (?)) or waidava, a species of *Chenopodium*, measuring about 1 by 2 feet, were overlapped like shingles on the roof. Sometimes leaves, boughs, and a few inches of earth were added. T.S. denied but others affirmed earth covering. The sweat-house is earth-covered; so were Fish Lake valley dwellings. (Modern houses are cabins.) The doorway faced east; no rationalization was offered for this; it was a rectangular hole in the wall, 3 to 4 feet high, 2 to 2½ feet wide, an incline leading down to it from the ground level. The door was a 2-inch layer of waidava, running vertically, bound at each end by a pair of horizontal willows and tied, probably twined, at intervals, and simply stood, not tied or hinged, in the doorway. The floor was earth, sometimes with blankets.

Large houses accommodated one large or several very small families. People slept with their feet toward the fire, like wheel spokes. The place of honor was opposite the door. Cooking, eating, and sleeping, except in bad weather, was done outside behind a windbreak of willows planted vertically and close together, 4 feet high and 10 to 15 feet long, perhaps encircling the camp. The fire was on the floor center.

The Mono lake winter house, tomogani,<sup>81</sup> was a cone, 10 to 12 feet high and of equal diameter. The great height was "to get rid of smoke." Construction: a pit, 10 to 12 feet diameter, 2 feet deep; four poles were set up, their butts on the pit edge, their upper ends joined; smaller poles filled spaces between these, but leaving a smokehole; bundles of wild rye or oats, and pine or juniper needles, completed the covering. Earth was not used. The doorway extended eastward several feet. In deep snow, the smokehole served as doorway. Muir found Indians in the Sierra stripping bark from junipers (*Juniperas occidentalis*) for "tent making,"<sup>82</sup> probably this kind of house.

M.S. said her grandmother's house (Fish Lake Valley Shoshoni) was a cone of rough poles around a slight pit, with a 3-foot diameter smokehole in the center and the door east. She was certain that it was earth-covered. M.S.'s present cabin faces east. H.I.'s house in 1919 was semi-subterranean, but tent-shaped of boards. Recent Shoshoni houses at

<sup>81</sup> Novi, house, M.L.

<sup>82</sup> The Mountains of California, 206.

Oasis, Fish Lake valley, were earth-covered. Leonard in 1831 described Humboldt Lake houses as "a round hole dug in the ground, over which sticks are placed, giving it the shape of a potato hole—this is covered with grass and earth—the door at one side and the fire at the other."

*Cook house (hava toni, "grass house")*.—The winter cook house lacked the pit and earth covering but was the same size as the toni. Construction: a circle of poles converged at the top leaving a smokehole; bundles of waiya (*Elymus condensatus* Presl.), giant rye grass, and probably of toiva (*Typha latifolia* L. or *T. angustifolia* L.), cat-tail, were placed, starting at the bottom, to overlap like shingles, and were held in place by horizontal poles. Tules (*Scirpus*) also served. Skin coverings were never used.

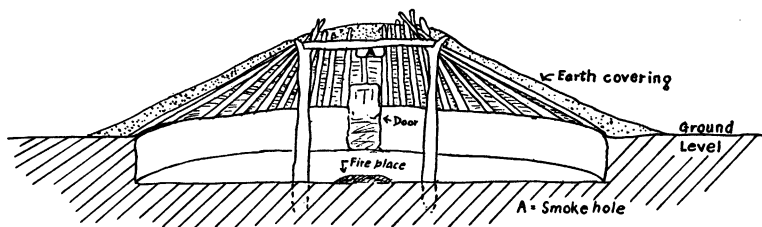


Fig. 4. Sweat-house at Big Pine creek.

*Summer house*.—Also called hava toni. These are dome-shaped, willow sun shades, 8 to 15 feet in diameter. Stout willows are set in the ground in a circle, then bent and lashed together, and other willows, boughs, and grass woven in horizontally. Today canvas, sacks, or tin sheets are placed over them for water-proofing. Another type of sun shade is a light roof of willows supported by four posts.

*Sweat-house (musa)*.—This was larger and more substantial than the toni. One now stands at Big Pine creek a mile west of town (pl. 6a; fig. 4). Construction: ground plan nearly circular, long diameter, 25 feet, running north-south; two stout posts in this diameter, 6 feet apart and 8 feet high, support ridge pole; pit is 2 feet deep; 3- to 4-inch diameter poles from ground to ridge pole and post tops form walls, being closely spaced and grass-covered (preferably wild rye grass); several inches of dirt covers this; smokehole is in center and fire, now a stove, below, between the center posts. Some claimed center posts to have been lacking formerly; this is doubtful. The doorway, about 4 feet high, is east and covered with a board door and entered by a dug way.

Uses: (1) It was the men's house, a dormitory for old and young unmarried men; the hand game was played inside, the hoop-and-pole

course was outside; men gathered in evenings to smoke, converse, relate myths, and sing. (2) Sometimes it was a community meeting-house, communal affairs being discussed. The pitana patü sweat-house, west of town, map 2, was community center. (3) Sudatory. Sweating was for cleansing and physiological benefits, not treatment of specific ailments;<sup>83</sup> was done in winter after hunting or strenuous work, about monthly; the fire, preferably of willow because of the smoke odor, was built in the forenoon; steam was unknown; men entered stripped and lay on blankets; then ran into the stream, always handy, cutting ice if necessary. Women did not sweat. (4) Ceremonial. G.C. said men prayed to "the Great Spirit." Probably individual prayer and communication with one's powers were practiced.

The Lone Pine sweat-house resembled the foregoing in all respects.

The Mono Lake sweat-house was small, poorly built, earth-covered, had a door only large enough to admit one, and a fire in the center. It was a sudatory only, not a men's club house, dormitory, or social hall.

*Beds.*—Were rabbitskin blankets on the ground. When Indians slept outside in cold weather, the ground was heated by a fire, after which clean sand and grass were spread on it.

## POTTERY

Pottery making, a special art formerly limited to a few women, is now nearly forgotten. Pots, wieur or tupin wieur (stone bowl), B.P., witur, Bish., witu'<sup>a</sup>, M.L., and pipes, pichimu,<sup>84</sup> were made. Their chief source was Big Pine, being traded elsewhere for shell money, food, etc.; also Fish Springs and Lone Pine.

*Material.*—Clay (winavi) was used; "reddish in color"; obtained from special places, e.g., near Fish Springs. On Baker creek, ¼ mile above the Somerville ranch, was granite decomposed *in situ* near the stream leaving 1 to 2 feet of kaolin and small, hard crystals which furnished tempering, but necessitated grinding.<sup>85</sup> A large boulder nearby with a smooth depression was used as a metate with a muller. Sifting through a winnowing basket followed. No other temper was added. Desert mallow (*Sphaeralcea fremontii* Torr., Jepson), widogo'v<sup>a</sup>, abundant along Big Pine creek, was boiled into a thick syrup. J.S.'s daughter

<sup>83</sup> Chalfant's informant claimed some sweating for skin rashes and other ailments (MS).

<sup>84</sup> P. 319.

<sup>85</sup> Mr. Don McGuire of Ogden, Utah, said that in Round valley the river clay was tempered with particles from sifted, decomposed granite.



moistened her clay and painted her vessel's exterior after drying with this, refusing to commence work without it.

*Construction.*—J. S.'s daughter and J.Sm.'s mother-in-law proceeded alike, first laying on a board a clay pancake base, about 3 inches diameter, made in the palm of the hand, then adding long, narrow strips rolled between the palms, and pressing each strip to the one below it between the thumb and forefinger of the right hand in order to obliterate joints. The wall was smoothed, as it grew, with the fingers dipped in the mallow syrup, and the completed vessel smoothed with the fingers (pl. 5*d*). One specimen of too wet clay, which slumped when completed, was tied around the top with a string. The pots were sun-dried, painted with mallow syrup, and baked, covered with coals, in an open, sagebrush fire.

*Archaeological sherds.*—These, from several sites, exhibited workmanship superior to these pots, being larger, round-bottomed, thinner-walled, smoother, and more regular. Colors were predominantly reddish or brownish gray with much uneven fire blackening. Parallel scratches, horizontal on the inside, vertical on the outside, indicate smoothing with sticks or stones.

*Specimens.*—One owned by Mrs. Black, Big Pine, found among piñons, White or Inyo mountains (pl. 5*b*): height, 20 cm.; round bottom; coils scarcely visible but walls irregular; inside caked with charred substance, probably food, but striations show in spots. One found north of Bishop and owned by Mr. William Sanford, associated with stone house rings and petroglyphs,<sup>86</sup> site 84, map 2: partially restored; height about 37 cm.; thin, even wall; bottom rounded. Color of both is dark gray. A large sherd from the east side of Deep Springs lake, owned by Mr. O. B. Suhr: height, probably 31 cm.; diameter, 25 to 30 cm.; rounded bottom; coil joints show  $\frac{3}{4}$  inch apart on outside; inside scratched horizontally by smoothing instrument; outside better smoothed but not polished, the scratches running from rim down to right, showing that pot was held in left hand, opening left, smoothed with right; rim rounded and irregular but not distinctive; no slip; color, mottled brownish gray. One in the Eastern California Museum (fig. 1) found by Mr. Charles T. Forbes, associated with stone house rings at "Bayonet Camp," 1 mile south of Chidago canyon, 14 miles north of Bishop: height, about 37 cm.; diameter rim, 32 by 34½ cm.; bottom, semi-rounded, 10 cm. diameter; will not stand alone; wall, 9 mm. thick; bottom, 12–13 mm. thick; rim curves slightly inward; lip rounded; smoothing striations horizontal inside, vertical outside; well fired; color, dark gray; decoration, short

<sup>86</sup> Steward, 1929*a*, 72–73.

row of fingernail indentations and zigzag below rim (fig. 1*i*). A sherd kept in water a year by Mr. Forbes is still hard.

Similar sherds were found on the west side of Deep Springs valley in rock shelters, site 86, map 2, and at Keeler, near petroglyphs,<sup>87</sup> site 35, map 1; and reported from Koso Springs, Little lake, and Fish Springs. All archaeological sherds were of the same type.<sup>88</sup>

Mono Lake Indians conflicted regarding their having made pots, called witur. A soapstone vessel, resembling a pot in shape and size, was found near Mammoth.

*Shoshoni pottery.*—M.S. thought the Fish Lake Valley Shoshoni had made pottery. It occurs archaeologically there. Several specimens (fig. 1) owned by Mr. Eickbaum, Stovepipe Wells, Death valley, were made by an old Death Valley Shoshoni man, who recently revived the art com-

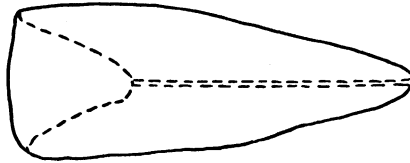


Fig. 5. Pipe of unbaked clay. (In Eickbaum collection.) Length,  $4\frac{1}{4}$  inches.

mercially. Construction: coarse, micaceous clay; color, dark gray, unevenly burned black; smoothing, inside horizontally with stick or fingers, outside with fingers leaving deep irregularities; walls, 9 to 13 mm. thick, more or less straight, tilting out like those made in Owens valley; bottoms, 12 to 20 mm. thick, flat, except one (fig. 1*e*); decorations, some have rows of fingernail indentations under the rim (fig. 1*b*); in all respects, exceedingly crude. Though this crudeness may be due to modern degeneration, a sherd of a similar vessel was reported found at an archaeological site 8 miles north of Stovepipe Wells. A pot of the Owens Valley archaeological type (pl. 5*a*), found somewhere in Death valley, was examined at Furnace Creek Inn.

*Pipes (pichimu).*—Made by J.S.'s daughter. Potter's clay moulded around a stick of diameter equal to the pipe bore, 12 to 20 mm. Larger, better-shaped sticks were probably used for cores formerly. Sun-dried and fired like pots, the stick burning out. A similar pipe was noted in the Eickbaum collection (fig. 5).<sup>89</sup>

<sup>87</sup> Steward, 1929*a*, 75-77.

<sup>88</sup> Leonard (167) describes pottery at Humboldt lake: "made of stiff mud which they lay upon the fire and burn; but from the sandy nature of the mud, after cooking a few times, it falls to pieces, when they make a new one."

<sup>89</sup> Further description of pipes, p. 268.

*Theoretical aspects.*—Two kinds of pottery were made in Owens valley: (1) large, round-bottom vessels from archaeological sites, a similar vessel having been found in Death valley; (2) small, flat-bottom vessels made by informants, closely resembling in manufacture and form those made by Gayton's Yokuts and Western Mono informants<sup>90</sup> and those of recent Death Valley Shoshoni make. It is assumed, though not proved, that these two wares belong to the same culture, that of the people now occupying the regions under discussion; that the small, flat-bottomed modern ware has resulted from copying somewhat similar basket forms. McGuire said Round Valley pots made in 1878 were round-bottomed.

The Yokuts, Western Mono, Owens Valley, Death Valley, Humboldt Lake, and Tübatulabal pottery forms an area within which distribution is continuous but not connected with southern California or the Southwest, for the Kawaiisu lacked it,<sup>91</sup> the Chemehuevi rarely made it except along the Colorado river,<sup>92</sup> and its occurrence in southern Nevada, except among the Moapa and Shivwits, is doubtful.<sup>93</sup> Pueblo sherds although found on the eastern side of the Amargosa desert,<sup>94</sup> have not yet been found in or west of Death valley. A relationship of the pottery-making peoples under discussion to the Southwest-southern California pottery cultures is not yet certain. More complete knowledge of intermediate cultures may disclose it.<sup>95</sup>

## WEAVING

### BLANKETS, CORDS, MATS

Rabbit-skin blanket,<sup>96</sup> wigo (pijo, generic name for blankets), made by men, sometimes women assisting. The fur of 50 to 75 jackrabbits, killed in the fall, was slit inside the hind legs, peeled off inside out, and cut into a single strip. Two strips were twisted together into a fur rope by tying their ends to a stick rolled on the thigh, then were stretched outdoors to dry, and rolled into a ball. Strips were added end to end by inserting one through a hole in the other and twisting. Fish Lake and Death Valley Shoshoni and Mono Lake Paiute followed this procedure.

<sup>90</sup> Gayton, 1929.

<sup>91</sup> Gayton, 1929.

<sup>92</sup> Kroeber, 1925, 597.

<sup>93</sup> Lowie, 1924, 225-226; McGuire reports pottery made at Hiko Springs, Nevada.

<sup>94</sup> Harrington, 1928.

<sup>95</sup> The pottery described here and that seen by Leonard at Humboldt lake may ultimately connect that on the Columbia river (see Ray, 1932) with the Southwest.

<sup>96</sup> Field Museum has a rabbit-skin blanket (spec. E-61500) from the Lone Pine Paiute. Specimen 1-26982 in the Univ. Calif. Mus. Anthr. is from Lone Pine.

The Owens Valley weaving frame was two upright posts, 8 feet tall, 5 or 6 feet apart, with horizontal bars top and bottom, around which the fur rope was wrapped vertically from one side to the other. Fish Lake and Death Valley Shoshoni informants said two poles laid on the ground, several feet apart, served as frames. Weaving began at the top, left, a pair of cords being twined around each vertical fur wrap with the fingers, across to the right and back, etc. The weft, formerly of buckskin or bark fiber cord, is now cloth strips. Mrs. Black's old blanket has a two-ply twine weft. Sizes varied from about 3 by 4 feet to 5 by 6 feet, smaller ones serving as cloaks, larger ones as bedding.

A softer, lighter mudhen-pelt blanket was made like the rabbitskin blanket.

Cord for twine, nets, etc., was two-ply of pounded, sometimes chewed, and twisted wicivi (*Amsonia brevifolia* Gray) fiber, secured especially at wic'vi wi'tü, site 24, map 1. *Āvanava* (*Asclepias speciosa* and possibly *A. mexicana*) were also used. Fiber was rolled between the hand and thigh to twist.

Some kind of twined tule mat was used on house floors.

#### BASKETRY

Basket, sü'hü, B.P., opo', M.L.

Materials: Willow, sühü'va (*Salix sessilifolia* Nuttall), was most important and was cut only in winter. M.H. refused to cut willows in July. Foundations or warps for coiled baskets were small scraped but unsplit stems; wefts were stems split into thin, flat strips, scraped formerly with obsidian knives, now with steel knives or glass, and kept pliable by moistening in the mouth while using. Black designs were willows with the brown inner bark remaining, then painted, *after* the basket was made, with a mixture of chewed willow roots and water. G.C. said a burned yellowish rock mixed with some root made this paint. Ohü'mi, probably fern roots, made a black weft when boiled with ashes. The roots of some water plant gave red. Red paint was sometimes applied to exteriors, especially of water jugs.

Weaves: Small, tightly woven baskets were coiled or sewed, of fair workmanship but inferior to Washo or Shoshoni baskets. Crude specimens have a 2-rod foundation. Most have 3 rods and 50 to 200 stitches of the weft to a square inch. The stitches which are non-interlocking embrace the 3 rods but pass through the upper rod of the bundle below. Two specimens in the Eastern California Museum at Independence,

owned by Mr. Ralph Bell, have small grass bundle foundations. Coiled food containers, ă'pá, were roughly semi-spherical, flat-bottomed, and used for food and cooking. Plate 9e has a flattened top, *g* straight sides, and *f* is unusual in being oval. Occasionally, probably under Caucasian influence, lids with knob handles are added. A cactus needle, wí'nivep, from the Inyo mountains, formerly served as an awl. Feathers, e.g., quail, and Chalfant adds yellow meadowlark and other birds' feathers,<sup>97</sup> were sometimes woven in.

Mono Lake coiled containers, wavoi, were sometimes pitch-coated inside for cooking, pottery not being made there. Field Museum has two similar Pyramid Lake food bowls (spec. E-61484 and E-61497). The making of angular designs of beads woven over completed baskets was probably invented at Mono lake but is occasionally used in Owens valley.

Other coiled ware: T.S. described a small, cup-sized coiled dipper, tu'wúkidanu, with a handle woven on, and a tray, sa'ku, about 14 inches in diameter.<sup>98</sup>

M.S., Fish Lake Valley Shoshoni, used a 3-rod foundation for light baskets, 5-rod for heavy. When 3 rods were used, the weft passed *over* the top rod of the bundle encircled but *through* the top rod of the bundle below. The weft, willow gathered in winter (they were "too dry" in summer), was purchased from another Indian. Strips about  $\frac{1}{8}$  inch wide and  $\frac{1}{16}$  to  $\frac{1}{32}$  inch thick were moistened in her mouth or by her fingers dipped in a pan of water as used, then drawn by her left hand across a knife edge against which the right thumb held it pressed. The strip was then passed through successively smaller holes, ranging from  $\frac{1}{4}$  to  $\frac{1}{32}$  inch in diameter, punched in a can top with a nail, to shave it down. For fine weaves, it was drawn through the smallest hole. A grass root from near Furnace creek, Death valley, made a dark brown design. The root (?) of Joshua trees—some occurred in Fish Lake Valley—also made brown. Chalfant, quoting Coville, says Panamint Shoshoni made black designs of devil horns and red of yucca.<sup>99</sup>

The coil ran clockwise as seen from the basket bottom, the basket being held open side up, in the left hand, the hole punched with a steel awl, right hand, and the weft pushed through from the outside. The edge ended above where the wall began, the rods being trimmed to a point first.

<sup>97</sup> Chalfant, MS.

<sup>98</sup> Field Museum has a Western Mono plaque (spec. E-71296) for casting acorn dice of a loose coil, the foundation being grass, *Epicampes rigens* Benth., the weft, 3 leaf sumach, *Rhus trilobata* Nutt., and sedge, *Carex barbarae* Dew., and the design, *Pteris aquilinum* L.

<sup>99</sup> MS.

M.S.'s basket, plate 6*b*, is in brown designs of birds and brush. Death Valley Shoshoni baskets were made by the same technique including trimming weft elements by pulling through a tin. One represents quail and brush; another has three mountain sheep on each side and a chuck-walla on each end in brown, with yellow dots near the edge; it is oval,  $12\frac{3}{4}$  inches long,  $7\frac{1}{2}$  inches wide. Other baskets in Death valley had butterfly designs. This realism is a modern decorative feature. Death Valley baskets in the University of Utah Museum of Anthropology: specimen 10869 has 19 stitches to a horizontal linear inch or about 100 to a square inch; specimen 10865 has 24 stitches to a linear inch or 96 per square inch; specimen 10866 has 26 stitches to a linear inch or about 150 per square inch. A Lone Pine Shoshoni basket is oval, has 16 stitches to a linear inch and about 96 per square inch. Other Lone Pine Shoshoni baskets observed had 200 to 250 stitches per square inch. Three-rod foundation is the rule.

Twined weaves utilized the same materials. Conical carrying baskets, *cudu'si* or *wā'nū* (large ones), *kāvō'nu* (small ones), vary in tightness. For wood and large articles, they are open twine, plate 11*a* and *b*. Vertical willow stems form a cone, some being cut off part way down for even spacing. The bottom is either rounded and cloth-covered, plate 10*c*, or the warp brought to a point. The pairs of weft strands, spaced sometimes two inches apart, are twisted over each warp. A bundle of small willows with one stout one on top are sewed to the rim to reinforce it. For carrying, a strap fastened to the side passes over the woman's forehead (pl. 8*b*). Old baskets serve for fishing. Plate 10*a* is a tighter, diagonal twine for seed gathering. Plate 10*b* is the usual tightly-twined seed basket used for gathering, transporting being done in a large basket. The strap passes through the basket near the rim and around short sticks inside. Piüga are gathered in a small, round-bottom open twine basket, plate 10*f*, called *günū*.<sup>100</sup>

The seed beater, *tānā'ku*, O.V., *tsi'gu*, M.L., has a dish-shaped bowl of warp elements running back into a rounded handle. A stout willow is sewed around the rim. Plate 9*d* is open twine, the weft elements being twisted over 2 warps. Plate 9*c* is plain twine and of the usual shape, made by M. W.

Winnowing basket or tray, *pātsā'*,<sup>101</sup> O.V., *nuvi'tuma*, M.L. For parching with coals and winnowing pinenuts and large seeds, these are larger, fan-shaped, open plain twine, plate 10*e*. Finer seeds require a tighter

<sup>100</sup> Gifford, field notes.

<sup>101</sup> Gifford gave *ce-e-tu-wa*.

weave, plate 10*d*, both of which are diagonal twine. The rims are reinforced by a stout willow withe sewed around. Shoshoni trays are similar. M.S.'s open twine tray (Univ. of Utah spec. 10867) was woven from small end, left to right, then the tray inverted and the strands carried left to right, etc.

Water olla, *kadu o'sa* (*kadu''u*, no; *osa*, sit; T.S. said *osa* meant bottle), B.P.; *sühüo'sa*, L.P. These had spherical bodies, narrow necks with stoppers. Pitch lumps shaken inside with hot pebbles gave the tight twine a waterproof coat. Bottoms, usually rounded, were sometimes flat. Short horsehair handles were woven into the sides (pl. 9*i*).<sup>102</sup>

Hat, *tsöpá''nū*. This was a tight, diagonal twine, semispherical, covering the entire head, and decorated with black painted designs. One specimen had 6 warps, 11 wefts to the inch (pl. 10*g, h*).

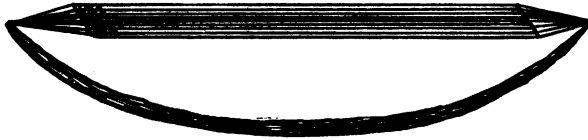


Fig. 6. Bow loom for weaving bead belt.

Cradle, *hüp<sup>a</sup>*. A small one served for infants, a larger one for babies from three months old until they walked. The back was horizontal willow rods twined together by pairs of weft one inch apart. Vertical rods, twined together at their ends which projected slightly beyond the horizontal rods, were fastened to the last by wrapping with yarn to form patterns. The baby, wrapped in buckskin and lashed to this (pl. 8*d*), was protected by a hood decorated with a zigzag for a girl, plate 9*a*, a row of inclined dashes for a boy, plate 9*b*.<sup>103</sup> The grandmother made cradles. Those illustrated were made by Castro Baldwin.

M.S. had a discarded cradle first used on her infant, now 18 months old, who will occupy a second cradle until it walks. Vertical willow rods are lashed to horizontal rods with cloth. The hood bears the same sex symbols as the Paiute.

T.S. mentioned an oblong twined sifter, 18 inches long, used to separate seeds.

<sup>102</sup> A Field Museum olla from Independence (spec. E-59002) is aryballos shape and has a plant fiber stopper and horsehair handle.

<sup>103</sup> A boy's cradle from the Western Mono of Hooker's cove (Field Museum spec. E-71301), has a frame of *Salix*, willow, and *Rhus trilobata* Nutt. One from the Kaweah river for a girl (spec. E-71194) has a frame of chaparral bound with sedge. Of two similar cradles from Pyramid Lake Paiute (spec. E-61493 and 61494), one has a buckskin flap.

Graters were unknown. Special fishing baskets were not made.

Women made their own baskets, taught by mothers or grandmothers. Tuwuci applied to all weaves.

Beadwork, besides covering baskets, comprised belts, woven on bows (fig. 6), the thread warp corresponding with the bow string, two weft threads running through each row of beads, one over, one under the warp. Designs were formerly geometric in many colors, now floral and realistic.

### CLOTHING

Women wore nothing above their waists, skirts, ukwā'c<sup>a</sup> or pānā<sup>h</sup>mu, from knees to hips, sometimes painted with red stripes vertically and hung with deer hoofs or dew claws. Men wore buckskin breechelouts and short-sleeved buckskin shirts. A Pyramid Lake Paiute buckskin shirt in Field Museum (spec. E-61518) has long fringed sleeves, a square neck bordered on each side by a panel of angular, conventional designs in blue and white beads, with similar bead designs down the front. Men wore pants reaching their ankles, there tied for protection against snow when traveling. Sometimes a whole untrimmed buckskin was tied around the waist for protection. Separate leggings were not used. Men made their own clothes. (T.S.)

When cold both sexes used rabbitskin capes over their shoulders, arms and hands inside.

Leonard saw "Shoshocoes" at Humboldt lake nude but for "shields of grass around their loins."<sup>104</sup> Ordinarily, a minimum of clothing was worn.

Moccasins, tapā'tsā, O.V., so'omaka, M.L., had separate soles, tongues, were ankle high and tied with string passed around through the upper edge. (T.S.) They were little worn. Muir saw a trading party in the Sierra barefoot. Men made moccasins and their own shirts and pants. Sandals were disclaimed, but one, now in the Museum of the American Indian was reported found in an Owens valley cave. Lowie reports a crude sagebark sandal from the Paviotso.<sup>105</sup> O.V. women sometimes wore sack-like, woven sagebark socks tied around their ankles for snow protection.

Sewing awls were cactus needles. Bone awls were disclaimed.

*Hair dressing.*—Women's hair hung loose from a part in the middle. The scalp in the part of a Lone Pine Paiute woman observed was painted

<sup>104</sup> P. 166.

<sup>105</sup> 1924, 218.



red. Hair was not braided. Sometimes it was bundled on top of the head under a basketry hat, *sühüzida*. T.S. said men had a braid hanging in front of each shoulder. Another said men bobbed it; another said it was knotted behind holding sticks bearing feathers. Men wore no hats. Plate 5f shows a hairnet.

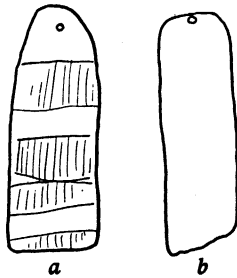


Fig. 7. Two steatite pendants. *a*, 4 inches long, has an incised design. (In Eastern California Museum, Inyo county.)

*Ornaments.*—Both sexes wore necklaces of strings of shell beads, *natsibudüd<sup>u</sup>* (means also bead money, but the shells are different), traded from the west, and shell earrings with cords passing through holes in their ear lobes. Figure 7 shows two steatite pendants in the Eastern California museum found in Inyo county, one having an incised design and being 4 inches long.<sup>106</sup>

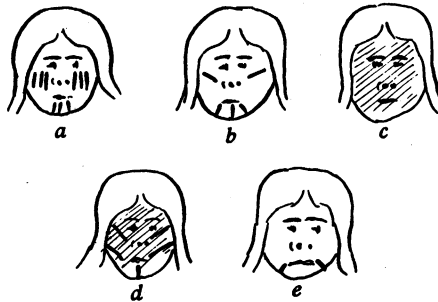


Fig. 8. Facial designs. *a*, red, black, yellow lines, one to three lines on chin; *b*, red lines; *c*, entire face red; *d*, red background, black lines; *e*, black lines.

Paint was used on face and body for festivals. In addition to the facial designs in figure 8, a design of white dots over red was used. Tattooing, mentioned for the Walker River and Yerington Paiute, was not practiced.

<sup>106</sup> Two olivella shell beads were found near Bishop (U. C. spec. 1-26976). Field Museum has two abalone disc ornaments, each perforated with two holes in the center and tied with buckskin, from Pyramid lake (spec. E-61508).

*Snowshoe* (*hū*).—A wooden frame shaped like a tennis racket, the end projecting behind, was laced with a rawhide (?) network, denser in the center for the foot.

*Preparation of skins*.—Women scraped hair from deer hides with a deer ulna or rib, sharpened with a stone tool. The hide was soaked (T.S. said boiled) in a basket with deer brains and water and stirred, then rinsed, worked with a deer brain paste, and staked out. While drying, it was worked soft. Smoking, though known in Nevada, was not practiced.

## MISCELLANEOUS ARTS AND INDUSTRIES

### FIRE MAKING

The outfit, *koso'va* (*ko'so*, fire), has a hearth, *tūnuhi'nu*, B.P., *tū'nū'hiwu*, L.P., of "black willow" or sage, *sawava* (*Artemisia tridentata* Nutt.), about 12 inches long cut with holes for the drill and notches in the edge opposite them, and a drill, *ha'uv<sup>a</sup>* (cane), of cane or hardwood in one piece. J.E.'s outfit (pl. 3*a*) had a willow hearth and 3-foot, one-piece cane drill. Tinder is finely ground sagebark (pl. 4*e*). Special individuals with supernatural power made these; one without the power could not even make himself one which would work.

Fine sand is placed under the drill point to make a powder to catch the spark, which drops onto a rock or bark slab underneath the hearth. J.S. put charcoal in his drill point, "because fire had already been there." The left knee holds the hearth. The palms of the hands starting at the top rotate the drill (pl. 3*a*), passing down when it is released and the hands raised. J.S. produced smoke after a few seconds but no spark.<sup>107</sup>

### PAINT

Red, *pija'pi*. O.V. used cinnabar secured near Last Chance mountain, Death valley (G.C. and J.Sm.), mixed with grease and ground, for the face, hair part, exteriors of water jugs, and other purposes. M.L. traded it from Nevada Paiute, mixed it with "grease" (*aduh<sup>u</sup>*, said to be marrow from inside bones) and used it on baskets. Field Museum has haematite red paint from Walker River Paiute (spec. E-59047), used for face and arrow paint and poison.

Yellow, *hū'vūvānāgit*, a lemon-yellow "chalk," was obtained from Shoshoni who got it somewhere east of Owens valley.

<sup>107</sup> Simpson (83) describes a Woodruff Valley (Nevada) Paiute fire outfit: drill, single piece of greasewood, 2 feet long, ½ inch diameter; hearth, same wood, 6 inches long, 1 inch broad, ½ inch thick, several pits; fire came in a few seconds.

Black, yado'vi. Secured by O.V. from Nevada Paiute. M.L. black, yadu'vi, probably a manganese, was abundant around Mono lake.

White, üvi, was a chalk from near Fish Springs dam, the eastern end of Poverty hills. M.L. white, ivi, came from Nevada.

Gray paint was ground galena.

Containers were small buckskin pouches. Field Museum specimen E-59047 is a small buckskin pouch from the Walker River Paiute.

#### IMPLEMENTS

Knives for general cutting, e.g., preparing willows for baskets, were obsidian or flint, and called tā'k'ägüx<sup>h</sup> (ta'kapi, obsidian). Figure 3j shows the manner of hafting; the blade, owned by J.S., is 4½ inches long, and was fastened with sinew, tamovi. The "skinning knife" was obsidian, 8 inches long, one end pointed, the other concave, and unhafted (fig. 3i).

*Drills.* T-shaped obsidian and flint points, 1 to 1½ inches long, probably hafted in the ends of shafts, are common at archaeological sites. Informants could not identify them.

#### GLUE

T.S. said deer antlers (not hoofs) were boiled in pots. Chalfant adds deer hoofs, and mountain sheep horns and hoofs; and, quoting from Coville, says the Panamint added ground rock, creosote bush resin, and pine pitch.<sup>108</sup>

#### MUSICAL INSTRUMENTS

*Flutes.*—Flutes (woina), M.L. and O.V., were elderberry, 8 or 9 inches long, end blown with several holes. Mono Lake said 4 holes, blown across the end. Three Western Mono flutes in Field Museum (specs. E-71446, 7, 8), from Hooker's cove, are this type with four holes each, made of *Sambucus mexicana*, elderberry. B.T.'s doctoring flute (fig. 9), sup-



Fig. 9. Flute used in doctoring. Ca. ¾ natural size.

posedly made by hand, had 6 holes near the distal end, a seventh near the mouth end, and was end blown. No standards in flute making were known.

<sup>108</sup> MS.

*Rattles (tsavaiya).*—Split-stick, hau (cane) tsavaiya : a 2-foot section of cane split lengthwise to within 6 inches of one end, the handle, and one split half cut 2 inches shorter than the other ; grasped at the unsplit end and clapped for totsohoid<sup>u</sup> dance. Another is a deer's ear sewed into a sphere enclosing pebbles and dried, called simply tsavaiya and used only at feasts in the sweat-house after rabbit drives. Tuvo<sup>va</sup>tsavaiya, a cocoon containing small pebbles fastened to a forked stick. Used like last and by doctors, never for dancing. Field Museum has three of these from Western Mono (specs. E-71228, 71485, and 71486).

*Drums.*—Unknown in Owens valley. A Mono Lake drum seen was double-headed, 15 inches in diameter, 5 inches deep, the two heads cross-laced together ; it was held in the left hand by a rope fastened to its side and beaten with a 12-inch stick with hide on the end. Its pre-Caucasian use was affirmed. Walker Lake Paiute were said to use drums.

*Musical bow (tugudagan).*—May or may not have been used in Owens Valley. Mono Lake : of elderberry, 5 feet long, strung with sinew plucked with the finger while one end was held in the teeth. A Field Museum specimen from Western Mono of Hooker's cove (spec. E-71449) is *Acer macrophyllum*, Oregon maple, about 4 feet long, strung from one end to a key 6 inches from the other end which tightens it. Field Museum said it was also used among the Tepehuane, Cora, Maidu, Yokuts, and Mono.

*Bullroarer.*—A small, round stick, 18 inches long, serves as handle ; a 2-foot string fastened to a notch in one end of it passes through a hole in a board 12 by 1 by  $\frac{1}{4}$  inch, which is swung. A small boy's toy. T.S. and G.C. remember playing with them.

*Musical rasps.*—Unknown in Owens valley and at Mono lake. Informants thought Pyramid Lake Paiute used them.

## SONGS

The following songs were recorded in the field and later transcribed in the laboratory. No claim is made to precision in the intervals. They appear, however, to be as near the intervals used in European music as people singing without standardized instruments are likely to come. Although many claim that primitive peoples do not even approximate European intervals, it is felt that this Paiute music may justly be represented by European musical notation.

(1) Doctor's song. Recorded by E.L., who learned it from a Shoshoni doctor near Darwin (probably a Panamint) who cured his [E.L.'s] brother. This introductory part has no words (a description of his "powers" follows).

♩ = 96

tsi wi tsi wi dai no wi va tsi wi tsi wi dai no wi va

no mi no mi no mi no mi no mi no mi no mi no

A doctor's song recorded by B.T., who used a flute in doctoring, is:  
 My flute I sing you hear some-place.  
 nugu woina nu huviuda mu du'hana inakagdua.

(2) Bad dream song. Recorded by B.M. Sung to remove the spell from persons who have dreamed "evil."

♩ = 168

Hi no i hi hi ya ho yo yu i na ta yo ka tso tsi

Hi no i hi hi ya ho yo yu i na ta yo ka tso tsi

(3) Tsoa huvia. Recorded by T.S. Sung by people in gatherings.

♩ = 152

tso ya vi dü gü nü wü ki ta nü wü tso ya vi dü i dai

kwai dü nü vü tso ya vi dü gü nü vü ki ta nü vü'

tso ya vi dü' i dai kwai dü gü nü vü tso ya vi dü gü nü vü

ki ta nü vü tso ya vi dü i dai kwai

The words, in part, are:

mountain old man big man  
 toyavi jugu nuwa kida nuwa

(Big in conversation is pava, in song, kida.)

Another tsoa huvia is:

"country" rattle small I-am (?) dance ?  
 tuvo tsavaiya tsi inuva nani nuga idunu<sup>va</sup>.

- (4) Funeral song. Recorded by T.S. The syllables are meaningless.

♩ = 105

wa' na hi' wi yo ha' na wa' na hi' wi yo ha' na  
 yo ha' na hi' wi' yo ha' na yo ha' na hi' wi' yo ha' na  
 wa' na hi' wi yo ha' na wa' na hi' wi yo ha' na

Detailed description: This musical score is for a funeral song. It consists of three staves of music in a 4/4 time signature. The tempo is marked as ♩ = 105. The melody is written on a single treble clef staff. The lyrics are written below the notes, with accents over the syllables. The first line of lyrics is 'wa' na hi' wi yo ha' na wa' na hi' wi yo ha' na'. The second line is 'yo ha' na hi' wi' yo ha' na yo ha' na hi' wi' yo ha' na'. The third line is 'wa' na hi' wi yo ha' na wa' na hi' wi yo ha' na'. The music ends with a double bar line.

- (5) Funeral song. Recorded by B.M. The syllables are meaningless.

♩ = 106

wi o ho ye ho yo wi a ha na wi o ho ye ho yo wi a ha na  
 wi o ho ye ho yo wi a ha na wi o ho ye ho yo wi a ha na wi o ho  
 wi a wa ha le wi o ho wi o ho a ha na wi o ho ye ho yo wi  
 a ha na wi o ho ye ho yo wi a ha na wi o ho ye ho yo wi a ha na  
 wi o ho

Detailed description: This musical score is for a funeral song. It consists of five staves of music in a 4/4 time signature. The tempo is marked as ♩ = 106. The melody is written on a single treble clef staff. The lyrics are written below the notes, with accents over the syllables. The first line of lyrics is 'wi o ho ye ho yo wi a ha na wi o ho ye ho yo wi a ha na'. The second line is 'wi o ho ye ho yo wi a ha na wi o ho ye ho yo wi a ha na wi o ho'. The third line is 'wi a wa ha le wi o ho wi o ho a ha na wi o ho ye ho yo wi'. The fourth line is 'a ha na wi o ho ye ho yo wi a ha na wi o ho ye ho yo wi a ha na'. The fifth line is 'wi o ho'. The music ends with a double bar line.

- (6) Hand game song. Recorded by H.T. who learned it in Yosemite. The syllables are meaningless.

♩ = 128

he ni hi ya hi ya na ha he ni hi ya hi ya na ha

Detailed description: This musical score is for a hand game song. It consists of one staff of music in a 4/4 time signature. The tempo is marked as ♩ = 128. The melody is written on a single treble clef staff. The lyrics are written below the notes, with accents over the syllables. The lyrics are 'he ni hi ya hi ya na ha he ni hi ya hi ya na ha'. The music ends with a double bar line.

- (7) Hand game song. Recorded by H.T. and J.McB. E.L. recognized this and claimed it came from Panamint Shoshoni.

♩ = 285

o yo no mi o no wi o no a o yo no mi o no wi o no a  
 ke wa wa a o yo no mi ke wa wa a o yo no mi

Detailed description: This musical score is for a hand game song. It consists of two staves of music in a 4/4 time signature. The tempo is marked as ♩ = 285. The melody is written on a single treble clef staff. The lyrics are written below the notes, with accents over the syllables. The first line of lyrics is 'o yo no mi o no wi o no a o yo no mi o no wi o no a'. The second line is 'ke wa wa a o yo no mi ke wa wa a o yo no mi'. The music ends with a double bar line.

(8) Hand game song. Recorded by E.L., from Panamint Shoshoni near Keeler or Darwin.

♩ = 190

at si i wi a a li a a tsi a la tsi i wi a a li a a  
 tsi a la tsi i wi a a li a a tsi a la tsi  
 wa ha a la sol le a le ma ha la tso le a la  
 tsi i wi a a li a a tsi a la tsi

(9) Hand game song. Recorded by E.L.

♩ = 216

ya hé lo mi no wa lé a tso a hé yu la  
 ya hé lo mi no wa lé a tso a hé yu la he ya hé la mi no wa le a  
 hé ya hé lo mi no wa tse a hé ya he lo mi no wa le a tso a hé yu la

(10) Hand game song. Recorded by T.S.

♩ = 224.

.yu ni a ni wa yo a ni tsa hai ya wi a ni a  
 haiya ni a ni wa yo a ni tsa hai a wi a ni a

(11) Basket hiding game. Recorded by B.M.

♩ = 228

ka'ni naya ni'na hai ni'na ha'ya ni'na ha'ya

(12) Totsohoid<sup>u</sup> dance song. Recorded by T.S.

♩ = 180

ye wai ye wai yi wi i tu yu no ye wai ye wai yi  
 wi i tu yu no ye wai ye wai yi wi i tu yu no  
 ye wai ye wai yi wi i tu yu no ye wai ye wai yi  
 wi i tu yu no ye wai ye wai yi wi i tu yu no  
 ye wai ye wai yi wi i tu yu no  
 a hu ka mo ni na hu ka mo ni a hu ka mo ho ni na  
 ye wai ye wai yi wi i tu yu no  
 a hu ka mo ni na hu ka mo ni a hu ka mo ho ni na

(13) Totsohoid<sup>u</sup> dance song. Recorded by T.S.

♩ = 190

A wo yi na hi na na wo yi na hi na na wo yi na hi ni hi  
 Nu na ma ya wi ka mü na ma ya wi ka hi ni  
 nu na ma ya wi ka mü na ma ya wi ka hi ni

As recorded, the first line was repeated three times, then the remainder sung.



(14) Totsohoid<sup>u</sup> dance song. Recorded by E.L.

♩ = 200

Cho la ha mi' i cho ka het cho la het cho la ha mi' i  
 Cho la ha mi' m ha ri' i mi ma la cho ka' ala ha  
 Cho ka'ala ha cho ka het cho la het cho la ha mi' i  
 Ha ri' i mi ma la cho ka' a la ha cho ka' a la ha  
 Cho la het cho la het cho la ha mi' i

## (15) Circle dance song. Recorded by T.S.

♩ = 320

hū it nī ya ga mi ya ga mi hū it nī  
 ya ga mi ya ga mi hi no i no wi na no  
 wi na no hi no i no wi na no wi na no hu it nī

## (16) Circle dance song. Recorded by H.T. and J.MeB.

♩ = 144

I  
 ya di dō po ya na ya di dō po ya na ya di  
 II  
 ya di d'ō po ya na ya da mi' i ya da ya di d'ō po ya na  
 ya da mi' i ya na

As recorded, I was repeated 6 times, then II 6 times, when the following variation was introduced in the second measure of II.

ya da mi' i ya da mi

The words were translated: "Our horse is dying."

## (17) Bear shaman's song. Recorded by T.S.

♩ = 290

Un a'ki ta-a ya' hai di mi-pa' chi do kwó vi na kwai' dü  
 pa' chi da kwó vi na kwai' dü  
 Un a'ki ta a ya' hai di mi pa' chi do kwó vi na kwai' dü  
 pa' chi do kwó vi na kwai' dü

The words in part mean :

Danger (?) (?) (?) I (?) (?) (?) (?) my tracks  
 una kita aya haidi nu pateci do kwo vina kwai du  
 ("There is danger as I go. You see my tracks.")

(18) Lost cub song. From Kern county ; recorded by E.L. A bear cub, whose mother has been killed, walks over a trail he has traveled with her, singing sadly.

♩ = 90

ha tsa hiu la pi a wa tsa ha tsa hiu la pi a wa tsa  
 ju lo lo chu mu la ju lo lo chu mu la  
 ju lo lo chu mu la ju lo lo chu mu la  
 ju lo lo chumu la ju lo lo chu mu la

The words mean :

Where is-my? mother now  
 hatsa hiula pia watsa

The remaining syllables are meaningless. E.L. thought this was in the Western Mono language.

T.S. recorded a song supposed to be sung by a lonely hunter in the mountains:

mountain wind place rain-little (mist).

toya hu-wa gai pasumigati

Many Paiute songs came from the Shoshoni around Panamint valley, who were regarded as excellent composers.

T.S. in recording showed a remarkable sense of absolute pitch or tone memory. Several times he repeated a song, recorded a week earlier, in exactly the same key.

## GAMES

Gambling was the favorite Paiute amusement, indulged in at all times, especially at the fall circle dance. Large sums in strings of shell beads, goods, and, some say, daughters or sisters were bet. Old Doctor won Mami's brother's wife in the hand game. Coyote, in a myth, gambled away his wife, daughter, and his own life.<sup>109</sup> The hand game is still played. Cards have replaced other games. Betting is now in silver money.

*Hand game* (*naiü'gua, naid'gua*).<sup>110</sup>—Men usually, women sometimes, played, forming two sides, one to a dozen on each. Paraphernalia: four small sticks, tĩ'o, usually bone (swan preferred) to "prevent cheating," small enough to conceal in the hand, two wrapped in the center with a dark material. Field Museum has two sets of these (specs. E-61490 and E-61506) from the Paiute of Pyramid Lake reservation, Nevada. Ten counting sticks, tĩhū'pi, five to each side, are 10 or 12 inches long. Dorsey collected eight counters, 12½ inches long, at Pyramid lake,<sup>111</sup> but Kelly found the Surprise Valley Paiute using ten.<sup>112</sup> Field Museum has a set of eight sticks, 10½ inches long (spec. E-61514), from the Pyramid Lake reservation catalogued as hand game counters.

One side sings<sup>113</sup> while two members hold the sticks, one in each hand, shuffle them behind their backs and hide them in closed fists. One opponent guesses for the unmarked bones, indicating that they are in his opponents' right hands by pointing right, left hands by pointing left, the middle hands, i.e., left of one, right of the other, by holding his palm vertical; the outside hands, i.e., right of one, left of the other, by holding his palm horizontal. Many feints, to ascertain the bone positions, pre-

<sup>109</sup> Steward, *Paiute Myths* (MS).

<sup>110</sup> Culin (311) gives the Pyramid Lake name, nayukpui.

<sup>111</sup> Culin, 311.

<sup>112</sup> P. 173.

<sup>113</sup> See p. 280.

cede the exclamation "Here!", his real guess. His opponents open their hands, heretofore folded across their chests, and show the bones. For missing all sticks, his side forfeits two counters; for failure to guess one pair, his side forfeits one counter but gets the bones correctly guessed and he tries again. For guessing all correctly, his side receives all the bones and neither forfeits counters. Two members of his side then conceal the sticks, singing, while an opponent guesses. Loss of all counters loses the game and the bets, usually made between pairs of individuals. (See plate 6*d*.)

*Basket hiding game.*—Called nayutatsi'ida or nayupo'ida, B.P.; nüpō'ḡinu', F.S.; wütasi'idu, Bish. A variation of the hand game, hiding similar sticks in similar positions under a basket, sako. Two or four sticks are used.<sup>114</sup> Field Museum has a set of four sticks (spec. E-61505) from Pyramid Lake reservation catalogued as the "four stick game," all unmarked, and ten counters (spec. E-61519), each 1 inch long, with red stripes and one end sharpened.

Old men, often one to a side, play. One hides the sticks under the basket, raising its back edge to the time of his song, tünainüni'nu. It is played and won like the hand game.

*Stick dice game.*—Called tajani'iti, B.P., tajahñi'inu, F.S., tazani'idu, Bish. A woman's game, played with eight split pieces of cane 10 to 16 inches long, the inside surfaces painted red, the outside natural in color but called "white." A Field Museum set of eight (spec. E-61516) from the Pyramid Lake reservation corresponds with this type. Thirty-two short pickets set into the ground in a semi-circle are for scoring. One informant said the number was determined at each game.

Sides of several women play. Each side throws into the air or bounces from the knee four dice, the one having most white sides fall up taking first play and throwing eight dice. Scoring is: 1 white, 1 point, 2 white, 2 points, to 7 white, 7 points; 8 white or red sides up, tajani'iti, gives 16 points. One said that 7 whites gave 14 points. Each side has two throws, tajani'iti giving four extra throws. Each side moves its marker, wü'ga (clitoris), from opposite ends of the pickets as many spaces as white sides turn up. Two trips across and back, 128 points, won. Variations were possible in the winning count.

A variation of this, tajani'<sup>1</sup>, is played with the same dice by men and women in a circle, each throwing once in turn. Only 1 white and 7 red up, wui'd<sup>u</sup>, counts, and gives a point and extra throw. Four points win.

<sup>114</sup> Kelly found the Surprise Valley Paiute sticks distinguished by size, not markings.

Another dice game, not clear, possibly resembles the acorn dice of the Western Mono. A Field Museum outfit (spec. E-71296) from Hooker's cove has six acorn calixes filled with talc to be cast upon a coiled basket plaque.

*Hoop and pole.*—A favorite game called *pai'cinu, pais*. The course, 50 feet long, is smoothed ground, "banked" at each end by willow bundles 8 inches in diameter pinned to the ground by willow staples and called *unatsikunum* (to pin down). A foul line runs across the center. The hoop: one described it as a willow ring, 12 inches in diameter, another as buckskin-covered, 2 to 3 inches in diameter,<sup>115</sup> the hole just admitting the spear. The spear is a willow, 1 inch in diameter, 8 feet long.

Men played in pairs of partners, one on each side. One rolled the hoop from behind the foul line, then he and his opponents on his side of the course cast at it. Penetration counted 2, contact 1. The partner of him whose pole fell nearest then rolled from the other side and that side cast. Doing one's own rolling was advantageous, tricks being used.

*Hockey or shinny.*—Called *inu, B.P., idu, Bish.*, the object thrown. *Nāt'si pōgōnō' inū* (*natsi*, throw; *pogono*, stick; *inu*, the object). Played by both sexes, especially women, on a field 300 feet long with a pair of tall goal posts at each end. Each side, 6 players. Each player carried a long stick, with which he carried a rag, first thrown up in the center. His purpose was to carry the rag through the goal posts. A Field Museum "double ball" outfit (spec. E-61515) from Pyramid Lake, having a slender buckskin bag 9 inches long bulging at each end and a 3-foot stick with a short fork, is probably the same. A "buckskin shinny ball" (spec. E-61517) from Pyramid Lake may be a football.

*Football (wītcimū'inu).*—A strenuous and favorite gambling game. The field resembled that for hockey. The ball, *wītcimū'u*, 4 inches in diameter, was deer hair stuffed and buckskin-covered. About 6 men on a side tackled, wrestled, and fought to kick (hands were taboo) the ball through goal posts 6 to 7 feet tall and 9 feet apart, at each end of the field.

*Ball race.*—Contestants with bats, *osikoto'ra* (a stick 2 to 3 feet long with a loop 4 to 5 inches in diameter at the end laced across with rawhide) propel balls, *tū'ö* (probably like the *wītcimū'u*) around a course of several miles, the man winning whose ball first crosses the goal.

*Arrow game (nātu'o'hinu, natu'o'i).*—One player shot arrows with cross-sticks on their points, *witsa'na* (fig. 3c), over his opponent, who

<sup>115</sup> This corresponds with the Yokuts (Culin, 483) and Pyramid Lake (Culin, 499) hoops.

threw up a basket or rawhide-netted hoop 12 inches in diameter to catch them; then they reversed.<sup>116</sup>

*Wrestling*.—Called *navidükü*, B.P., *navidügürü*, Bish., to frighten, was a gambling game. The number of falls for a win was agreed upon before starting. Other details were not recorded.

*Races*.—Runners raced over distances up to a mile.

The following games were played by boys:

*Witsadovi'i*.—One held a willow hoop, 1 foot diameter, while the others threw arrows at or through it. They played for arrows.

*Quoits* (*nāḡwā'nuadü*).—Each boy threw two sticks, 3 to 4 inches in diameter and as long as he was tall and with identifying marks, at a stake in the ground. One or two of his sticks nearest the stake gave him 1 or 2 points. Six points won the game and the arrows bet. Eight boys, in teams of 4, sometimes played.

*Target shooting* (*ūnātunoid*).—One boy shot an arrow as far as he could. He and the others each shot 2 arrows at it. Scoring was by proximity of 1 or 2 arrows to the first, as in quoits. Six points won, each loser surrendering 1 arrow.

*Nā'mo'ju'ki* (B.P.), *na'mo zuki'du* (Bish.).—Boys shot at a section of cane on the ground about 25 feet away. The one farthest away surrendered an arrow each time.

Boys pretended to smoke dirt in toy pipes of swollen stalk, *hausā'ava* (probably *Eriagonum inflatum* Torr. & Frem.).

*Bullroarers* (p. 278) were boys' toys.

#### ASTRONOMY AND CHRONOLOGICAL DIVISIONS

Stars, *pa'tüsüvi*, M.L. Pleiades (*awa*, "many," O.V.) were called by a Bishop informant, "dancing girls"; by A.G. at L.P., "men racing home from hunting cottontails." G.C. said they were used to tell time at night. North star, *pa'düwüdüdü*, "standing in the water," because it does not move. Orion's belt, *pā'hi'*, "three," used to tell time at night. The Dipper had some name. Shooting stars most said meant nothing; T.S. said meant someone had died. Morning star, *ta'viha'a* ("sun" or "dawn coming").

Sun, *tavaduadü* (applied also to modern watches), Bish., *tovai'düwai'dü*, L.P., *tava*, M.L. Though not an animistic spirit nor the object of ritual, it was revered as the source of light and heat and was sometimes an individual's "power." It figures in several myths.<sup>117</sup>

<sup>116</sup> The Surprise Valley Paiute in *düdotanai* threw sticks instead of shooting arrows.

<sup>117</sup> Steward, *Paiute Myths* (MS).

Moon, *mū'a*, O.V. and M.L., the "noise maker and funny man"; a buffoon in mythology. Moon phases seemed meaningless. An eclipse is his death.

Divisions of a day: *ta'va jivui* ("sun rising"); *āwā'hū*, morning; *tavai'na*, noon; *ūwanū'osū*, afternoon; *tayoŋoit* ("going down"), sunset; *to'goano*, night; *tō'gātūvihū'ŋa* ("night middle"), midnight.

Months or moons were named after characteristic occurrences in nature. Only two names are available: *ijadūa*, [young] "coyote moon," February or March; *mutsawūa*, "faun moon," about April.

Seasons were: *u<sup>u</sup>va'no*, *yūva'no*, fall; *to<sup>o</sup>wa'no*, winter; *ta<sup>a</sup>wa'no*, spring; *ta'zawano*, summer; *ta'zatuvihi'ŋa*, midsummer.

Years were not counted and were remembered only by outstanding events, e.g., a great drought, 60 or 70 years ago, when stored food was nearly exhausted.

*Tiwā'p*, the universe, comprised the sky (*tuhuva't<sup>ū</sup>*, *tugupa'tū*, "over head," O.V.), a dome over a flat earth, tip, M.L., held in the hand of some creature which shook it when he moved. (An Indian from the west asserted at a Bishop "fandango" that he had caused the 1883 quake, but this angered the people.) There is some belief in oceans to the east, south, and west.

*Weather omens.*<sup>118</sup>—The new crescent moon on its back forecasts storms; on its end, dry weather; and at different intermediate angles, degrees of rain. Sun and moon circles indicate, by their size and color, kinds and degrees of storm and cold. Flying cobwebs mean rain next day. A breeze called *o-so-ja-pu*, "its breath," foretells a storm.

Rain, *pawa'mpa*, O.V., *pauma'va*, M.L.; hard rain, *ūnūpa'ūma*, M.L.; snow, *nūva'vi*, O.V., *nūva'vi*, M.L.; cloud, *toŋo'va*, O.V., *tāwō'va*, *tamō'va*, M.L.; sky, *kumi'va*, M.L.; wind, *<sup>h</sup>ūgwa'p*, M.L.; hot, *ū't<sup>ū</sup>ūt<sup>ū</sup>*, O.V.; cold, *usi'ūt<sup>ū</sup>*.

## BIRTH AND CHILDHOOD

Remedies for barrenness were unknown. A pregnant woman avoided much meat lest the child become too large for an easy delivery. During labor, she was placed in a pit, *cutū'vida* (which had been heated for six or eight hours by a brush fire and lined with clean, cool earth), and covered with a blanket. She was steamed, *basauan*, by hot rocks placed in water in a large, shallow, pitch-coated basket, *apa*, to relax her joints, warm her blood lest it clog in her womb causing a cold, and to stimulate lactation. Delivery was in the pit. A midwife, *tuduamudukudu* (bring

<sup>118</sup> From Chalfant, MS.

baby's birth) grasped her behind, working the baby down as she kneeled, hands on knees. The nurse squeezed out "impure" milk and bathed the baby before it was nursed. Next morning, the nurse bathed the mother and baby; and a hird man bathed the father, who rewarded him with his clothes (Chalfant says he left money in the pockets),<sup>119</sup> and then donned new clothes for hunting luck. The parents were confined five days, the father running east every morning and west every evening for endurance and hunting luck. The mother used the head scratcher stick for five days. One said, probably erroneously, she ran to prevent laziness. She avoided cold water, meat, and grease for a month to recover rapidly; the father avoided them five days. After birth, the mother was moved to a larger pit, staying there five days<sup>120</sup> (T.Sm., probably mistaken, said ten days), covered with a blanket, cared for by her nurse. G.C. said the husband might sleep with her but must not have intercourse. The sixth day, stronger, she left the pit. Meanwhile her husband remained quiet, keeping the fires burning, not touching a bow, arrow, or gun. T.S. said a hunting and gambling taboo lasted a month. After his first subsequent gambling he left his winnings, saying to an older relative, "Come over and see our winnings," the man taking half only, lest he spoil his luck.

The sixth morning, the nurse bathed the mother, a man the father in cold water. (He may give up his clothing now.) The baby, heretofore kept in an old basket, was bathed by the nurse and put on a cradle, hup<sup>a</sup>, woven since birth by either grandmother.<sup>121</sup> A zigzag across the hood indicated a girl; a row of diagonal bars, a boy. Plate 9a, b. Otherwise babies of both sexes were treated alike. A few months later the grandmother provided a larger cradle. M.S., Fish Lake Valley Shoshoni, discarded her first cradle after three months.

The umbilical cord was buried with the afterbirth, inverted to prevent further children, right side up for more. Deep Springs Johnny's wife thus prevented more children. Digging or trampling the spot prevented children.

Women often had eight or ten children, many dying in infancy. The 62 marriages recorded in the genealogy, appendix 6, average 2.8 children per family, which is the minimum, as more complete data would probably show more children, and many couples were still having children. The 34 marriages with children grown, i.e., where at least one child is

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<sup>119</sup> MS.

<sup>120</sup> Chalfant says both parents had a "confessional," the mother before leaving her bed, and the father confessing and praying before dawn as he was bathed.

<sup>121</sup> See Basketry.



married, average 2.9 children per marriage. This is also the minimum and seems to maintain the population.

Twins were rare; both were raised. Nursing lasted 1½ to 2 years. Infants were nursed normally at about 6 a.m., again at 9 or 10 a.m., and at equal intervals throughout the day, and when they cried. Supplementary food, now bean, potato, or mulligan soup, was given them at about 1 year of age. Walking normally began at 14 or 15 months. Crying babies were "talked to" to comfort them. Babies learned by people talking to them, and could say "mother" and "father" by 12 months. They wore diapers of fine sagebark and were wrapped in rabbitskin blankets. Children were generally nude. Boys wore breechclouts at 14 to 16 years of age.

Although adoption was rare, orphans were raised by willing relatives. Dead babies were buried in the cemetery near close relatives.

Children were not instructed in sex. They were taught to be clean, neat, and quiet, to respect elders and not to boast. Punishment, usually whipping, was most often for fighting other children and disrespecting elders, e.g., throwing dirt at them. Children were frightened into good behavior by being told that Nunumic, the mythological cannibal giant, would get them. The mother and grandmother raised children, but any family member cared for and meted punishment to them. Other children ridiculed crying children.

When boys were about 10 years of age, their fathers taught them hunting, making bows and arrows for them, the boys practicing on rabbits and small game. At 14 they accompanied their fathers deer hunting. Girls at 12 to 14 were taught seed gathering and woman's work. Indians note that some children learn more quickly than others.

*Theoretical considerations.*—Although an understanding of the attitudes and personality traits peculiar to Indians in different cultures must come through studies in genetic psychology analyzing cultural traits in child learning which produce mental differences, these differences are none the less cultural and therefore should be noted by ethnography.

Without attempting a solution of the problem of the formation of the peculiarly reticent attitude of the Great Basin tribes, or the common stolidity of the American Indian, it may be suggested that these attitudes are formed in early childhood. The indifference manifested toward the white man and his civilization may ultimately appear to arise from the custom of habitually giving the child his own way, teaching no habits of self-discipline, exciting no intellectual curiosity, and only encourag-

ing him to follow the cultural ideals—hunting and gambling. Contacts with strangers and strange cultures, which require some intellectual effort, cause merely withdrawal. This, on the other hand, does not make clear why such indifference to pain and hardship develop, unless it be the ridicule of emotional manifestation of these things which teaches even children to keep certain kinds of trouble to themselves.

Thorough studies of personality formation among primitives might throw much light on culture creation and diffusion. They might show why primitives failed, in certain instances, to borrow culture traits as tribes today resist government efforts to change their culture. It cannot be naïvely assumed that the only condition to diffusion is proximity to the source of a trait. We have heretofore assumed that conflicts of gross culture patterns—those of ritual, industries, etc.—account for the failure of diffusion. Mere habits of thought, however—things which must be stated in psychological terms but which are as truly culture patterns as, e.g., dance patterns—may cause selective diffusion where there is no patent conflict of other patterns.

### NAMES

When old enough to walk a boy was named by his paternal grandfather, a girl by her paternal grandmother. Any name except that of a person recently deceased was used (T.S.). G.C. said the boy received his grandfather's or granduncle's name, the girl her grandmother's or some old female relative's. G.C.'s aunt gave her sister's name to his daughter. Nicknames were not used. Two people seldom had the same name. There was no great reluctance to reveal personal names. When one or both parents died, the child's name was temporarily replaced by *natsi'*<sup>1</sup>, boy, or *tsu'a'a*, girl. After some time he was given a new name or his first name restored.

Some men's names were: *hau'obexu'*, cane arrow; *pa'havitei'*<sup>1</sup>, bear; *nauwahī'jugo'* (*nauwahi*, owns; *jugo'*, much); *tsō'wanū'widu* (*tso'wa*, slow; *nū'widu*, walk); and *chao'wai*, *kidohivi'*<sup>1</sup>, *tū'vānā'a*, *sīpōni* (a Shoshoni), *toyanuki* (*toya*, mountain, ?) (a Western Mono doctor), and *kā'kido'o*, which had no meaning. Chalfant adds *ohiono*, yellowish, and *wongata*, stupid.<sup>122</sup> Some women's names were: *pātūcu'ni*, *tuguwia'*, *pāhado'ni*, *hügū'va'a*, *paduyuni*, without meaning, and *hau'vuḡū'a*, willow basket, *saiyū'nipū'ū* of uncertain meaning.

<sup>122</sup> MS.

Teknonymy was used in address for parents, aunts, and uncles, thus: "mother"-, "father"-, "aunt"-, "uncle-of-so-and-so," but their personal names were used when they were not present.

Status terms were: *natsi'*<sup>1</sup>, small boy; *nanayükwi'*<sup>1</sup>, young man; *nā'nā*, middle-aged man; *tsugutsi'*<sup>1</sup>, old man. *Wā'sü'a'a*<sup>a</sup>, tiny female baby; *tsua''a*, girl; *tsia'düm*, young woman; *hü'pi*, middle-aged woman; *hubutei'*<sup>1</sup>, old woman.

## PUBERTY

*Girls' rite.*—Like the California girls' puberty rite, this was essentially a physiological treatment for health, preparation for childbirth and an industrious life. The rite lasted five days, two days being allowed after the theoretical three days of menstruation. The first and two following days her parents bathed her as she stood in cold water, then steamed her in a pit. She ran westward, to avoid later indolence (T.S. denies this), and her grandmother made her carry wood and a water basket daily. She scratched her head with a stick instead of fingers lest her hair ends split. She avoided meat lest its richness "stop her blood," killing her children, and lest she should make hunters lazy and poor shots. She stayed indoors (in no special hut) because men touching her became hopelessly lazy and even died, there being no antidote. The fifth morning she arose before dawn, was bathed (T.S. said this was her only bath), saying, "I don't want me children to be afraid to grow."

At subsequent menses she washed herself, avoided men, and used the head scratcher, but did not steam or run.

At Mono lake during the five-day rite, she ran "about a mile" morning and evening, gathered wood daily, bathed each morning in cold water, avoided meat and salt and ate mainly pinenuts and acorns, used the head scratcher for fear of lice, and brushed her hair with a brush of fibers of wild rice root. Although she was not confined, men avoided her. Steaming, though used for certain ailments, was omitted. A feast concluded the fifth day.

*Boys' rite.*—Chalfant presents the following:<sup>123</sup> the adolescent boy was awakened when the morning star arose; morning songs were sung to him; at a near-by stream he bathed and asked the "unknown power" for guidance and blessing; ran several miles up hill several mornings for speed and endurance; he was taught about virtue, nature, the habits of game, and dangers; he might not skin or eat his first game lest hunting become difficult for him.

<sup>123</sup> MS.

T.S. says a boy of 16 or 17 years brought his first killed deer to the sweat-house, not being allowed to eat it. His grandfather cut flesh from inside its ribs in loop form and lowered it over him to the ground without touching him, "talking" that he might be a great hunter. He smoked for the first time and commenced to sleep at the sweat-house.

Individuals of neither sex changed their names or clothing after puberty.

*Theoretical aspects.*—Some have generally assumed and others specifically stated that puberty rituals are characteristic of the most primitive peoples. Loeb has reconstructed a development and diffusion of ghost society ritual as an archaic element in native American culture.<sup>124</sup> For this generalization to be valid, the Great Basin tribes, whose culture is as little removed from the archaic American culture as any, should have these rituals. That the Paiute and probably other Great Basin tribes totally lack a true men's tribal secret society, though not invalidating Loeb's thesis, is a point requiring explanation.

## MARRIAGE

Sibs and moieties were lacking. Blood relationship regulated marriage, any traceable connection constituting a barrier.<sup>125</sup> Third cousins were acceptable if others failed. T.S. denied but others affirmed village exogamy. Villages comprised enlarged families plus a few others, all regarded as relatives. Children's village affiliations were matrilineal. The father's village was also taboo. Such exogamy existed from Bishop to Lone Pine. A.G. said Shoshoni practice cousin marriage; hence they are "scrubby." A namesake elsewhere had no bearing on marriage.

Intertribal marriage occurred with Western Mono and with Shoshoni, especially in Fish Lake, Deep Springs, and Saline valleys. Lone Pine preferred that girls married to Shoshoni settle at home. Mono Lake Paiute sometimes married Miwok. H.T.'s grandmother was "Awani" (Yosemite Miwok).

Marriage into forbidden groups merely brought disapproval. But A.G. said the woman was scolded, the man killed.

Several families, with children eligible to marry, or sometimes before having children, entered a relationship called mukici', the kinship term used between fathers-in-law, signifying potential marriage connec-

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<sup>124</sup> 1929.

<sup>125</sup> The genealogy, appendix 6, comprising 273 individuals, 62 marriages, and running through 4 or 5 generations, shows no instance of marriage of blood relatives.

tion.<sup>126</sup> It entailed close friendship, mutual regard, aid, and gifts of food and other things. Parents selected children's spouses from mukiei<sup>1</sup> families.

Love was no consideration, but children's objections usually ended a match. If parents insisted, children complied or were morally censured and cut off from the family. Enforced marriages usually succeeded. Love often developed after marriage.

Wifely virtues were industry in seed gathering, cooking, and house-keeping. Manly virtues were skill in hunting and food providing. Hence, boys were a few years older than their wives.

Either family initiated a match when the children reached puberty. The boy's family began formally, the father, mother or relative carrying presents to the girl's parents, who asked which daughter was desired. The oldest unmarried was preferably named. Keeping the money and distributing it among friends and relatives expressed approval. Gifts of food, e.g., 200 pounds of pinenuts, and clothing were eventually returned. Returning money meant disapproval.

Female chastity, always expected, became, after betrothal, imperative, the boy guarding it. If she preferred another, he sometimes was upset, sometimes found another.

The families exchanged presents during several weeks or months. With a final present of goods or money, perhaps \$50.00 to the girl's parents, the marriage day was set. The boy carried buckskins, rabbitskin blankets, etc., to her family, was cordially received and seated on a fine blanket. The girl was brought out. That night her mother placed her in a bed and took him to her.

Some marriages failed; most succeeded. Fidelity, highly regarded, was usually observed. Adultery brought reprimands from their families.

Residence was matrilocal for about one year (T.S.), the husband providing his family-in-law food, sometimes aided by his brother-in-law.<sup>127</sup> Parent-in-law taboos<sup>128</sup> were strict. A year of patrilocal, then independent residence followed, the place chosen by the girl, the house built by the boy's family. They visited their families often and permanent residence tended to be matrilocal. Their parents, especially the wife's, lived with them, housekeeping and raising the grandchildren. J.S. and S.N. live with their daughters.

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<sup>126</sup> The Yokuts use maksii to express a similar relationship. Kroeber, 1925, 492.

<sup>127</sup> The mother-in-law in the myth, "Wolf and Roadrunner," (Steward, *Paiute Myths*, MS) brought in the husband's kills. This was not practiced.

<sup>128</sup> P. 302.

A.G., Lone Pine, affirmed first matrilocal residence. At marriage, the girl's mother, called igomawidu, built a fire in the boy's house. Matrilocal, then independent residence followed. This described difference is either exceptional or erroneous.

Divorce entailed returning the marriage gifts.<sup>129</sup> The cause was usually incompatibility. Polygyny, not divorce, followed the husband's interest in another woman. I.H. had two wives. Female jealousy was ephemeral. The sororate made the second wife a younger sister of the first. New gifts were necessary only when marrying into a new family. Wealth limited polygyny, two wives being rare, three unknown. Polyandry was unknown.

A widower took his deceased wife's sister or closest female relative of the age group, without further gifts, the property contract being already settled. To marry outside her family, he, assisted by his family, returned her family's marriage gifts previously made. By the levirate, the husband's family furnished a brother or cousin if he died. This seemed less binding than the sororate.

A spouse's death required one year of mourning, avoiding dancing, gambling, pleasure, visiting, and observing meat and grease taboos. The wife's family resented his association with a strange woman, sometimes killing him. A "cry dance"<sup>130</sup> terminated mourning and remarriage was permitted, though some waited several years.

Mono Lake marriage resembled Owens Valley except: village exogamy was less imperative; exchange of presents was performed by the fathers. (B.T., H.T.)

The Lone Pine Shoshoni account is similar: blood relatives were taboo; the fathers arranged marriages and exchanged presents; residence was matrilocal until childbirth, then independent. (F.B.)

## DEATH

At death the deceased's relatives took his body home and "talked across it" as if he were alive, to please the soul which was still near. Mrs. Dixon of Bishop said an Indian man died of hemorrhage at her home. His face was covered with a handkerchief by his wife; he was taken home; then people took a bucketful of earth from the exact spot where he had died. Another time, she asked to see a dead boy whose body was covered; they uncovered his silk sock-clad feet, but not his

<sup>129</sup> The genealogy does not record all separations.

<sup>130</sup> P. 280.

face. Relatives could not touch the body. Men were hired, who afterwards spread canvas on the ground, the relatives of the deceased placing contributions there.

The body, wrapped in an animal skin blanket,<sup>131</sup> was taken to the cemetery, the relatives sprinkling pinenuts, seeds—recently wheat—on the ground for the ghost. In the evening friends and relatives carried some of his property to burn at the grave and scattered more seeds. Mourners were never hired. Two or more hired singers sang funeral songs<sup>132</sup> on the southwestern side of a fire. Mourners danced a slow, limping walk, half skipping with one foot, then the other, around the fire, stopping at intervals to wail. Property of the deceased was carried or worn by near relatives. Mrs. Black, of Big Pine, mentioned roundish, red beads, supposedly from fossil fish, worn as “cry beads.” People said, “This is the last of our relative. He was a good man. Let us now try to forget him,” and rehearsed his virtues. Chalfant says the speaker, a relative, stepped over the body (now coffin) and walked away not looking back.<sup>133</sup> Others stepped over the coffin.

At midnight the property was burned, the deceased's cherished articles—money, beads, clothing, etc.—buried with him, horses and dogs killed for the ghost's use. Burning “destroyed his possessions so the survivors could forget their grief.” Houses were burned, “to destroy the poison be breathed.” I.H.'s entire village in Deep Springs valley was burned at his death, 1919. Choice articles might be burned a year later. Images of the dead were not used. The next day hired men buried the body, people threw in seeds, saying, “Goodbye, go to the land of the dead and don't return,” or, to one killed in fighting, “Go away and don't visit us in our dreams,” to one dead of sickness, “We did our best to cure you. Don't come back and bother us.”

One said the body lay on its back, face up, head north; another that it was doubled, probably arms and legs flexed, tied and covered with a blanket (a body, probably Paiute, buried west of Bishop, was so flexed, accompanied by a broken metate); another said the body was east and west; another that formerly the head was south or west, the body at full length, the hands covering the face, but now it is always head south.

Murderers, infants, and suicides were buried. T.S. said a man dying from a snake bite west of the Sierra Nevada was burned and his bones

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<sup>131</sup> Leonard saw Indian corpses in the Sierra Nevada mountains clad in beaver skin robes.

<sup>132</sup> These are believed to have originated in the west and to be in a “Digger” language. See p. 280.

<sup>133</sup> MS.

brought home. Chalfant says murdered doctors, witches, and persons dying away from home were cremated and the remains sent home. In 1876 after a measles epidemic, slain doctors were burned outside the camp by women who beat the air with willows to frighten away the spirits.<sup>134</sup>

A mourning ceremony was held annually, usually in the spring. Relatives of those recently deceased held a joint "cry dance," burned property saved at the funeral or newly purchased, e.g., a suit of clothing. A woman burned \$60 in clothing for her son dead four years. Hired singers—a leader and assistant—placed the property on the grave and sang while mourners danced. At intervals, the leader stopped, clapped his hands, and shouted for the people to lament. Later he selected and kept the best garment which fitted him, burning the others on the grave. If mourning now ended, he smoothed the grave, heretofore a mound. People performed this ceremony one to several years according to their affection for the deceased. For a dead infant, it was postponed until his baby brothers or sisters were somewhat grown.

At the Independence "fandango" at George's creek, 1906, preceding the circle dance some Independence men formed a circle in the dance corral center, and women from George's creek sprinkled them with pine-nut and wheat flour from baskets, weeping and saying, "If so-and-so had lived he would be like you. Perhaps some of you knew him and were his friends." Their leader comforted the mourners.

Mourning, lasting formerly a year, now several months, entailed avoiding meat and fat, seeing few people, remaining at home, women "bobbing" their hair, called tutuhanava (lost a relative), and not bathing. The face was streaked with tears and dirt to advertise mourning. T.S. saw an old woman paint black under her eyes and down her cheek. Flesh laceration was unknown. Mourning ended with grave-smoothing and a "wash" by people hired by relatives (relatives were ineligible as washers). Meat, flour, etc. worth \$30 to \$40 were prepared at the washers' house by a relative. The man poured water over the head and back of the male mourner leaning over a tub saying, "This is the beginning of a new life for you. Water, wash away the troubles and sorrows of this man. You are to forget so-and-so and be happy henceforth." His wife washed female mourners. All feasted at noon, the mourners now eating meat. They gave the surplus to the washers.

After death, the deceased person's name was only used in speaking to a person not acquainted with him. (J.Sm.)

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<sup>134</sup> MS. Quoting from the Inyo Independent, 1876.



F.B. described for Lone Pine Shoshoni: funeral singing, crying, and property burning; further burning a year later when the grave was smoothed; hair cutting; he denied meat and grease taboos.

Rumors of Paiute parenticide were denied, longevity being solicited and age respected. Chalfant says sometimes an aged Panamint Shoshoni was isolated, at his own request, with some food to expire.<sup>135</sup>

KINSHIP TERMS<sup>136</sup>

<i>Owens Valley</i>	<i>Mono Lake</i>	
nau'a	na''a	father
via'	vi'a, viji'' <sup>1</sup>	mother
dūa'	dūa'	son
vaidū	va'da	daughter
pavi'' <sup>1</sup>	vavi'' <sup>1</sup>	elder brother <sup>137</sup>
pavi'' <sup>1</sup>	vua	elder male cousin, cross or parallel <sup>138</sup>
waŋa''a	wana''a	younger brother
waŋa''a	wana''a, vua ?	younger male cousin, cross or parallel
hama''a <sup>139</sup>	hama''a	elder sister
hama''a	jiak	elder female cousin, cross or parallel
vū'ni'' <sup>1</sup>	vuni'' <sup>1</sup>	younger sister
vū'ni'' <sup>1</sup>	jiak ?	younger female cousin, cross or parallel
natsugū''a	hai'' <sup>1</sup>	father's brother; mother's sister's husband; stepfather
duivi'te' or <sup>140</sup>	husa'	brother's son (m.s.); wife's sister's son
nanuyukinaha	?	stepson; male cousin's son
nanuyukinaha	?	brother's daughter (m.s.); wife's sister's daughter; stepdaughter
jardū'mūnaha <sup>141</sup>	husa'	brother's daughter (m.s.); wife's sister's daughter; stepdaughter
vūt <sup>u</sup>		
nūhūvi''wa	vidu''u	father's brother's wife; mother's sister
vidu'' <sup>u</sup> <sup>142</sup>	vidu''u	stepmother
nūhūvūtei'' <sup>1</sup>	?	father's brother's widow
daza''ana'ha or	mito''o	husband's brother's son;
du'ya		sister's son (w.s.)
vatu''u	mito''o	husband's brother's daughter; sister's daughter (w.s.)

<sup>135</sup> MS.

<sup>136</sup> M.s., man speaking; w.s., woman speaking.

<sup>137</sup> Tami (several) paviū', several brothers older and younger than the speaker; tamihamau' or jāūm (pl of jāū) for several sisters.

<sup>138</sup> Mono Lake probably follows Owens Valley in identifying brothers and sisters with cousin, but the data are not clear.

<sup>139</sup> A.G., Lone Pine, gave havi''<sup>1</sup>.

<sup>140</sup> J.Sm., Big Pine, gave as alternative, na'nūyukina'ha; G.C., Fish Springs, tū'ivite or na'nū'ukina'ha, the latter seldom used for cousin's son; A.G., Lone Pine, nani'yukina'ha.

<sup>141</sup> G.C. gave ja''adūmina'ha; A.G., zuadūmu'nuha.

<sup>142</sup> Perhaps also used for father's brother's wife.

vā''wa <sup>143</sup>	vā''wa	father's sister; mother's brother's wife
yara''a <sup>144</sup>	yadatsi	husband's sister's son or daughter
yara''a <sup>145</sup>	va'dzi	brother's son or daughter (w.s.)
vū''u <sup>146</sup>	a'tsi	father's sister's husband; mother's brother
naha'ḡwa <sup>147</sup>	nana'ḡwa	wife's brother's son; sister's son or daughter (m.s.) <sup>148</sup>
gūnū''ü	gūnū''ü	father's father; son's son or daughter (m.s.)
hutsi''i <sup>149</sup>	hutsi''i	father's mother; son's son or daughter (w.s.)
dogō''o	toqo''o	mother's father; daughter's son or daughter (m.s.); mother's father's brother; brother's daughter's child
yū''ü	mu''a	mother's mother; daughter's son or daughter (w.s.)
tuna''a <sup>150</sup>	ʔ	mother's father's (or mother's) sister; sister's (or brother's) daughter's child (w.s.)
gū'a	gu'ma	husband
nodiḡ'wa	nodū'ḡwa	wife
yūhinu'pu	ya'hi	wife's father or mother; husband's father or mother
dogona'	doqo'na	daughter's husband
dugauwapi'hū	gunu'via	son's wife (m.s.)
wā'vi <sup>151</sup>	gunu'via	son's wife (w.s.)
yādātō'hi	ya'dadohi	wife's brother; sister's husband (m.s.)
hūzāpi'a	waic	wife's sister; brother's wife (m.s.)
hūzana'	nūna''i	husband's brother; sister's husband (w.s.)
waic <sup>152</sup>	sū'nūvia	husband's sister; brother's wife (m.s.)
ḡādūvūā''a	wa'ha	wife's sister's husband
ḡādūvūā''a	ʔ	husband's brother's wife
ḡjo''o	ʔ	father's father's father; son's son's son
dūipū	ʔ	great grandfather's father <sup>153</sup>
mū'kici''i <sup>154</sup>	dai	son's wife's father (m.s.); daughter's hus- band's father (m.s.)
dai''nūpū	dai	daughter's husband's mother (m. or w.s.); son's wife's mother (m. or w.s.)
guma''a	dai	son's wife's father (w.s.); daughter's hus- band's father (w.s.)

<sup>143</sup> G.C. gave vau'ḡwa; A.G., nahubi''wa; father's sister (w.s.).

<sup>144</sup> G.C. gave ara''a, brother's son.

<sup>145</sup> A.G. gave vatu'u, brother's daughter (w.s.), du'lya, brother's son (w.s.).

<sup>146</sup> G.C. gave pu'u; A.G., vu'u.

<sup>147</sup> A.G. gave zuadūmunaha, sister's son (w.s.).

<sup>148</sup> G.C. said the sex is designated by adding "boy" or "girl."

<sup>149</sup> A.G. gave dogo''o, father's father; son's child (m.s.).

<sup>150</sup> A.G. gave duna''a, mother's mother; daughter's child (w.s.).

<sup>151</sup> A.G. gave wu'vi, son's wife (m. or w.s.). Dugauwapi'hū may have been compounded from this through a mistake.

<sup>152</sup> A.G. gave yatapi'ü, husband's sister.

<sup>153</sup> He is scarcely considered a relative, for seldom seen.

<sup>154</sup> The mukici''i relationship in Owens valley is probably derived from west of the Sierras (see p. 294), for it was unknown at Mono Lake.

The following are Owens Valley alternatives for brother, sister, and cousin terms.

nüwatí'su, used between brothers and sisters, not cousins.

vüa''<sup>a</sup> (pl. vu''<sup>a</sup>ü''<sup>ü</sup>), apparently used between brothers, sisters, and cousins of the same sex. The Mono Lake vu'a, though inconsistently used, seemed to have the same meaning.

jāū (pl. jāūm), apparently used between brothers, sisters, and cousins of opposite sexes. The corresponding Mono Lake term is probably zí'ak, jí'ak.

Thus nüwatí'su vüa''<sup>a</sup> is a brother (m.s.), a sister (w.s.); nüwatí'su jau is a sister (m.s.), a brother (w.s.).

Daza''<sup>a</sup> in Owens valley seems to indicate cousin, thus daza''<sup>a</sup>vüa''<sup>a</sup>, male cousin (m.s.), female cousin (w.s.).

Duvi'tzi (M.L.) means "very close." Duvi'tzi vu'a may be used for cousin. It is probably related to the Owens Valley duivite, brother's son, wife's sister's son.

Siblings are ordinarily identified with cousins in Owens valley. Mono Lake distinguished cousins by a term, vua, sometimes used in Owens valley for cousins. Individuals of older and younger generations are distinguished as lineal or collateral, except possibly the grandparents, and by the sex of the connecting relative. Single terms served reciprocal relatives only in the case of grandparents and grandchildren.

Terminology points to a family contract marriage and correlative sororate stronger than has perhaps existed recently. That brothers married sisters is indicated by using : for the father's brother, mother's sister's husband and stepfather, natsugua; for the three reciprocal relatives, nanuyukinaha (or duivite') if male, jardumunaha (or vut''<sup>ü</sup>) if female; and by using for father's brother's wife and mother's sister, nuhuvi'wa; and for the reciprocal relatives, daza''<sup>a</sup>naha (or du'ya) for males, vatu''<sup>ü</sup> for females. That a brother and sister married a brother and sister is suggested by using : va''<sup>wa</sup> for father's sister and mother's brother's wife, and yara''<sup>a</sup> for the reciprocal relatives, male and female; and vu''<sup>ü</sup> for father's sister's husband and mother's brother, and naha<sub>7</sub>wa for the reciprocal relatives, male and female. Only one instance of this was recorded: (107) John Barlow married (92) Kate Turner, whose brother, (91) Gifford, married John's sister, (106) Laura.

## KINSHIP USAGES

A taboo preventing conversation of a man with his mother-in-law and his stepping over or reaching in front of her and requiring their general avoidance of each other was affirmed by informants at Big Pine, Bishop, and Independence, and was observed in operation. Informants put questions to their mothers-in-law through their wives. They virtually ignored each other's presence. G.C. said this extended to the mother's sisters, and E.L. affirmed it also for the mother's brothers.

A woman could not speak with her father-in-law or his brothers (G.C.). G.C. and a Bishop informant said speech was unrestricted between a man and his father-in-law and a girl and her mother-in-law. But E.L. and a Big Pine informant said the taboo applied between a man and his father-in-law, with less force, E.L. adding the father-in-law's brothers, saying a special form of address (see below) was used. E.L. said some restraint and special address was used between people and their parents-in-law and the latter's brothers and sisters, though tekonymy was sometimes used for sons and daughters-in-law. A Lone Pine Paiute, A.G., denied parent-in-law taboos, saying that only joking was prohibited.

It is certain that the mother-in-law taboo for men was strongest, the father-in-law taboo for women next, and some restraint felt for any parent-in-law. When speech was imperative, they addressed each other using the third person plural. In two myths, a man addresses his father-in-law: "you fellows" (the English rendition).

Restraint was affirmed between a man and his son's mother-in-law but not father-in-law.

The present motive of these taboos is respect and regard, not hostility, interpreted by the Paiute as resulting from the parents choosing their children's spouses because of regard for them which imposes restrictions on social intercourse. Matrilocal residence after marriage makes the mother-in-law taboo strongest. That the restraint between a man and his father-in-law is less strong may be because they are of the same sex.

Brothers-in-law were restrained in conversation, especially about sex, and did not philander in each other's presence. Paiutes interpreted this as motivated by consideration for each other's feelings. A man was circumspect with his brother-in-law's wife.

A man might joke obscenely with his wife's sister—unless his wife stopped it in anger—for she was a potential wife under the sororate. The same held for him and his brothers' wives, following the levirate.

Great freedom was taken with one's grandparents who were most concerned with raising children.

*Theoretical interpretations.*—It may be surmised that matrilineal residence and choice of one's spouses by parents have been conditions favorable to the diffusion of parent-in-law, especially mother-in-law, taboos. But although matrilineal residence occurs in the Great basin among the Uintah Ute, Paviotso, and Wind River Shoshoni,<sup>155</sup> marriage seems to be left to individual choice. The mother-in-law taboo occurs only among the Lemhi Shoshoni, evidently borrowed from the Blackfoot or Crow, and in a mild form among the Walker River Paiute.<sup>156</sup> The Owens Valley Paiute, then, probably derived it from California, where it is strong among the Miwok and Maidu,<sup>157</sup> and occurs among the Western Mono and Miwok<sup>158</sup> adjoining the Paiute who also use the plural address when conversation between a man and his mother-in-law is necessary.<sup>159</sup> The Miwok extend the mother-in-law taboo to her sisters and, for a woman, the father-in-law taboo to his brothers.<sup>160</sup> The foothill Yokuts also have the father-in-law taboo.<sup>161</sup> Even matrilineal residence may have been derived from California, for it exists among the Maidu,<sup>162</sup> Yokuts,<sup>163</sup> and Western Mono.<sup>164</sup> Moreover, among the Yokuts, parents have great authority in arranging marriages,<sup>165</sup> and the terms used between parents-in-law closely resemble the Paiute terms.

Restraint between brothers-in-law is probably of local origin, being foreign to both California and Great Basin culture.

Privileged familiarity with one's sisters-in-law does not occur in the Great basin, although the levirate and sororate are practiced by the Shivwits and Moapa Paiute,<sup>166</sup> and the levirate by the Pyramid Lake Paiute and somewhat by the Uintah Ute and Wind River Shoshoni.<sup>167</sup> The levirate and sororate occur also among the Miwok,<sup>168</sup> foothill Yokuts, and Western Mono,<sup>169</sup> and have produced among the foothill Yokuts and Miwok<sup>170</sup> some familiarity between a man and his sisters-in-law. This privileged familiarity shared by these people with the Paiute has therefore probably had a single origin, very likely centering west of the Sierra.

<sup>155</sup> Lowie, 1924, 275-278.

<sup>156</sup> Lowie, 1924, 285-286.

<sup>157</sup> Gifford, 1922, 261.

<sup>158</sup> Gifford, 1922, 259, map 28.

<sup>159</sup> Gifford, 1922, 261.

<sup>160</sup> Kroeber, 1925, 461.

<sup>161</sup> Dr. Anne Gayton, field notes.

<sup>162</sup> Kroeber, 1925, 402.

<sup>163</sup> *Ibid.*, 461.

<sup>164</sup> *Ibid.*, 588-589.

<sup>165</sup> *Ibid.*, 492.

<sup>166</sup> Lowie, 1924.

<sup>167</sup> Lowie, 1924.

<sup>168</sup> Gifford, 1916, 184.

<sup>169</sup> Dr. Anne Gayton, field notes.

<sup>170</sup> *Ibid.*

## POLITICAL ORGANIZATION

Districts were political units, e.g., kwina patü, pitana patü, tovowaha matü, etc., map 2, each with a head man (not chief in the conventional sense) to direct the few communal activities. Recently "chiefs" represented the Paiute in dealings with white men. Formerly, head men were intelligent, persuasive leaders, though not always skilled hunters, fighters, etc., organizing and perhaps leading pinenut trips, rabbit drives, communal hunting and fishing, war parties, and "fandangos." Sometimes they chose skilled men to lead such things. At pitana patü the head man chose the irrigator subject to popular approval. Occasionally he submitted other proposals to a popular council for ratification. When several districts joined forces, their head men held council but there was no head chief, district autonomy remaining. Head men were called poginavi. They had no assistants or announcers.

Succession of head men tended definitely to be patrilineal.<sup>171</sup> T.S. said the people met at a yadahowai, "big talk," the head man saying, "I have a son, a good man. If you want him, he will take my place." They discussed, met again, and accepted the son, or, disapproving, chose a nephew, patrilineal or matrilineal, in his place. If the head man lacked acceptable relatives, one of another family could be chosen. J.Sm. asserted, dubiously, that the head man owned and parcelled out all land. T.S.'s great-great uncle was panatü head man. His own son being worthless, his sister's son, panatuvaj<sup>1</sup>, was approved by a meeting of men and women to succeed him.

Wahitu<sup>u</sup>, living long ago at tumutsadumut, was Big Pine or tovowaha matü head man, controlling all communal activities but having an assistant to irrigate. Bob Riddle later was head man. "Captain" John Spencer was Bishop head man to 1905 or 1906, the position becoming obsolete. Joe Westerville, puhipi<sup>1</sup> (blue), was Fish Springs head man until recently.

Mono Lake had similar head men, who organized dances, pinenut trips, first sending men to look for them, rabbit drives, and other communal activities. B.T. said there was an assistant head man, whose duties were not recorded, and descent was patrilineal.

F.B. said the Lone Pine Shoshoni head man served essentially like that of Owens Valley Paiute.

Shamans, though influential, were seldom head men.

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<sup>171</sup> Chalfant's informant corroborates this (MS).

*Penalties.*—J.Sm. says one's enemies whipped him for minor offenses, killed him for serious offenses. Gossip and slander were minor.

Disputes were settled by head men, if possible. Fear of witchcraft aided pacific settlement. Disputes between members of different districts were sometimes handled by head men.

## PROPERTY

*Real estate.*—Districts communally owned the hunting, seed gathering, and fishing rights within their boundaries. Such districts are shown on map 2. Hunting was chiefly in the Sierra Nevada within territory bounded by mountains, ridges, and creeks, the division lines running east across Owens valley, embracing seed plots and fishing places. Pine-nut groves in the White and Inyo ranges were held by Owens Valley districts west of them. In addition to these, pitana patü owned pinenut trees at tupi mada to the north, and wai on the volcanic tableland. Wai in Eureka and Fish Lake valleys were accessible to any district; that below Mt. Goodale was joint property of padahohamatü and panatü, which also shared fishing and seed rights along Owens river. Individual hunting, fishing, and seed rights were probably unknown, although J.Sm. claimed that seed and pinenut land was family property, patrilineally inherited, with rights extended to brothers- or sisters-in-law as guests. This is improbable. Irrigated land was always communally harvested.

Permission to gather food was sometimes given outsiders, especially during abundance. T.S. said the head man secured popular sanction at a meeting. Trespassers were asked to leave by the head man. Brawls frequently occurred over pinenut land. J.Sm. said stolen pinenuts were returned for fear of evil magic. Muir recounts Indian killing white men for felling piñons.

The title, therefore, to the district and the villages and food sources within it was in *all* the people of the district.

Houses, built by men, were owned by the women.

*Personal property.*—Clothes, weapons, utensils, etc. were owned by individuals making or purchasing them. Destruction of personal property at death prevented near relatives from inheriting it. Cousins, but not children or spouses, might pick objects from the crematory pyre.

*Incorporeal property.*—Most songs, dances, legends, games, etc. were communally owned. Doctors' songs, dances, and "powers," and individuals' "powers" could not be inherited or transferred.

## WARFARE

Fights between Paiute bands were rare, amounting only to rock throwing—slings sometimes used—during squabbles over food territory. Relations with Shoshoni were generally peaceful. Chalfant recounts a foray against "Diggers" (Western Mono?). District head men were war leaders upon occasion.

War paint and dances were denied. Scalping was not usual. T.S. says the scalp—i.e., all the hair—of a "Digger" chief, pohoiwic, was brought back by a war party for exhibition, then thrown away.

## RELIGION

Wolf, unupi, a kind of beneficent culture hero, created the world, but his brother, Coyote, ica'<sup>a</sup>, always introduced evil, bringing grief to mankind, and claimed credit for the creation.

J.S. interpreted by G.C. said: "The evil in the world came from Coyote. Wolf and Coyote settled things so that there would always be evil along with good. Evil is clever and talks well, always trying to get you. It makes people dishonest and lazy. But by following a good life, being kind, helpful, and generous, you have great power, as I have had." Another said: "The evil of the world is Coyote talking to you."

Although Christian influence is possible, a core of native dualism seems apparent.

G.C. said one prayed to both a "great spirit" (perhaps Wolf or a Christian concept, identified with good, the principle of nature and appearing through natural objects) and to his guardian spirit. A hunter, e.g., said to both, "You know I am hunting. Don't hide the deer from me." Cornwell told Chalfant of a creator, tilugupu, who controlled the universe and received prayers against omens in dreams and strange events.<sup>172</sup>

Good deeds or thoughts per se helped nature, e.g., brought rain and increased pinenuts. Bad thoughts, dreams, or deeds brought evil. A witch, e.g., caused sickness by the power of his evil thought. Doctors' powers improperly used turned bad and wrought evil. One prayed to the night against bad dreams which came without cause. Cornwell said an elder member of a family visited with misfortune goes out to feed the "bad spirits of the night," arguing with the "darkness that brings

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<sup>172</sup> MS.



evil and sickness," relating dreams and experiences supposed to have produced the misfortune, and throwing food to the spirits. Such prayers are called "shaming the evil spirits of the darkness." He then prays to the "unknown power" to send health and happiness at dawn. This is nah-ne-ja gaw-e-te, "call for help."<sup>173</sup> Chalfant describes singing to the morning star and rising with it, for "enthusiasm, efficiency, and good health."<sup>174</sup>

Paiute belief in the supernatural was thus expressed through vague, generalized fears and hopes. Personified spirits were lacking. Even "guardian spirits" were hazy "powers." Ghosts of the dead, appearing and talking to people, at night, were the only clearly conceived spirits.

*Souls.*—One has a soul, mugua, and ghost, takawahu<sup>va</sup>. The soul is like a shadow, in no special part of the body, "makes life," and goes to the land of the dead. The ghost remains in the country of the living after death, visiting people and serving witches. To see one forecasts misfortune or death. People pray for protection after talking with one during sleep.

At death, the soul goes south. In unconsciousness, it has started south but may return. Many have started but returned to their relatives. J.S. said if it sees and grasps the "soul stick," a slippery pole about 5 feet tall, and looks back as J.S. once did, it will return.<sup>175</sup> In the land of the dead, J.S. said, people would live as here, but happy, without working. Another said, souls would do nothing during daylight, but would appear at dusk and dance all night.

The Lone Pine Shoshoni (F.B.) said the dead went east to the "ocean" where all was green and living was easy.

*Superstitions.*—If you point your finger at the new moon, the finger will drop off.

A person bitten by a blind rattlesnake becomes blind. One bitten becomes sick at the same time the next year.

A silver fox, waha, crying at night is a bad omen.

An owl talks to one at night saying, "You are going to die. Kovaka, hm, hm, hm."

*Superstitious practices.*—E.L. was unlucky gambling. His successful brother said, "Watch the moon when you're gambling to see how it is when you are lucky. Then gamble only at such times." E.L. did so and thereafter won.

<sup>173</sup> Chalfant, MS.

<sup>174</sup> *Ibid.*

<sup>175</sup> This is given more fully in Steward, Autobiography.

E.L. hunted poorly. His grandfather said, "You can't expect game to come to a lazy person. Get up early and take a cold bath."<sup>176</sup>

A man approached a prostrate calf; it chased and ran over him, then died, worrying the man. Later, ghosts followed him; he tried to shoot them. He became ill, not from witchcraft, but from these things.

The Owl, *mū'hū*, had evil power. His hoots announced calamity or death; his chatter told of terrible things. Sometimes doctors sang of him, for his power, but he never gave doctoring power.

The cry of a *wā'hā* (silver fox?) forebodes disaster.

People "prayed"—set their minds against—evil, real or dreamed. E.L.'s grandfather dreamed of falling into mud, then wished, "I see that you want me to become clumsy so that I can't get around. I want to be agile, not that way." Thus, people sought health, longevity, success, etc. Some addressed prayers to Coyote.

*Charms (nāū'uhic)*.—G.C. said powers sometimes instructed people to make certain charms. These were private property, not aiding others. Some carried rare wood fragments, quail tufts, and other unusual objects tied up in weasel skins which they sometimes painted, for protection, so that they, like the weasel, might be difficult to capture and kill, having a charmed life. Sick people put them under their beds. G.C. believed a T-shaped obsidian—probably a drill point—found by him to have been a charm.

### "POWERS"

Individuals' powers embrace most things in nature. Eagle, fox, bat, snow, obsidian, the blue haze sometimes over the valley,<sup>177</sup> and Birch mountain and Mount Dana in the Sierra Nevada have been powers. Others are illustrated below. Besides being for doctoring, they were for gambling, hunting, dancing, warfare, etc., or several things at once. Most were animatistic<sup>178</sup> rather than animistic or clear-cut spirits; e.g., J.S.'s power was Birch mountain, not a spirit in it. Most were for individual rather than communal ends, like the doctors'.

Powers came unsought—in psychological terms, they resulted from a culture pattern engendering wishful thinking plus expectancy of powers. They came in unexpected, vivid dreams; fasting, self-torture,

<sup>176</sup> A cold bath after a bad dream prevented its realization.

<sup>177</sup> This saved the wife of a mythological hero from burning. Steward, Paiute Myths (MS).

<sup>178</sup> In Marett's sense (1914, chap. 1), the object, not a spirit in it, being venerated. This animatism is contrasted to Tylor's animism, the concept of a spirit animating an object.

lonely vigils, etc. were not practiced. The thing in the dream spoke to the individual, promising aid and certain abilities; it could later be called upon for assistance through humble requests, not mandatory coercion. Individual variation was great; J.S. received power for hunting, dancing, and protection, and twice for undesired doctoring; S.N. received no power.<sup>179</sup>

*Examples of powers.*—(1) Many doctors used eagle feathers for power. Women, dreaming of the eagle, had speed; using eagle feathers while pinenutting, they gathered 100 pounds a day while ordinary women gathered 15 pounds. J.S. could travel rapidly because of dreaming of eagle feathers.

(2) The bullet hawk, skilful hunter, gave some men hunting power.

(3) The rattlesnake. A man with power from the rattlesnake went hunting with his sister's husband. He fainted in a blizzard. The other helped him to the valley with his own great power. Angry, he said, "You think you have greater power than I, don't you? I will show you." The brother-in-law walking ahead saw a rattlesnake this man had put in the road to strike him and said, "What is that thing crawling toward our trail with a basket on its back?" The other said "Where?" He said, "Rattlesnake, you could not hurt anyone"; he killed it and went on. A.G. mentioned other men who could make snakes bite people.

(4) Bears. Some "doctors" got power from the bear;<sup>180</sup> their songs imitated grunts; their dance was a slow bear-like step. They could transform themselves into bears. A man boasted, "I would kill a bear and throw dirt at him. I am not afraid of him." A bear shaman, hearing this, said to himself, "Some day I will meet you in the woods and will show you." The shaman transformed himself into a bear and met the hunter in the mountains, saying, "I wonder how brave this man really is? I will test his power." The hunter saw him coming, saying, "All right, let him come." The bear jumped from behind a rock. The hunter threw dirt at him. The bear jumped and the hunter dodged. Again this happened. The bear pursued him over rocks, through trees. The hunter said, "This thing chasing me can't be a bear. A bear could not do this well." He knew it was not a real bear and tried to escape. The bear caught him but failed to tear him up, mash him, or even bite him. Rolling in the dirt, the hunter vanished, and the bear dug to find him. He had slipped into a crack in the rock, having this power.

<sup>179</sup> See Steward, *Autobiography*.

<sup>180</sup> Ordinary bears were called pahavitei; transformed doctors were ünü. See pp. 322, 323 for their dance.

Another hunter ambushed bears coming for acorns. A bear shaman, to stop this, transformed himself and went after him, was shot with an arrow, then chased the hunter, who disappeared in a crack in the earth. The obsidian arrowpoint grew in the bear's stomach; he could not vomit it; it grew, cutting him so that he died. Transformed back into a human, the shaman lost his power. Later, burning the bear remains, he found a pile of obsidian arrowpoints inside. The hunter had greater power than he. Later, the shaman said to the hunter, watching a hoop and pole game, "Hello, boy. I tried to get this fellow and he certainly was a great man. He jumped and ran everywhere. I tried to get him but couldn't. You certainly are great, aren't you?" The hunter was frightened, knowing what had happened.

A.G. said some men could make bears kill people.

(5) Bullet-proof shamans. A.G. described a "doctor" from the south proof against arrows and bullets. He made a handful of bullets disappear by rubbing his hand when dancing. E.L. mentioned a doctor proving his power to doubters by folding his hands over his breast and being shot with a "six shooter" from a few paces. He handed them the bullet which passed through only one hand, showing the bloodless bullet hole.

(6) An Indian trapper in Nevada found his traps empty except one which held a large coyote. When the trapper was about to shoot, the coyote told him to stop and said in Paiute, "My friend, we as people have found it necessary to warn you against trapping us, taking from our bodies our skins and selling them for your happiness. . . . You may not know I miss a star. I have searched the universe thoroughly without success. I will show you its place in the skies. There will be a division in the universe which I will cause to be known later."<sup>181</sup>

(7) Some Indians trapped on Baker creek by soldiers said, "What powers have we that will help us out of this?" One claimed the gray haze which would hide them; another had the mirage which would make bushes and grass look tall like men, and one man running like many. They escaped, assisted by the haze, mirage, and individual powers. The last, looking back,<sup>182</sup> was wounded and fell, but hid under a bush, made invisible to the searching soldiers by his power, and escaped.

The power of another warrior made him suddenly stop running in bushes when bullets fell ahead which would have killed him. He ran on,

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<sup>181</sup> From an account written by E.L. in 1921. The closing reference to stars is not clear.

<sup>182</sup> Looking back during a flight is taboo, as with Lot's wife. In a myth, Winnudumu<sup>hu</sup>, brothers were turned to stone for looking back. Steward, Paiute Myths (MS).

shot at, but escaping unhurt. His body was black and blue from bullets which his power had prevented from penetrating his skin.

(8) J. McB. told of five powerful doctors who killed mountain sheep in Tioga pass. In Leevining canyon, near the highway, they argued about whose power was greatest, and shot arrows into the horns of the large sheep to settle it. Each had three shots, and the winner was to receive five arrows from each loser. The first doctor glanced his arrows off the tough horns; the second and third failed; the fourth's stuck but were easily pulled out. H.T.'s great-grandfather said, "I am going to try something new." "Any way you like," they said. He blew in his hands, seized one horn with each, tore them from the skull and threw them completely into a near-by tree, and thus won all the arrows. Today the horn tips just project from this tree trunk.

### SHAMANS

Shamans, pūhā'ga, pū'hükü, puhagü, pū'na'gai, were primarily doctors.<sup>183</sup> Weather shamanism was probably lacking,<sup>184</sup> although one shaman in Kern county who "predicted storms" was known. Both sexes doctored; neither specialized in any way. Berdachism or sex reversal<sup>185</sup> in doctoring was unknown.

That doctor's power ran in families was affirmed by several, denied by one; another stated that it skipped generations, i.e., from a man to his grandson. E.L.'s maternal grandfather and uncle were doctors. B.T. and his grandfather were doctors. Perhaps an inheritable predisposition to nervous instability plus home environment stimulated doctor's children to get the power. This semi-inheritance of shamanism led Chalfant to suppose that the female relatives of "an unsuccessful doctor had a special liability to powers of witchcraft."<sup>186</sup> Parcher erroneously believed the "office" of doctor to be inherited.<sup>187</sup> Doctor's powers are individual, not inheritable.

Shamanistic power came like guardian spirits, but with instructions for doctoring.<sup>188</sup> Songs, dances, and distinctive paraphernalia could not

<sup>183</sup> Harry Cornwell described poo-o-ah-gah as mediums who commune with souls of the dead. Chalfant, MS.

<sup>184</sup> Despite Parcher's assertion to the contrary.

<sup>185</sup> See p. 238.

<sup>186</sup> 1931, 52.

<sup>187</sup> 152.

<sup>188</sup> Chalfant thought *all* visions gave doctor's powers (1931, 50). Most visions, however, gave guardian spirits, e.g., J.S.'s visions, Steward, *Autobiography*, and pp. 308-311 above.

be given away or sold. Powers, in general alike, varied in details. Association with the east was common. Powers were from nature; e.g. : mountains, springs, clouds, animals, birds, perhaps several at once. A "stick doctor" had several birds.<sup>189</sup> J.S. had shamanistic offers from his guardian spirit, a mountain, and from a deer. Coyote, in a myth, sang of his doctor's power from cockle burrs!<sup>190</sup> The owl's power was evil, not shamanistic. The eagle figured somehow; its feathers were often used.<sup>191</sup>

Shamanistic power came early in life, perhaps at 5 or 6 years of age, in a dream recurring until the meaning was grasped. By puberty, tunes or songs in the dream—doctors' most important possessions—were comprehended, at first as vague, distant humming, later taking form. These were practiced during the day. The child dreamed of doing good, was much alone, and might, e.g., "straighten a bent twig" to do good. By 20 or 25 years of age he had many songs, considered beautiful, telling—if having words at all—of his power in the Paiute language. Only the father and other doctors know of the power; others suspect it from his good behavior, for bad conduct made powers turn bad—i.e., probably witchcraft was attributed to a wicked person known to have power. By 30 or 40, his songs ready, his power said, "You are ready to announce that you are a doctor. Call the people together a certain night and sing your songs to them. This will let them know that you can doctor." E.L. said songs describing strange, distant, and beautiful places indicated good doctors; songs of local, commonplace things a mediocre or potentially bad doctor.

Refusal of shamanistic power was dangerous, for the power turned evil, causing one to harm others.<sup>192</sup> If ignored, it might return, even killing one's own children. To counteract it, one trained a long time, assisted by a powerful doctor. First, one told everything, then dug a pit four feet deep, building a fire in it. One stood on a rock inside it and burned several objects, e.g., eagle feathers, used by most doctors, and asked the powers to withdraw their offers.

A boy 18 years old is now doctoring at Black Rocks, but people fear he will turn bad for using his power too soon. A woman received but ignored the power and was accused of bewitching a sick girl. When the girl died, her relatives wished to

<sup>189</sup> Steward, *Autobiography*. He cured by heating and applying the point of a fire-drill.

<sup>190</sup> Steward, *Paiute Myths* (MS).

<sup>191</sup> J.S. said some doctors got power from continuous eating of raw *mū'ip*<sup>a</sup> roots, a plant growing at L.P., Lida, and Panamint. They performed like other doctors but never lost patients.

<sup>192</sup> Chalfant supposed doctors' powers must be accepted. Many counteracted them. J.S. merely ignored his. Danger was from the power itself as well as from one's tribesmen.

kill the woman. An Independence woman, accused of witchcraft, called a doctor to help her avoid evil; he died that day. E. L.'s father died from not recognizing his doctor's power. He was a quiet boy, much alone. His father regarded him as good, not knowing and not properly developing his power. He soon had spells, falling on the floor quivering and grunting with long breath expulsions.<sup>193</sup> His father-in-law recognized the symptoms too late. Later, working in Long valley, he had pleurisy, then tuberculosis. A doctor performed and said, "You once dreamed of taking off your knee cap and holding it in your hand. You were going to throw it away. If you had, your children would have died, one by one. Instead, you put it in a pocket over your left lung (where the pain was), bringing on your own destruction. If you can now sing the songs your power gave you in childhood, you will recover." He tried several but had forgotten them. Within six months he died.

#### SHAMANISTIC PERFORMANCES

*A typical treatment.*—In the evening the doctor built two fires (sometimes one) 10 to 15 feet apart, north-south, laying the patient on the ground west of these. He sang, walking between the fires, toward his power, east, then toward the patient, west, etc. Spectators might sing, but songs were difficult and changed frequently. Some doctors also shook rattles; some danced, according to their power's instructions, the steps differing. One made short jumps, his left foot forward; another hopped. From time to time, he laid hands on the patient's ailing part, or touched him with a stick.<sup>194</sup> Most doctors sucked the ailing part to remove the ailment with the mouth or through a stick; one used a soapstone pipe. J.S. described one who sucked and vomited a pebble claimed as the ailment shot in by a witch. A woman doctoring an epileptic sucked out pebbles, apparently secretly saved and used over. Some exhibited pebbles or small objects sucked out, saying, "See, here is what made him sick." Some blew instead of sucking. Some smoked to "blow disease away" or for other reasons. Doctors treated all night, perhaps stopping for a midnight meal. One night usually sufficed; several might be necessary. While he was performing, people joked and encouraged him, saying, "Where did you get that song? That is no good," or "I like that song. I shall learn it and sing it all the time." A fee was \$5 to \$30 per night. Chalfant said fees were returned when treatments failed, and that payment was made through a third party, lest the power be insulted.<sup>195</sup>

*Witchcraft.*—Witches were evil naturally or, more often, from misuse of doctors' powers, or improper development of them. They were characteristically of evil minds and bad dispositions and deeds. A witch

<sup>193</sup> This was probably epilepsy.

<sup>194</sup> E.L. said all doctors have a 3-foot stick, pāhū'da. A Shoshoni doctor pushed it into the ground under the patient's head, as if it were a pencil.

<sup>195</sup> MS.

causing death was murdered by one or several selected people, even his own relatives. His family, however, was not responsible, and was unmolested. The curse was probably a mere wish or thought. No objective ritual of black magic was ascertained. Witches were sometimes paid \$20 to harm people.

As bewitching usually caused sickness, the doctor ascertained the witch—a man or woman of bad reputation—telling where to find him. The patient's relatives asked the witch to remove the spell. If he denied responsibility, the doctor, who could read people's thoughts and knew past events, proved his guilt by describing publicly the time and occasion of bewitching. Persistent denial led to his murder; this motivated confessions. The doctor counteracted the curse. If the witch confessed, he said to the patient, "I thought it would hurt you. It is really nothing. You will get well." He built a fire, picked up and blew away dirt from near the invalid, symbolizing removal of the evil. Money sometimes induced witches to remove curses. Knowledge of a curse often brought sickness and death. White men and half-breeds were immune to witchcraft because of white blood.

One's own bad thoughts or performance or dreams of bad deeds caused other sickness.

A doctor was not killed merely for losing patients.<sup>196</sup> Failure to cure suggested that his power had turned bad—"he had been listening to Coyote." Other doctors had to ascertain whether his power had gone bad. Many admitted inability to cure, throwing down their sticks saying: "So-and-so's soul has gone over to his relatives. He will not come back."

*Instances of doctoring.*—(1) E.L.'s young sister died, was placed in a coffin and taken to the cemetery where her brothers jumped over the coffin. The youngest, grieved and blinded by tears, stumbled against stone steps and fell against the coffin, but went on, not permitted to look back. Soon he became sick, unable to eat or drink. When worse, white physicians failed to cure him. After five days, E.L. drove him, in critical condition, to a famous Shoshoni doctor in the mountains near Panamint valley. The delirious boy saw trees and grass where sage brush grew, and wished to leave the car. The doctor sat, as if awaiting them. E.L. said, "Grandfather, here is \$40. This boy is sick and I want you to use your power to cure him. I shall feel hurt if you do not." The doctor said, "Yes, I dreamed of you and knew you were coming," and agreed to doctor, instructing E.L. to make a brush circle 25 to 30 feet in diameter, the east side open, and a fire inside. They laid the boy inside, head south, west of the fire. Meanwhile, the doctor departed, returning at dusk transformed from an old to a young man. He sat down, his back to them, knees doubled up, later turning toward them, and sang, at times touching the

<sup>196</sup> Chalfant, 1922, 28, says that doctors are murdered after the death of three patients or bad guesses as to recovery. Parcher, *op. cit.*, repeats this. The slaughter of doctors during the 1871 measles epidemic resulted not from their failures per se, but from the suspicion their failures threw on their powers.



boy with a stick and feeling his body, the upper half of which he had uncovered. For an hour he chanted or hummed; then sang, describing his power and a trip he was then making.<sup>197</sup> First, he was in the east, far away, describing pine trees by an ocean whence comes morning; his power was there. It traveled westward with him, singing to him and describing green, grass-covered mountains, clouds with hail, mist, palms, and living things, seen as he traveled all night, arriving at dawn by the patient. The words were Shoshoni but his assistant explained the meaning as he sang. At dawn, although lacking previous knowledge, he told E.L. and his mother accurately of the sister's funeral and her appearance and clothing, of the brother stumbling, saying a witch had made the boy dream of stumbling the night before the funeral. In stumbling, the sister's soul had taken him, his soul going into a coffin standing near-by. He now accompanied her to the after-world, and this made it difficult, though possible, to bring him back. He instructed the mother to go east into the mountains and pray carefully as he told her to the "great spirit."<sup>198</sup> She went next evening and prayed three nights. The second night, the doctor brought back from the mountains a small, white object like hail,<sup>199</sup> and applied it with his hands to the boy's breast. The boy gasped deeply and the substance melted. Had this not happened the boy would have died. The third night he repeated this; the boy improved, regaining consciousness next day. Repetition the fourth night was uncertain but the patient was nearly well. He said this white object applied to his chest gave him new life. His soul had gone with his sister, but hesitated at a certain point between going on or returning to the living people. The mother's prayer to return was decisive.

(2) A white man raised by Indians at Searles, Nevada, played the hand game with Indians, winning all the money. A very powerful opponent resented this, saying to himself, "That white man caused us to lose. I wish he were not here." His powerful wish made the white man sick.<sup>200</sup> Ignorant of the cause, the white man consulted doctors in Reno, Sacramento, and San Francisco, who failed to cure him. An Indian doctor divined that his hand game opponent had bewitched him, describing the opponent's appearance and the situation in detail. The witch was persuaded, by a money payment, to withdraw the evil thought; the man recovered immediately.

(3) A woman doctor treated a girl in an epileptic fit. She built a brush fire, then looked over the valley, talking with her power. She said coyote was around and wanted intercourse with the girl. She laid the girl on the ground and danced around her, beating the ground to frighten away coyote. The girl recovered temporarily but the doctor said she had power. The girl tried unsuccessfully to make up songs, for her power was still insufficient. The doctor had practiced her own for years. J.Sm. asserted that a friend of her father had left the girl her power; this is doubtful.

(4) A Nevada Paiute doctoring a man said to him, "You were riding along the other day and saw a hair rope on the road. It was not much to look at but you thought it was pretty, picked it up and put it around your saddle horn and rode home. That night when you got off your horse it turned into a snake and bit you. The next morning, you may remember, the hair rope was gone from your saddle. Jack Wilson was the man who put the hair rope there to get you."

<sup>197</sup> This song is given, pp. 278-279, no. 1.

<sup>198</sup> The "great spirit" may be the doctor's power, or something vaguer and remoter. Coyote and Wolf were the only definite "great spirits."

<sup>199</sup> J.S.'s power to doctor promised him that something like snow would fall into his hand.

<sup>200</sup> White blood did not give immunity this time!

(5) A man hunting near Birch mountain dreamed of a rope. The next day a man was bitten by a rattlesnake.

(6) B.T. is a very famous doctor and much-liked man. His grandfather was a doctor. His power is Mount Dana in the Sierra Nevada mountains. To cure he sucks the ailing place and plays an elderberry flute.<sup>201</sup> One song says, in effect: "This is my flute which sings in the split rock." He doctored a man shot by three bullets, two of which a white surgeon had extracted. He sang, waved his flute over him, and sucked out the third bullet. (His own son, H.T., however, carries a bullet in his knee to this day!)

(7) John Keith told Chalfant<sup>202</sup> of an absent treatment. The doctor stuck an arrow vertically in the ground. As it declined toward horizontal, the patient failed. The sick woman's relative was told to plant a stick in moist earth at home. He did and the woman recovered.

(8) Eagle feathers were used by most doctors. J.McB. stuck long sticks bearing eagle feathers in the ground around his patients. (Although a good doctor, a young Indian killed him as a witch.) A Walker Lake doctor placed eagle feathers around his patients.

(9) J.S. was cured of a curse, manifest in stomach trouble, by a "stick doctor" after others had failed. The man rubbed him, touched him with a fire-drill, and said he would recover when the morning star arose; and he did recover.<sup>203</sup>

Harry Cornwell said the shaman, tuh-ya-lu-ha-che-e-vo-gah-lu, "one who speaks for another," helped people troubled with evil dreams or forebodings. He heard the patients' troubles, then, with food given him, prayed or placated the "evil spirits" which he accused and with whom he argued.<sup>204</sup>

#### *Other Curing*

Head, eye, etc., aches. A fire-drill was rotated until a spark appeared. The point of the drill was then applied to the ache.

Wound dressings. Pitch and fir balsam.<sup>205</sup> For sores, pulverized chuckwalla, a large, yellow lizard.

Cuts. The edges were pressed together and bitten by ants, which were then decapitated, the heads remaining as stitches.<sup>206</sup>

Rheumatism. The patient was put on an ant hill<sup>207</sup> or steamed under a blanket in a pit warmed with coals and weeds.

Tuberculosis (pasaya), apparently a native disease. The patient lay on an ant hill, or better, swallowed ants, which bit the stomach, the poison going to the lungs. If, when he vomited, the ants were alive, he would live; if dead, he would die. This was used often and successfully.

Herb doctoring. A shaman had to rub his hands over the herbs, telling them how to cure the patient. Lacking this, the medicine was less effective.

Toothache. The gum was pricked with a porcupine quill.

<sup>201</sup> Fig. 9, p. 277.      <sup>202</sup> Chalfant, MS.

<sup>203</sup> This is given in detail, Steward, Autobiography.

<sup>204</sup> Chalfant, MS.      <sup>205</sup> Chalfant, MS.      <sup>206</sup> *Ibid.*      <sup>207</sup> *Ibid.*

## MEDICINAL PLANTS

Ā'tsākānva, O.V. (*Rumex crispus* L.), curly dock. Roots peeled, eaten raw for stomach disorders; or made into a concoction, boiling for a long time. Jepson says the root has astringent and tonic properties.<sup>208</sup>

Ātsia'ndava, O.V. (*Glycyrrhiza lepidota*, Nutt.), liquoria. Tea for some sickness.

Hūvū'via, M.L. (*Sambucus tridentata* DC.), antelope or deer brush. Tea of leaves drunk as emetic and laxative; the effects start in a few hours and last all day. Called hū'nvi or hū'navi at M.L. but not used.

Kaivodup, kaivodava, O.V., probably a species of *Lupinus*, used for bladder trouble and failure to urinate.

Kō'sidava, Bish., kō'sidapa, B.P. (*Artemisia vulgaris* L.). Tops boiled, applied to gonorrhoeal sores. For female backache, knee-ache, and other troubles, a fire was built on the ground, removed, and the ground covered with kosidava on which the patient lay.

Kosigonova (?), Bish. (*Sphenosciadium capitellatum* Gray). Cloth, soaked in a concoction of boiled roots, was placed on venereal sores. At M.L. called paimüzükü'pū; roots infusion used against lice.

Kusigonova, O.V., although perhaps same as last, was supposed to be a species of *Angelica*. Roots boiled and applied to sores and swellings, especially venereal.

Kwa'nānuvūva, O.V. (*Mentha arvensis* L.), tule mint. Tea of entire plant, except root, drunk to keep cool. Also chewed.

Naka'donup, M.L. (*Eriogonum umbellatum* Torr.), sulphur flower. Tea made of roots for colds.

Nūpi'tci, Bish., sawaniva, B.P. (probably *Anemopsis californica* Nutt.), yerba mansa. Roots boiled into tea for laxative. Now used for gonorrhoea. (Used by Spanish-Americans as liniment for skin trouble and tea for blood disorder.)<sup>209</sup>

Sāwāvū'ya, F.S. (*Artemisia tridentata* Nutt.). Chewed for stomach disorders or colds. Sāwā'vi, M.L.; tea of leaves drunk to produce sweating during a fever.

Sigupī, O.V., a species of *Haplopappus*. Tea for stomach trouble, diarrhea, etc.

Tūma'nāvā, O.V., tū'manava, M.L. (*Hugelia virgata* Benth.). Entire plant boiled into a very strong gargle for sore throat.

Tūvī'va, O.V. Tea of tops of plant given girls to bring on delayed menstruation.

Wā'ta, O.V. (*Chenopodium alba* L.), white pigweed; white goosefoot. Jepson says young leaves make excellent greens.<sup>210</sup> A single leaf asserted chewed as emetic.

Wii'tū O.V., wii'da, M.L. (*Achillea millifolium* L.), common yarrow. Green plants smelled for colds or by old men for headaches. Small amounts of tea taken for colds. Leaves and stems boiled into liniment for skin sores.

Other plants used medicinally; names could not be ascertained; roots made into tea. *Heliotropium curassavicum* L., Chinese pusley, for diarrhea. A species of *Stephanomeria* for various ailments, especially fever. A species of *Pentstemon*, use unknown.

<sup>208</sup> P. 292.

<sup>209</sup> Jepson, 286.

<sup>210</sup> *Op. cit.*, 321.

## JIMSONWEED

Jimsonweed, *taṛaniva* (*Datura meteloides* DC.). Rare in Owens valley; none north of Bishop; extinct now except near Lone Pine. A.G. regarded that at Lone Pine as valueless because of proximity to human habitations, saying it should be secured near the Mohave desert. It was feared, used sparingly, and administered by old men. Roots were ground, soaked, and boiled, the concoction being drunk. It induced wandering, a drinker being accompanied by a "guard who whistled to call him back."

*Uses.*—(1) Curing. A Shoshoni with blood poisoning in his foot, not curable by ordinary means was healed by jimsonweed. A "South Fork"<sup>211</sup> Indian with an unknown sickness drank it, became "unconscious," wandered through the hills as in a dream, and recovered health.

(2) Visions, especially visitations from the dead. A sick man took jimsonweed, probably from a doctor, who sat upon him all night singing; he saw dead people but could not converse with them, and recovered. Another, who took it himself for dreams, failed. Two old men ate *Datura* seed to see their dead relatives; they wandered, accompanied by guardians; each sat down, oblivious to the world; they seemed to see and converse with their dead kin; eventually the effects wore off.

(3) Gambling. Two or three seeds eaten while gambling gave good luck and enabled the eater to guess correctly in the hand game.

(4) Prognostication. Jimsonweed somehow enabled one to ascertain one's life span and "whose days were numbered."

(5) Clairvoyance, to find lost objects. A man took jimsonweed to remember where he had hidden his money.

Jimsonweed was never used in connection with any kind of boys' puberty ceremony.

"Mu-e-pa," probably pronounced *muipa*, is another highly narcotic and dangerous plant (probably not jimsonweed), sections (stems?) being sometimes chewed, though its use was discouraged.<sup>212</sup>

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<sup>211</sup> Western Mono or Tūbatulabal.

<sup>212</sup> Chalfant, MS.

## TOBACCO

Tobacco, pā'müpi, B.P., pa<sup>m</sup>mū, M.L., pāhū'mbī, Death Valley Shoshoni, kō'üp, Paiute, southern Nevada. Owens valley and Mono lake wild species is *Nicotiana attenuata* Torr. None was planted in Owens valley, but semi-cultivation occurred at: the site of the sweat-house, Big Pine creek, along the foothills southwest of Bishop, and at pasida witū, Baker creek. Land was burned in the spring (T.S. and S.N.). Chalfant's informant plausibly said the vegetation was too sparse to burn.<sup>218</sup> Irrigation was used only during drought. Soil was not cultivated. Partly grown plants were pruned to increase leaf size. Men cleared ground; women did remainder of work.

Leaves were gathered in late summer, dried, ground (unmixed with other materials), moistened, and made into balls 12 to 16 cm. diameter for preservation.

*Pipes*.—Pipes, pichimu', O.V., odo'ic, M.L. (1) Cane, a makeshift type of a short section of hollow cane which burned easily (pl. 4*d*). (2) Tubular, pottery. Length, 7 to 13 cm.; diameter, bowl, 25 to 40 mm., mouth, 8 mm. (pl. 4*a-c*). Mrs. Black, Big Pine, has a fragment of a similar pipe (pl. 5*c*). Figure 5 is a pipe of unbaked clay in the Eickbaum collection secured in Death valley. Length, 10.5 cm., greatest diameter, 3.8 cm.; bowl runs back 3.2 cm. from mouth, narrowing into small hole toward rear. None of these is decorated. Field Museum of Natural History has several Western Mono baked clay tubular pipes: E-71174 from Millwood, E-71175 from Fandanga, E-71229 from Big Sandy, all in Fresno county, California. Lengths are 7.5 to 13 cm. One has the end upturned 45°, suggesting an elbow pipe. (3) Tubular, steatite. One from near Fish Springs resembled pottery pipes: wall thin and highly polished; shape symmetrical. Mono Lake said pipes of "soft stone" northeast of Mono lake. A Paiute specimen from Smith's valley, Nevada (Field Museum spec. E-58460), has a long wooden stem wrapped with fur. Owens valley use of stems is doubtful. T.S. never heard of them. Chalfant's informant mentioned stems of a mountain berry or cane. Two from Western Mono, Hooker's cove, Madera county, in Field Museum (E-71452), are decorated at the large ends, one with dots filled with red paint, the other with a raised, serrated encircling band and a row of red paint-filled dots. Chalfant's informant mentioned pipes of tufa from

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<sup>218</sup> MS.

the volcanic mesa north of Bishop. (4) Tubular, wood. Chalfant's informant mentioned wooden pipes.<sup>214</sup> Field Museum has two from the Western Mono, E-71173 from Jose basin, Fresno county, E-71450 from Hooker's cove, Madera county.

*Uses.*—Men smoked sparingly, chiefly older men. No set ritual. Generally in sweat-house, in evenings. Pipe passed around in any convenient manner. Carried tobacco leaves in small buckskin bags, māgō'ō, or cut plugs from the tobacco balls. Field Museum has a Paiute minkskin pipe bag containing tobacco from Smith's valley, Nevada (spec. E-58461).

Women mixed tobacco with lime from burning shells, found in Owens river, or with ashes from the fireplace. This, ground fine, was called sā'gō, and carried in buckskin pouches. Commercial plug tobacco is now used for this. They never smoked.

Doctors sometimes smoked while curing. Others "blew out smoke to blow away disease." Men ground tobacco with water, scooped it up with their fingers, and swallowed it to clean out their stomachs. Women's tobacco quids or tobacco stirred in water were sometimes applied to wounds.

## DANCES

*Annual social dance or "fandango."*—The Paiute, usually scattered, assembled each fall for dancing, gambling, and festivities, until law prohibited gambling. After seed harvests and before or after rabbit hunts, districts held dances at Bishop, Big Pine, Benton, Oasis, and Mono lake. Big Pine and Independence reciprocated in alternate years, one bringing contributions to the other's dance. District head men, e.g., Bob Riddle at Big Pine, organized and directed these, sending runners to invite distant people. Paiute from Independence were desired, being good dancers. Western Mono and Miwok sometimes attended.

The dance corral was 300 to 400 feet in diameter, enclosed by a willow fence made of pairs of posts, 10 feet high, at intervals of several feet, pairs of horizontal sticks connecting them at top and bottom and holding compact vertical willows. One said natives camped inside the corral, around the fence; others, outside.

The circle dance, waigi (side) nugatu (dance). About six men, half-stooped, arrows fitted to their bows as if to shoot, stomped through the camp behind a strong man who sang while they shouted, "Hi, hi, hi, shoot him, shoot him," to the time of their step. They threatened people

<sup>214</sup> MS.

whom the leader seized and placed at the end of the file where he stooped, grasping the hips of the one in front. Fifty to 100 were recruited. Baskets of resisting women were shot; resisting men were mauled in the corral. All joined. Women wore shell beads and earrings, their hair combed down and sometimes faces painted. Skilled singers sang special songs<sup>215</sup> in the corral center. Women chose partners by tapping their shoulders, then all formed a circle holding hands, the men on their partners' left. When the music changed, they hopped or side-shuffled to the left or clockwise. An intermission followed 5 or 10 minutes of dancing. Men did not pay their partners.

Paiute from the north attending one dance suggested the widespread ceremonial buffoon.<sup>216</sup> One wore a false beard, carried a cane, and walked stooping; a tall man stuffed his waist and carried a bundle on his back; another impersonated an officer, wearing a false face; a robust man impersonated a woman; a cowboy and a doctor were impersonated.

Special dance, *totschoid*, so-called "war dance." Tradition connected this with the south, saying a visitor from South fork, perhaps *Tübatülabal*, called *Paiyote* by some, danced it in return for entertainment given him. Perhaps it is of recent though pre-Caucasian origin. E.L. thought *Paiyote*, a good man with a charmed life, introduced it and the paraphernalia about 1850 at Independence and possibly Bishop. A woman, "muchacha" (Spanish for "girl"), later took it up. A South Fork Indian is said to have recognized the confused song words. In the evening four singers sat on a blanket in the corral center. Several special dancers performed in regalia (pl. 8*a, c, e, f*): on their heads a circle of eagle down twisted into a rope (pl. 7*a*) around a "crown" of magpie tail feathers and short redwing blackbird and turkey feathers (pl. 7*b*); a necklace of hanging hawk, magpie, and flicker feathers (pl. 7*e*); a kilt of hanging strands of eagle down, each tipped with hawk and magpie feathers (pl. 7*d*); a "tail" of black hawk or eagle feathers behind (pl. 7*c*). J.Sm. described another headgear for this dance: a band of orange flicker feathers across the forehead hanging on each side to the knees, the head part including a row of sage hen tail feathers and behind this a row of eagle tail feathers, projecting upward like a Plains feather bonnet. Although the last may have been suggested by pictures of Plains Indians, George Robinson at Fort Independence is said to have one. Mr. Eickbaum at Stovepipe Wells, Death valley, has a Death Valley Shoshoni headband of orange flicker feathers, the quills projecting in alternate

<sup>215</sup> See p. 283, no. 16.

<sup>216</sup> Steward, 1930.

directions and sewed neatly with two threads of sinew running the length of the band, about 5 feet. At Furnace Creek Inn is a similar specimen. The dancers' faces were painted red; their bodies, white, yellow, red, and dark gray of ground galena, sometimes with white stripes around limbs and trunk,<sup>217</sup> sometimes with stripes and dots of different colors. One said they carried war implements. This was probably rare.

The musicians sang an "introduction," shaking split-stick rattles. The dancers joined the "chorus" and performed individually. J.S. demonstrating, pranced, waved his arms, and jerked his head. Girls, if proficient, were sometimes asked to dance. Singers and dancers were paid in bead money.

The Lone Pine performance and regalia were the same.

The "fandango" lasted five days or a week. Head men spoke occasionally, exhorting the young to be virtuous and kind and inviting all to dance and be merry. Occasionally individuals wailed for the dead. Big Pine residents say that one evening was devoted to mourning, when white people were not admitted.<sup>218</sup>

Mono lake. These dances preceded pinenut, or piüga, expeditions or rabbit or deer drives, dances and games occurring one day before and several days after the communal enterprise.

*Ghost dance.*—J.McB., evidently confused, says he saw Jack Wilson at Shers, Nevada, in 1906. Wilson did not visit Mono lake, people going to see him in Nevada. After several hours of trance, he said that he had brought news from the dead. Certain songs and dances properly performed would bring back dead relatives on a given night. Rationalizing failures, Wilson said, "You let a dog bark" or "did something else to spoil it." People lost faith. J.McB. thought Wilson an imposter. Losing influence in California and Nevada, he visited Oklahoma, charging people \$1.00 to shake hands and dividing the profits with a young boy. He returned broke.

H.D. said the ghost dance came from the north about the time of the earthquake (1872). People circle-danced for the dead to return. E.L. thought it brought a new song and dance and was enthusiastically received, and that the Nevada Shoshoni had it.

*Bear dance.*—numu (people), pahavitei (bear), nugatu (dance). The typical bear or Mohave dance<sup>219</sup> is lacking. T.S. said sometimes five or six bear shamans dressed in grizzly skins and heads, with rattling claws

<sup>217</sup> Like the clown societies of the Southwest.

<sup>218</sup> Mrs. Armstrong of Bishop described piercing cries heard during "fandangos" at Bishop.

<sup>219</sup> Spier, 1928, 267.



tied to their fingers, and danced with side jumps, raising their "paws" and growling, while musicians sang: "There is danger where I go. Where I walk you can see my tracks."<sup>220</sup> This was performed at "fandangos" from Independence to Olancho, usually by visitors paid by the host community. T.S.'s father saw a "bear dance" at Owens lake, when the chief dancer transformed himself into a real bear.

There was no rain, war, squaw, turkey, or snake dance.

## MYTHOLOGY

A few facts will supplement a previous collection of Paiute mythology now in manuscript. Myths related improperly or frivolously insulted animals or even natural phenomena, which avenged themselves. E.g., a narrator must not ridicule the bear. "Myths are therefore related in winter when the animals hibernate." Special men are narrators.

The following are synopses of myths collected by W. A. Chalfant.<sup>221</sup>

From D. L. Maxwell he secured a creation legend:

Wolf and coyote are on a primeval flood; pat-sa-gah-wahs, water midgets, cause rocks to grow into land.

The earth diver legend was told by Harry Cornwell:

People are on Mount Tom (ow-wah-ne), the only land in a primeval flood; water fowls (pu-yu) dive for the bottom; helldiver is not interested; coyote dives, pretending to bring up sand, but had it under his claws before he dove; helldiver is called, but says it is impossible; he is persuaded and twice fails; the third time as the morning star (ta-vah-ha-a) rises, he takes a deep breath, coaxed by coyote, saying, "a little deeper," dives eastward and returns at noon after being given up for dead, bringing earth; they sprinkle it on the water which sinks leaving only pools and lakes. A future flood will come after which people will see their dead relatives.

Hon. Guy Earl of Oakland gave Chalfant the following:

Coyote and "tiger" are on a flood, coyote flying around, complaining of limited space; "tiger" blows on an earring of cane, 3 by ¼ inch, shaking dirt into his palm and scattering it on the water until land is formed.

According to the Paiute of western Nevada, Mount Grant with a fire on top is above the flood; sage hen fans the water back to save the fire; a Paiute aided by rabbit gets fire from this; people came from a man near Mount Grant, Kurangwa, and a woman; their two boys grew up marrying sisters; they quarreled and separated, one going south to become the Walker Lake Paiute, "fish-eaters," the other north to become the Bannock, "buffalo-eaters."

Black Rock springs is the blood of a giant dwelling there who was killed by a shaman, cutting off his head and splitting open a rock. Another giant made people build the Alabama hills; he stepped into a crater and was killed. Mr. Earl recorded these.

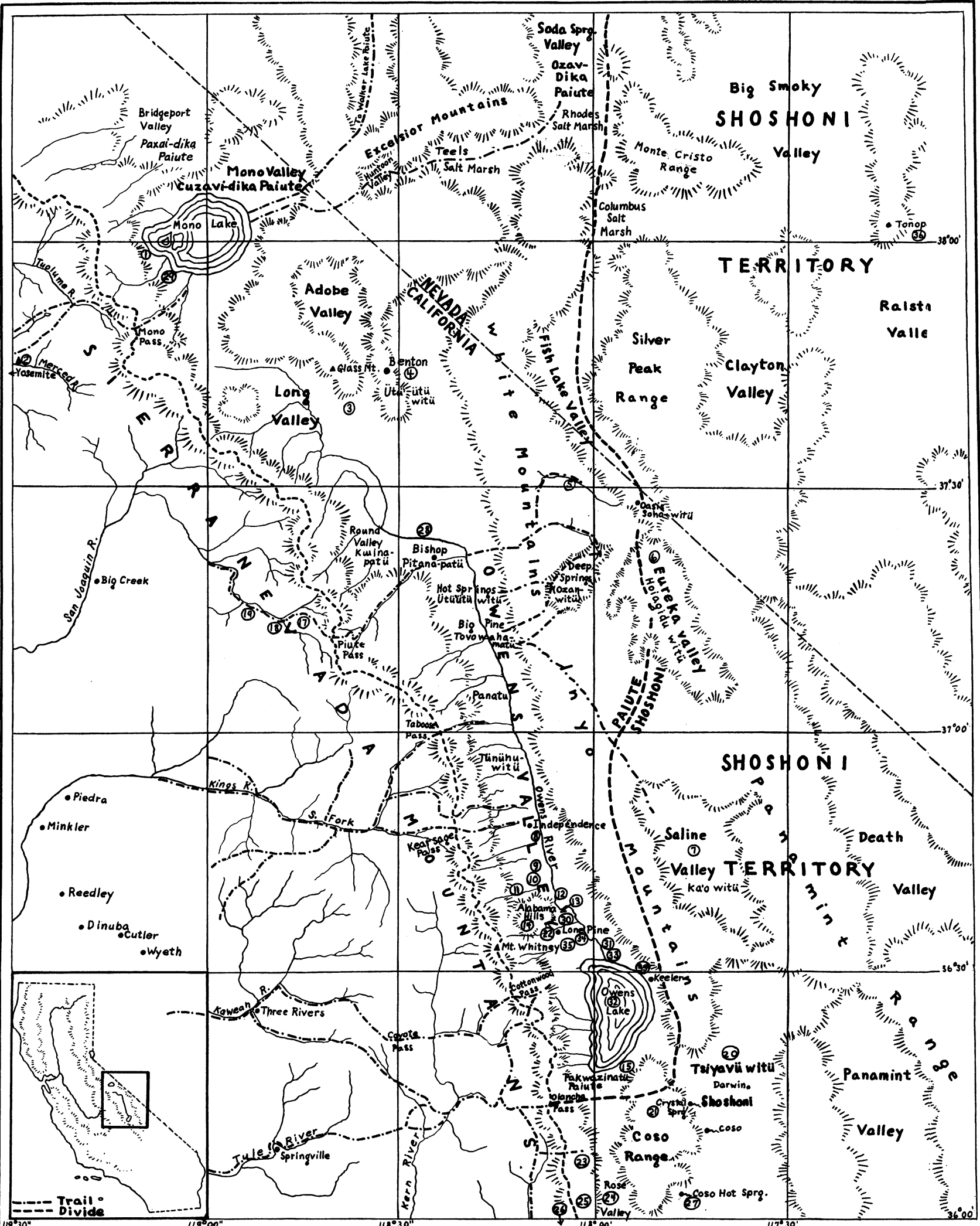
<sup>220</sup> P. 284, no. 17.

<sup>221</sup> MS.

Coyote, a doctor, wants dove; he poisons her with a deadly obsidian blade given her to remove a splinter; he doctors her; he is accused of poisoning her; magpie and coyote shoot at a mark for dove; magpie wins and dove chooses him. From Harry Cornwell.

A dog held a bear at bay while a man killed it from behind; the man threw dog some meat; a lasting friendship began. A similar story holds for women and cats!

Coyote meets bear, telling him to stick his tail into the water and when fish bite it to pull them out, as he did; bear tries and goes to sleep; his tail freezes off in the ice, has been short ever since.



Map 1. Paiute subdivisions and boundaries.

## APPENDIX 1. PLACE NAMES AND KEY TO MAPS

## MAP 1

1. Tubogi, little caves.
2. Summer camp of Mono Lake Paiute in Little Yosemite.
3. Bishop (pitana patü) pinenut camp, tupi mada; tupi, rock, mada, upon.
4. Benton district, ü'tü'ütü witü, hot place, from warm springs.
5. Cottonwood canyon, tō'sa kwā'si wū'ha; to'sa, white, kwa'si, tail, wūha, canyon.  
A pinenut camp on Cottonwood creek is sāi'kwidupi, from saikwi, dirty, tupi, rock.
6. Eureka valley, hoiāgidu witü; hoiagidu is descriptive in some way of white sand dunes in the southern end of the valley.
7. Saline valley, kā'o witü; ka'o, a very deep valley.
8. A village site, tō'owū'a witü; tō'o, burrow or hole, mü'a, moon, witü, place.
9. A village site, tanova witü; tanova, salt brush.
10. Village site, tupū'si witü; tupusi'<sup>1</sup>, a seed plant.
11. A village site on George's creek, tsagapü witü; tsagapü, black willow.
12. Creek, tsigūhū'matü; tsigop<sup>1</sup>, rabbit brush; hu, creek; witü, place.
13. Tumutsadu witü; from mutsa, the rounded end of a hill.
14. A village scattered west of the Alabama hills on Hogback, Lone Pine, Tuttle, and Diez creeks, mögahū'pina; möga, granite, hu, hills? (or creek?), pina<sup>η</sup>, behind.
15. South side of Owens lake, pakwā'si natü; paya'a, water, kwā'zi, tail, witü, place.
16. Spring, madabaha, †.
17. Pilot knob, po'do, stick (mountain). The camp in Hutchinson meadow, po'dotuhādü, under the stick.
18. Camp under Pavilion dome in Piute canyon, panavidu natü; paya'a, water; na, †, vidu, "get there," witü, place.
19. Camp in Blaney meadows, yasacura wa'a, †.
20. Shoshoni territory, tsi'yāvü' witü, wild rose place.
21. Shoshoni territory, māwa'ta, bubbles (on the spring).
22. Near Deer's lake, paha'go vatü; paha', mortar, go, †, witü, place.
23. Mögahupinu<sup>η</sup>wa'tu; "behind big decomposed granite rocks"; möga or möga'hu, granite or granite hills, pina<sup>η</sup>, behind, wa'tu, probably witü, place.
24. Wici'vi witü, region west of Cowan's station where wici'vi was gathered for cordage.
25. Tō'ni, a large plateau near Big gulch, where the mythological Coyote lived in a large, round hole, his tō'ni, house.
26. Little lake, 10 miles south, pawo'na, lake. A.G. called it pavuta<sup>η</sup> witü.
27. Koso, fire, springs, held jointly by Paiute and Shoshoni for medicinal purposes.
28. House rings and petroglyphs (see p. 334).
29. Mono lake settlement at site of Bridgeport Tom's ranch, pa'mogo tupi; pa'mogo, frog (evidently derived from paya'a, water, and possibly pogo, animal or quadruped), tū'pi, rock. Meadows to south were amahavi'ta, mahavi'ta were gathered there for food.
30. Lone Pine creek, where one large and two small trees formerly stood, wā'ko'po'o witü; wā'ko, pine, po'o, alone.
31. Owens river, pata.
32. Owens lake, pa'tsiyata.
33. Mouth of Owens river, pavi<sup>η</sup>wi matü.

34. Lone Pine villages, paha'á witi, mortar place.

35. Archaeological village site near Keeler.

A map of Big Pine drawn by J.S. is reproduced in figure 10.

36. Tonopah, tonavi (greasewood), paya'á, water.

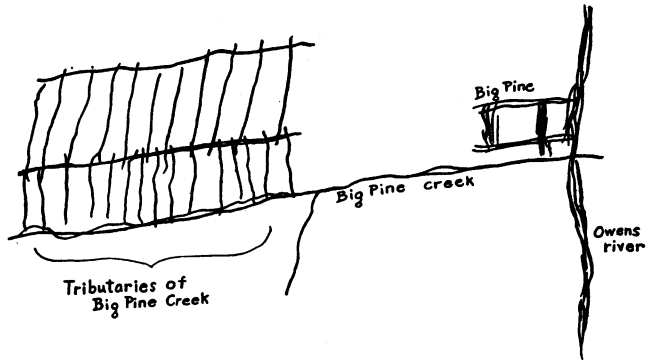
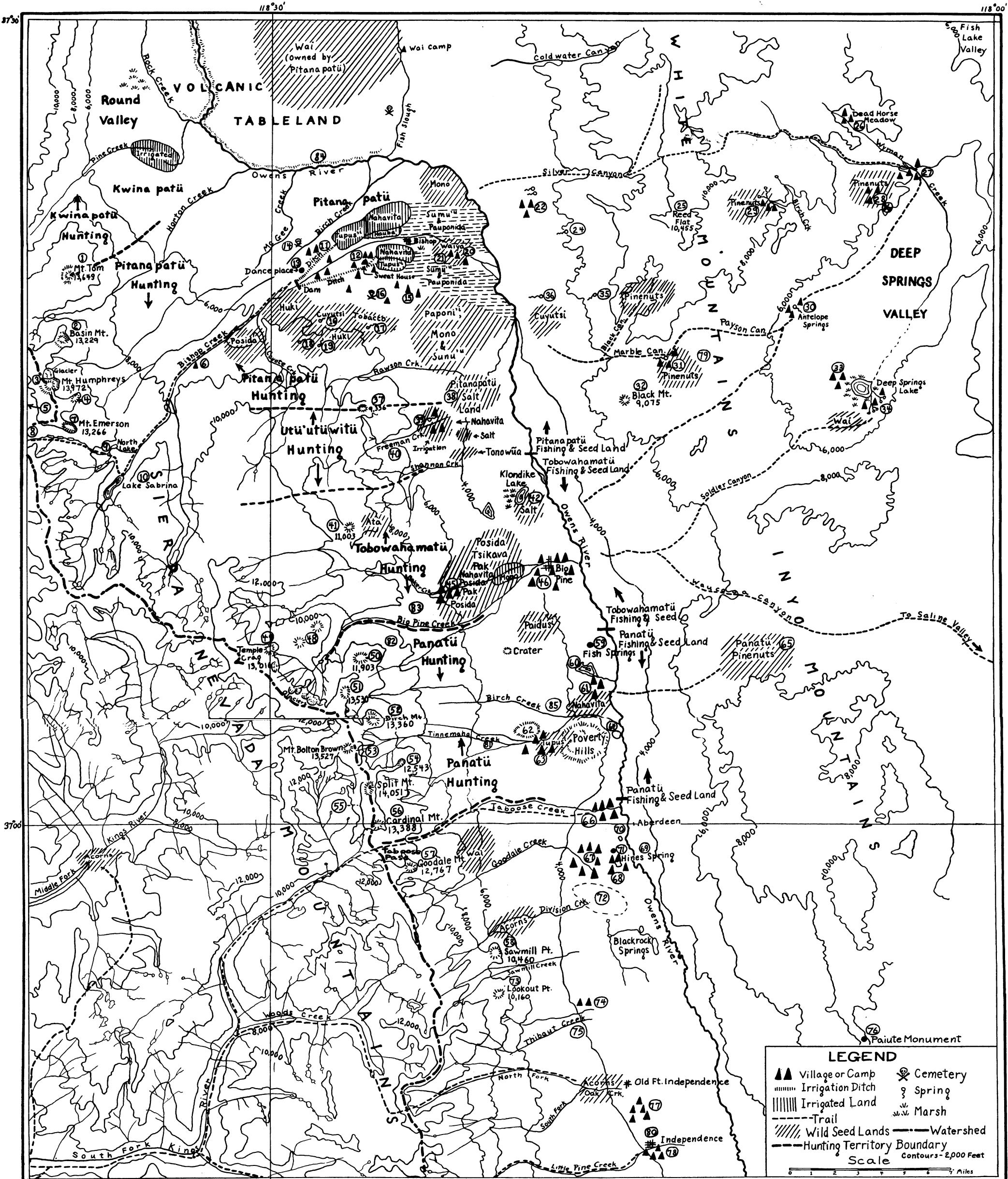


Fig. 10. Map of Pig Pine drawn by Jack Stewart.



Map 2. Ethnogeographical map of Owens valley.

## MAP 2

1. Mount Tom, pāvātōyā'vi; pā'vā, big, toyā'vi, mountain.
2. Basin mountain, pā'duhia, "moose."
3. Mt. Humphreys, wī'kuga'a, ♀.
4. Po'dōnāη witū; pō'do, stick, nāη, coming over, wi'tū, place.
5. Desolation lake, west of Mt. Humphreys, pā'kini'<sup>1</sup>; pāyā''a, water, kini'<sup>1</sup>, hawk.
6. Tōnō'vū, a brush: site of the first night's camp on trips across the Sierra from Bishop.
7. Mt. Emerson, wā''akānovi'<sup>1</sup>; wa', ♀, akā, open, nōvi'<sup>1</sup>, house.
8. Paiute pass to San Joaquin watershed, elevation 11,409 feet.
9. Camp by North lake.
10. Lake Sabrina, ijiju'u, cold.
11. A valley village site, tuhunitogo'o; tuhū'ni, black, togo'o, ♀
12. Village site, tsā'wāwūa'a; tsā'wa, sage brush, wūa'a, knoll.
13. Dance place, nū'gatūkā'va; nūgā, dance, tukava, place.
14. Indian cemetery.
15. Village site, pā'yapo'ō'ha; pāyā''a, water, po'oha, holds.
16. Spring, hū'wūjava paya'a, birch water.
17. Spring, wi'ho paya'a; wi'hopi, buzzard.
18. Spring, ütū'ütü paya'a, hot water.
19. Spring, wo'a vaiya'a; wo'avi, worm, paya''a, water.
20. Village site, pawona witū, lake place.
21. Lake, pawona.
22. Village site, tsigoki'<sup>1</sup>; tsigopa, rabbit brush, ki'<sup>1</sup>, a low, round place.
23. A point of the hills, makuha witū; from kū'ho, ♀.
24. Spring, wi'vopa'a, no meaning; possibly derived from paya'a, water.
25. Reed flat, White mountains, poyonā'ηwitū; poyo, road, nāη, coming over (the hill), witū, place.
26. Winter pinenut camp, ka'ηasi witū, chin place.
27. Village site, sühüvākwaži natū; sühüva, willow, kwazi, ♀, witū, place.
28. Winter pinenut camp, hunadudugo, little meadows.
29. Winter pinenut camp, tupico, rocky.
30. Village site.
31. Spring and pinenut camp, pādātū'ni; paya'a, water; tuni, ♀.
32. Black mountain, ko'ho toyā'vi; kō'ho, a special term for black ♀, toya'vi, mountain.
33. Village site.
34. Village site, ozā'η witū, salt place.
35. Spring, yokā'tso pāyā''a, frog spring or water.
36. Spring, tso'kapaso'o; tsoko, mountain lion, paso'o, spring.
37. Mountain, wauko dayavi; waukō'va, pine, toyā'vi, mountain.
38. Salt land belonging to pitana patū, Bishop.
39. Keough's Warm springs, ütū'ütü paya'a, hot water; or ütū'ütü witū, hot place. G.C. also gave, pasitapu witū, pasitape, a tree formerly growing there.
40. Freeman creek, tsiūdaka, a kind of fish.
41. A'tatoya'vi, ā'tā, a food seed, toyā'vi, mountain.
42. Tō'vōwāha' matu (Big Pine), owned salt land.
43. Pā'tuta paya'a, muddy water; pā'tudupa, dust.
44. Baker creek, waucadō'va, little pine.
45. Village site, pasi'da witū; pāsī'dā, a seed used for food.
46. Village site, tō'vōwāhā' matū, small natural hill place.

47. The entire ridge, tsiwau'wūa'a, ♀.
48. The entire mountain, including both peaks, atsa nū'wa, brown or red.
49. Temple crag, ki'ni toyavi, hawk mountain.
50. Pava toyavi, big mountain.
51. Huŋ'wa kai, windy peak.
52. Birch mountain, pa'o''karaŋwa, pa'o, rocky, karaŋwa, peak or boulder peak. Also called sunūyusi', J.S.'s "power."
53. Mt. Bolton Brown, wūki, the first primary wing feather.
54. Tū'hūnimū, black.
55. Split mountain and ridge, tū'hūnimū wūki, black feather.
56. Cardinal mountain, waucodo'vo'o; waucova, pine, dovo'o, hill.
57. Wa'doza'a, two-pointed mountain; probably from waha'a, two; toyavi, mountain.
58. Sawmill point, ku'ŋwinū'ū, ♀.
59. Cave where Nūnūmic, the mythological giant, lived.
60. Fish Springs slough, hōnō'va, ♀; the spring is called wā'go.
61. Village site, pā'nātū, paya'a, water, wi'tū, place.
62. Mountain, ta'kapi, obsidian.
63. Village site, mūhu witū, saddle place, referring to a saddle in the hills.
64. Formerly a fishing lake.
65. Pinenut territory owned by Fish Springs, pa'sawana'tū; paya'a, water, sawa'vi, sagebrush, witū, place.
66. Village site, tuŋwā'pū, cottonwood.
67. Village site, padohahu matū, from paya'a, water, dohahu, muddy ♀, witū, place.
68. Village site, pau'wahapu; pa'wahava, a grass, witū, place, the region around Hines spring.
69. Hines spring, a fishing place and the home of the mythological patsa'ŋwas, "water babies."
70. A fishing lake.
71. Where the patsaŋwas lay on rocks awaiting Nūnūmic.
72. Aya'gūwawatū; ayava, lava rock, ūgūwawatū, alongside of (probably watū from witū).
73. Lookout point, tūnyū'ha toyavi; tūnyū'ha, gate, toya'vi, mountain.
74. Village site, nūvahū' matū; nūvā'vi, snow, hū', creek ♀, witū, place.
75. Siguhu matū; sigop', rabbit brush, hu, creek, witū, place.
76. Winūdūmū'hū, "Paiute Monument," a pinnacle of rock, being the mythological winūdūmū'hū turned to stone; from winūdū'pi, standing rock, mūhū, saddle.
77. Village site, tsaki'cadūka'a, a species of oak; A.G. called this teakicavū'ū witū.
78. Village site, pazi'wapi'ŋwūna'a; paziwa'pu, sandy ground; piŋwuna'a, deposit; i.e., a sandy wash.
79. Cedar flat, pawamuha, from pawap', juniper.
80. Tō'nōva witū; tōnā'vi, a brush growing where the earth contains salt, which was gathered.
81. Ti'nūmaha witū, a large settlement where Ti'nūmaha, a mythological man, was killed by enemies who turned into the trees formerly along the creek.
82. A'tsānūŋa, a hill between north and middle forks, Big Pine creek. A'tsa, red, nūŋa, breast.
83. A ridge between Big Pine and Baker creeks, tsiwau' wūa'a; tsiwau, long thin, wūa'a, penis.
- 84-6. See Archaeology, Appendix 5.



## APPENDIX 2. PASSES AND TRAILS

*Passes.*—Between Mono and Owens lake only seven or eight passes cross the precipitous Sierra Nevada, whose lowest point between latitudes 36° 20' and 38° exceeds 9000 feet. None is accessible even to wagons. They average about 11,000 feet. Winter snow lingering into summer makes them difficult until July. Mono pass, 10,599 feet, crosses west of Mono lake. (Tioga pass was not used.) Muir mentions one at the head of the southernmost tributary of Walker's river,<sup>222</sup> perhaps Parker pass, 11,000 feet, and another south of the Minarets,<sup>223</sup> probably Mammoth pass, 9600 feet,<sup>224</sup> and one between the headwaters of the south and middle forks of the San Joaquin,<sup>225</sup> 12,000 feet (possibly a nameless pass or Paiute pass, 11,409 feet, west of Bishop). Chalfant mentions one at the head of Rock creek.<sup>226</sup> South of these<sup>227</sup> were Taboose pass, 11,500 feet, and Kearsage, 11,823 feet. South of Mount Whitney, 14,502 feet,<sup>228</sup> the Sierra breaks down into many easy passes.

*Trails.*—(Maps 1 and 2.) From Mono lake, eastward, one ran across the Anchorite hills through Whiskey flat into the plains around Walker lake; another, south of Anchorite hills, through Teels marsh (where salt was obtained), Rhodes Salt marsh, north to Soda Spring valley, the Ozav dika Paiute. West, many tributary trails ran into Walker canyon, through Bloody canyon, Mono pass, to the Tuolumne river and meadows, a branch following the modern Sunrise trail over Cathedral pass and Long meadow to Little Yosemite (a Paiute summer hunting camp), another branch crossing the headwaters of Cathedral creek to Tenaya lake and running along the north rim of Tenaya canyon to enter Yosemite valley a little north of Mirror lake.

Many trails ran eastward from Bishop into pinenut country. One ran through Silver canyon to the summit of the White mountains, Big Prospect meadow, 10,500 feet, down Cottonwood canyon to Fish Lake valley. A branch from Silver canyon crossed by Goat spring entering Deep Springs valley through Wyman canyon and crossing north to Fish Lake valley. Another from Owens valley ran east up Marble canyon, crossing to run down Payson canyon into Deep Springs valley and north through the hills on the western side of the valley.

Westward travel went up Bishop creek (a camp at Dutch John meadow) to Lake Sabrina, North fork Bishop creek, North lake (another camp), over Piute pass, through Humphrey basin, Piute creek to the South fork San Joaquin river (camps at Hutchinson meadow, Pilot knob, Pavilion dome, and Blaney meadows), and down to Western Mono territory.

East from Big Pine a trail followed the toll road route to the summit, 7276 feet, then crossed directly into Deep Springs valley (not turning north across Cedar flat), there turning north to Antelope springs. Another ran via McMurry springs, up Soldier canyon, and by the old wagon route to Deep Springs lake. A trail is said to have crossed into Eureka valley from near Deep Springs ranch. Picto-

<sup>222</sup> Mountains of California, 78.

<sup>223</sup> *Ibid.*, 76.

<sup>224</sup> J.S. described crossing this. Chalfant says it was an Indian pass (MS).

<sup>225</sup> *Op. cit.*, 76.

<sup>226</sup> MS.

<sup>227</sup> Bishop pass, 11,989 feet, was not used.

<sup>228</sup> The highest peak in the United States.

graphs are found at the summit here. A trail from McMurry springs up Waucoba (wacova, "pine tree") canyon across the Inyo mountains to Saline valley.

Westward, a trail ran from tu wapu up Taboose creek (corruption of tupusi<sup>1</sup>, an edible bulb), Taboose pass, down the South fork Kings river toward the San Joaquin valley. Another from Ft. Independence climbed North fork Oak creek, crossing the summit between Diamond peak and Black mountain, down South fork Woods creek to join the last in Kings river above Paradise valley. Another, leaving tsakicaduha<sup>a</sup>, Independence, went up Little Pine creek, across Kearsage pass, down Bubbs creek to join the last. A branch from Kings river followed Lewis creek, Monarch divide, the headwaters of Dougherty creek to the Middle fork Kings river at Simpson meadows (a source of acorns). Another branch left the Kings river about Cedar Grove hotel, went to Summit meadow, Horse Corral meadow, Lost meadow to Burton meadow, splitting, one part running via Bearskin meadow through General Grant National Park to Sequoia lake, the other running to Weston meadow, Quail flat, Redwood mountain, Pierce valley to Eshom valley. Another branch left Kings river at the junction of the Middle and South forks, ran up Deep canyon to Garlic meadow, to Rodgers ridge, across Rifle and Shotgun creeks, over Farewell gap, 10,588 feet, and westward down the East fork Kaweah river.

A trail west from Owens lake ran via Cottonwood creek, Horseshoe meadow, Cottonwood pass, 11,200 feet, Whitney meadows, Golden Trout creek, Kern canyon, Coyote creek, over the Great Western divide, via Coyote pass. A branch at Cottonwood meadow crossed the Sierra east of Trail peak, at 10,700 feet, running via Mulkey and Ramshaw meadows, Templeton mountain, Long canyon, Dry and Casa Vieja meadows, Kern river, Lloyd meadows, Freeman creek, down the South fork of Middle fork of Tule river toward the San Joaquin valley. A branch from Kern flat ran by Trout meadows, splitting, one part going by Burnt Corral meadows, up Little Kern river, Soda creek to Sand meadows and down South fork Kaweah river, the other circling back to Lloyd meadows. Another trail from Owens lake crossed Olancha pass, 9300 feet, passing Summit and Monache meadows to Soda Creek. Another went up Haiwee (probably from hewi, dove) creek, over an 8500-foot pass, to join a branch of the last at Kern river, then down South fork Kern river.

## APPENDIX 3. VOCABULARY

Directions had no associations, though one informant gave: north, direction of head in burial; east, sunrise; south, where the dead go; west, direction of the head in sleep.

North, kwīwi'<sup>1</sup>, B.P., kwina, M.L.

South, pita', B.P. and M.L.

East, sivi', B.P., sivi'dū, M.L.

West, pāmi', B.P., pamid', M.L.

Colors (nāgiti, Bish., gwadad, M.L.):

	<i>Bishop</i>	<i>Mono Lake</i>
Blue	puhiva' nagiti	pohi gwadad
Green	puhiva' nagiti	pohi gwadad
Red	ākāvā nagiti	atsa gwadad
Yellow	ohā'va nagiti	oha' gwadad
White	tō'sava nagiti	toha' gwadad
Black	tupa' nagiti	tūhū' gwadad
Grey	asiva, asi nagiti	ici' gwadad
Brown	oka nagiti	

Black is also pū'tūhuvanagiti (putuhuvi, charcoal)

Numbers:

	<i>Big Pine</i>	<i>Mono Lake</i>
1	sū'mū'ū	sumū' <sup>1</sup>
2	wāha''a	waha' <sup>1</sup>
3	pāhi'' <sup>1</sup>	pahi'' <sup>1</sup>
4	wātsū'ŋwi	watsū'gūi
5	mānigi'	ma'nigi' <sup>1</sup>
6	nāhavi'	nā'pāhū' <sup>1</sup>
7	tātsū' <sup>1</sup>	tā'tsū' <sup>1</sup>
8	wāsū' <sup>1</sup>	gwo'sugwi' <sup>1</sup>
9	kwaniki'	sū''ukada'o'p
10	sūwano' <sup>1</sup>	suwu'wano' <sup>1</sup>
11	sūwa'no' nū'na suwū'ma tsibūi't' <sup>1</sup> 228 <sup>a</sup>	suwu'ma spoki
12	sūwa'no' nū'na wā'hāmā tsibūi't' <sup>1</sup>	wa'hama spoki
13	sūwa'no' nū'na pā'hīmā tsibūi't' <sup>1</sup>	pahi'ma spoki
14	sūwa'no' nū'na watsuwimū tsibūi't' <sup>1</sup>	watsū'ma spoki
15	sūwa'no' nū'na manigimū tsibūi't' <sup>1</sup>	manigi'ma spoki
16	sūwa'no' nū'na nahavimū' tsibūi't' <sup>1</sup>	na'pahūma spoki
17	sūwa'no' nū'na ta'tsuūm tsibūi't' <sup>1</sup>	tatsu'ma spoki
18	sūwa'no' nū'na wāsū'am tsibūi't' <sup>1</sup>	gwo'sugwima spoki
19	sūwa'no' nū'na kwaniki'mū tsibūi't' <sup>1</sup>	sū''ukada'o'pma spoki
20	wa'hawano' <sup>1</sup>	wa'hamano'' <sup>1</sup> spoki
21	wahawano' <sup>1</sup> nū'na suwū'ma tsibūi't' <sup>1</sup>	wa'hamano'' <sup>1</sup> suma spoki
30	pa'hiwano' <sup>1</sup>	pahi'mano'' <sup>1</sup>
40	wa'tsiwano' <sup>1</sup>	watsu'wano'' <sup>1</sup>
50	ma'nigiwano' <sup>1</sup>	manigi'mano'' <sup>1</sup>

	<i>Big Pine</i>	<i>Mono Lake</i>
60	na'vahiwano' <sup>1</sup>	na'pahimano' <sup>1</sup>
70	tätsü'iwano' <sup>1</sup>	tatsü'wanano' <sup>1</sup>
80	wäsü'iwano' <sup>1</sup>	gwo'sugwimano' <sup>1</sup>
90	kwä'nikiwano' <sup>1</sup>	sü''ukada'opwamano' <sup>1</sup>
100	süwä'nowano' <sup>1</sup>	su'wuwanowano' <sup>1</sup>
101	süwä'nowano nü'na sü'mü'ü	suwuwanowano suma spoki
200	wahawa'nowano' <sup>1</sup>	
300	pahiwa'nowano' <sup>1</sup>	

Body parts:<sup>229</sup>

	<i>Bishop</i>	<i>Mono Lake</i>	<i>Independence</i>
Head hair	wä'	wä'	wä'v <sup>1</sup>
Head	zapix	zapi'x	
Eye	vü's <sup>1</sup>	vü'hia	vu'si
Ear	nä'ka	nä'ka	nä'ka
Nose	muvi	mu'vi	mü'vi
Cheek	jo'o	sa'a'	
Mouth	dü'va	du'va	dü'va
Tooth	däü'wah <sup>h</sup>	dä'ma	dä'wa
Tongue	ügo	xa	
Neck	gü'ta	gu'ta	gu'ta
Throat	nö'do	no'do	
Shoulder	yä'η <sup>ha</sup>	tsoa'va	
Arm	vüta	vota	vu'ta
Forearm or wrist	ma'wijo'o	ma'wi'tso'o	
Thumb	wato'go <sup>230</sup>	mato'x	
Index finger	wai'ginu	mai'ginü	
Third finger	wapogina	mai'ginü	
Fourth finger	watuwatsi' <sup>1</sup>		
Little finger	maduga		
Hand	wä'yä	mü	wa'da
Chest	nüη'ava	nünü'vü	niηüvü
Stomach	go'hi	kö'hi	gö'hi
Intestines	ji'hi	zi	
Heart	vi'wü	vi'wü	
Lungs	jüη, jo'no	zo'no	
Leg	huga'va	huga'	hü'güvü
Thigh	ja' <sup>1</sup>	za''i	
Shin	hükono'va	vuga'va	
Knee	taηadovo	mia'top	
Foot	gü'k	gü'gü	hu'ga
Ankle	da'wijo'o	dagwi'soxo	
Toe or big toe	tatogo	tato'x	dasu'zu

<sup>228a</sup> Süwa'no' nü'na suwü'ma tsibü'ti, "ten and one added."

<sup>229</sup> These were each prefixed by *i*, my. Informants: T.S. at Bishop; B.M. at Mono lake; E.L. at Fish Springs.

<sup>230</sup> Watogo also given for "finger." E.L. gave wauηi'<sup>1</sup> for "finger."

## APPENDIX 4. FURTHER BOTANICAL LORE

In addition to the plants recorded elsewhere, the following were named in Owens valley but no use assigned to them: ätsäha'ma'a, a species of *Lepidium*; atsia'ñwa'dova, atsiogodapa, a species of *Xanthium*, cockle burr, recently introduced by white men; cuyuhunava, *Cleome lutea* Hook., Rocky mountain bee plant; kai'voিদava, a species of *Lupinus*, lupine; muhidava, an unidentified species; pä'tsanäva, *Forestiera neo-mexicana* Gray.; pä'wonova, a species of *Ligusticum* regarded as poisonous (Bish.); pägägi'pa, an unidentified species of tall grass; sigü'pa, a species of *Haplopappus* (B.P.); tü'nünü'vüva, *Urtica gracilis* Ait., a nettle; tüsä'va, F.S., tüsä'pa, B.P., a species of *Peraphyllum*; tuwanava, a species of *Allocarya* (Bish.); wai'yanuva, a species of *Mentha*; sunä'va, O.V., pava'ä, M.L., cottonwood tree.

At Mono lake, the following were named but had no use assigned to them: haukinup, a species of *Ligusticum* regarded as poisonous; muhi'dap, a species of *Panicum*; pauwina'da ("grows in water"), unidentified; poxo'pi, *Grayia spinosa* Hook., hop sage; sana'vi, *Prunus andersonii* Gray, desert peach; si'dägwana'da, a species of *Arnica*; sigü'pi (toya jigü'p, Bish.), unidentified; tavi sigü'pi (tava jigü'pi or toya jigü'pi, Bish.), probably same as last, a species of *Chrysothamnus*, called "rabbit brush"; tonikup ("flower"), a species of *Aster*; tsa'ava, a species of *Thelypodium*; tsa'gida'ä *Argemone platyceras* Link and Otto, chicalote, regarded as having poisonous seeds (tsa'gida'ava, B.P.); tüma'nava, a species of *Phacelia*; vaka'novü, *Carex*, probably *aquatilis* Wahl., water sedge; waha'va, generic term for grass; wasta'vü, a species of *Iris* regarded as poisonous.

Owens valley plants not named and therefore probably not commonly known included: *Ranunculus cymbalari* Pursh., buttercup; species of *Asparagus*, *Iris*, *Erythraea*, *Sagittaria*, *Erigeron*, *Sonchus*, *Pentstemon*, *Monardella*, *Oenanthe*, *Amaranthus*, *Lactuca*, wild lettuce of recent introduction; *Eleocharis palustris* R. & S., common spike rush; *Plantago major* L., common plantain; *Cirsium lanceolatum* L., bull thistle; *Aquilegia truncata* F. & M., columbine; *Iva axillares* Pursh., poverty weed; *Chamaebatia foliolosa* Benth., mountain misery; *Clematis ligusticifolia* Nutt., virgin's bower.

Unnamed Mono lake plants included: *Erysimum asperum* (Nutt.) DC., western wall flower; *Bromus tectorum* L., downy brome; *Mimulus guttatus* DC., common monkey flower (said to have been eaten by ground hogs); *Potentilla gracilis* Dougl.; *Pentstemon confertus* Dougl.; and species of *Oenothera*, *Castilleja*, *Lupinus*, and *Aconitum*, monkshood.

## APPENDIX 5. ARCHAEOLOGY

*Little lake.*—Mr. W. L. Skinner, Lone Pine, said a few inches deep in a cave at Little lake corn cobs were dug up. (C.D., unreliable, said Shoshoni formerly grew "pinto corn" and squash, but not beans.)

*"House rings."*—Low rings, 10 to 12 feet in diameter, of unshaped boulders, piled two or three high, occur at several sites: (1) At Fish Springs (site 85, map 2) are half a dozen, on a low hill, a quarter-mile from petroglyphs.<sup>231</sup> No pottery was associated. (2) At Bishop (site 84, map 2) is a group of similar rings on the southern edge of the volcanic tableland (pl. 2*b*) with pottery associated (see p. 267) and petroglyphs and pictographs.<sup>232</sup> (3) At Bayonet camp, a tufa plateau 14 miles north of Bishop, Mr. Charles T. Forbes of the Eastern California Museum found fifty "house rings," in and around one of which were the fragments of a pot<sup>233</sup> (fig. 1*i*). Although these seem to be the bases of houses, and many have suggestions of eastern openings, Paiute informants described none similar and could not explain them.

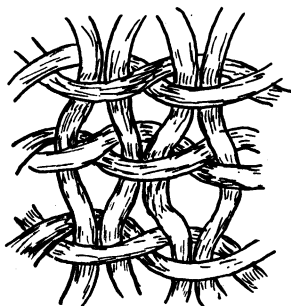


Fig. 11. Sage matting.

In a cave, north of Bishop, Mr. William Sanford found, several feet deep: 7 straight sticks, approximately 9 inches long,  $\frac{1}{2}$  to  $\frac{3}{4}$  inch wide; coarse sage matting (fig. 11); a fragment of open twine weave on a willow (?) foundation; a stone blade, 6 inches long, one end pointed, the other rounded (pl. 6*c*). These may be Paiute remains.

Rock shelters under boulders on the western side of Deep Springs valley opposite Deep Springs ranch (site 86, map 2) yield basket and pottery fragments, probably of Paiute origin. One had a slab-lined cist, about 3 feet diameter and 18 inches deep, debris-filled. Some have charcoal and ash and blackened ceilings.

East of the last, by the former channel of Wyman creek, are several crater-like pits, probably remains of post-Caucasian Paiute semi-subterranean, earth-covered lodges, glass beads being found there.

*Petroglyphs.*—Petroglyphs have been described elsewhere.<sup>234</sup> New finds include:

Pictographs in a cave in the mountains east of Deep Springs lake, of crossed and bisected circles, many with dots, circles, wavy lines, and rectilinear figures, in red.

<sup>231</sup> Steward, 1929*a*, 73-75.

<sup>232</sup> *Ibid.*, 72-73.

<sup>233</sup> Personal communication.

<sup>234</sup> Steward, 1929*a*, 70-82.

A few hundred yards northeast of Deep Springs ranch a small shelter between boulders with basketry fragments has faint designs in red, one a lizard. This shelter, too small for a habitation, accommodating but one or two persons, appears to be a temporary shelter, perhaps for girls in puberty or menstrual isolation.

East of the last on the mountain summit, probably where a trail crossed into Eureka valley, are figures in several colors.

The pictographs at the last three sites may be of Paiute origin, for they appear comparatively recent, they are near or definitely associated with artifacts and sites of Paiute culture, and, at a house ring site with pottery, north of Bishop (site 84), are similar pictographs in red. Somewhat similar, recent pictographs in red occur in Western Mono territory.<sup>235</sup> The art, whatever its purpose, spread somewhat into Paiute territory. E.L. thought Paiute of his grandfather's time made petroglyphs of "extinct animals and birds" (perhaps meaning mythological or visionary) at Fish Springs. Geometric figures he thought older, and said there was a superstitious feeling about them.

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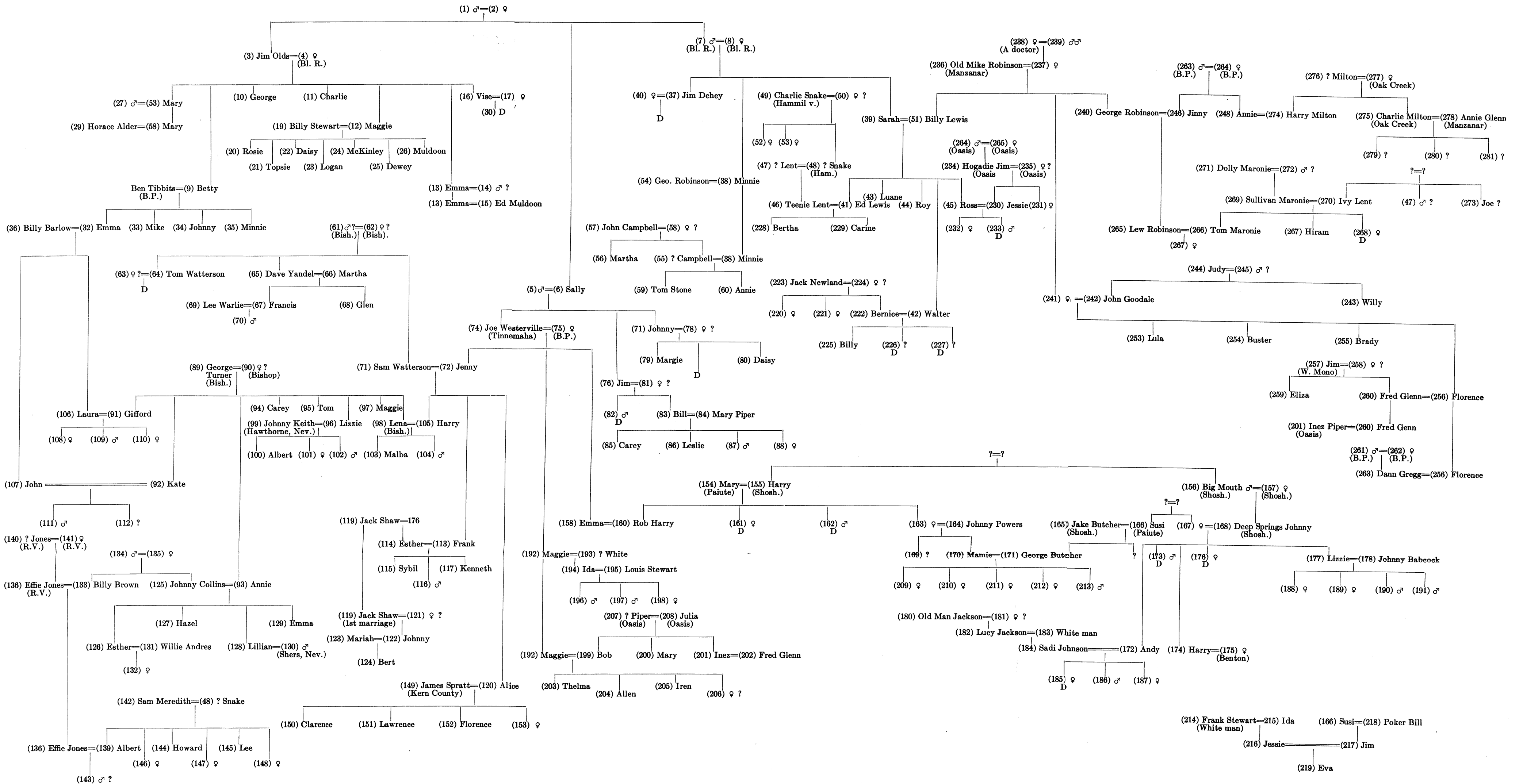
<sup>235</sup> Steward, 1929a, 111-139.

## APPENDIX 6. GENEALOGY

The greater part of the genealogy was given by T.S. J.Sm. gave that part concerned with the descendants of M.I. and H.I.

Abbreviations are: D, dead; R.V., Round valley; Bish., Bishop; B.P., Pig Pine; L.P., Lone Pine.





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## EXPLANATION OF PLATES

## EXPLANATION OF PLATES

Specimen numbers listed indicate that the specimen is in the Museum of Anthropology, University of California.

Plate 1. *a*, left, Harrison Diaz, right, Mose Weyland; *b*, George Collins and his daughter, Bertha; *c*, Tom Stone and his wife, Lena; *d*, left, Roy Lewis, center, Ed Lewis, right, Sam; *e*, Indian Harry.

Plate 2. *a*, Mono lake from the southwest; *b*, house ring at Bishop; *c*, the Sierra Nevada from Big Pine, in December; *d*, Cedar flat, a pinenut country, where Inyo and White mountains join—elevation, 7200 feet.

Plate 3. *a*, Jack Stewart demonstrating use of firedrill; *b*, Big Pine Paiute shooting bow; *c*, Paiute tule house (photograph by courtesy of Forbes Studio).

Plate 4. *a* (1-26995), *b* (1-26996), *c* (1-26998), clay pipes made by Jack Stewart; *d* (1-26965), cane pipe (J.S.); *e* (1-26941), sage tinder; *f* (1-19677), steatite arrow straightener from Bishop; *g* (1-27024), steatite arrow straightener from Big Pine; *h* (1-27025), stone muller from Big Pine; *i* (1-26946), stone muller from Big Pine. All to same scale, *a* being 5 inches long.

Plate 5. *a*, Shoshoni pot found in Death valley, now in collection of Furnace Creek Inn; *b*, Paiute pot from Inyo mountains, in collection of Mrs. Black, Big Pine; *c*, old Paiute clay pipe in Mrs. Black's collection; *d*, woman shaping pot; *e*, Jack Stewart's clay pipes baking in coals; *f*, Bridgeport Tom with buckskin on his lap shaping arrowpoint; *g*, Marry Harry using Mexican type of 3-leg metate found in Owens valley.

Plate 6. *a*, sweat-house at Big Pine; *b*, Maggie Shaw making a coiled basket; *c*, objects from cave in White mountains, William Sanford collection, Bishop; *d*, Paiutes playing hand game (photograph by courtesy of Dietrich Studio, Bishop).

Plate 7. Jack Stewart's dance outfit. *a* (1-26930), headband of eagle down; *b* (1-26969), "crown" of hawk and magpie feathers; *c* (1-26933), "tail" of eagle feathers; *d* (1-26932), eagle down skirt; *e* (1-26931), necklace of mixed feathers. All to same scale; *d* is 30 inches across.

Plate 8. *a*, totsohoidu dancers and musicians resting (photograph by courtesy of Dietrich Studio, Bishop); *b*, Paiute woman carrying burden basket (photograph by courtesy of Mendenhall Studio, Big Pine); *c*, totsohoidu dancers and musicians performing (photograph by courtesy of Mendenhall Studio, Big Pine); *d*, Nevada Paiute woman carrying child in cradle; *e*, *f*, Jack Stewart performing totsohoidu dance.

Plate 9. *a* (1-26914), girl's cradle from Bishop; *b* (1-26917), boy's cradle from Bishop; *c* (1-26983), seed beater from Fish Springs; *d* (1-26841), seed beater from Round valley; *e* (1-26860), bottleneck basket container, from Bishop; *f* (1-26886), basket container from Round valley; *g* (1-26836), basket container of red with designs in white and some porcupine quills from Lone Pine; *h* (1-26820), basket container, brown design, from Hot Creek Indian camp, Mono county; *i* (1-26918), pitch-lined water olla.

Plate 10. *a* (1-26832), conical gathering basket for pinenuts and small seeds from Round valley; *b* (1-26990), conical seed gathering basket, Big Pine; *c* (1-26988), conical carrying basket from Big Pine; *d* (1-26828), winnowing basket with designs in brown from Bishop; *e* (1-26986), winnowing basket from Big Pine; *f* (1-26834), basket for gathering piüga from Round valley; *g* (1-26991), *h* (1-26919), basketry hats, black designs, made by Marry Harry, Big Pine; *i* (1-26926), perhaps funeral basket, with black bands and pale brown zigzags, from Bishop; *j* (1-26831), food basket or container with black designs from Bishop.



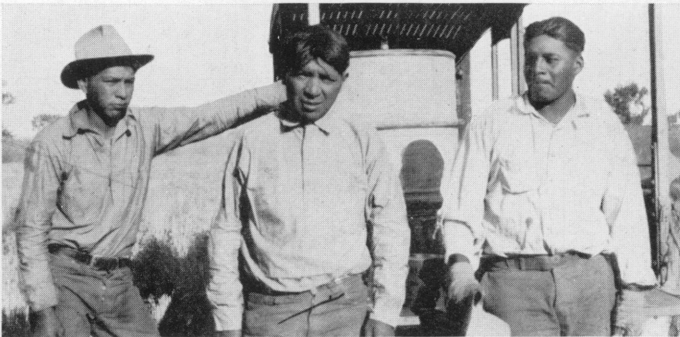
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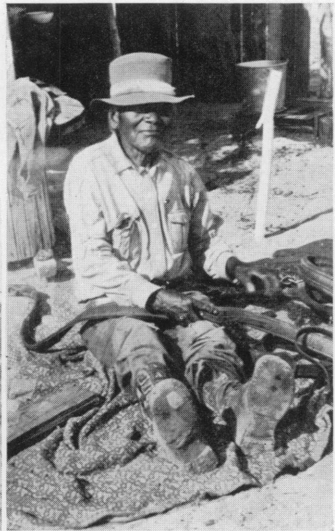
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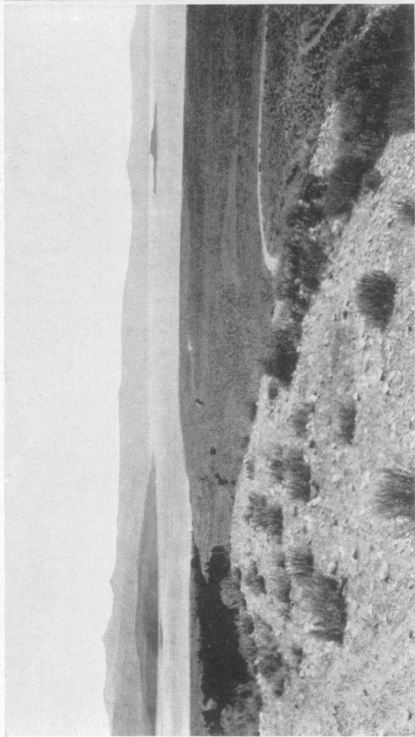


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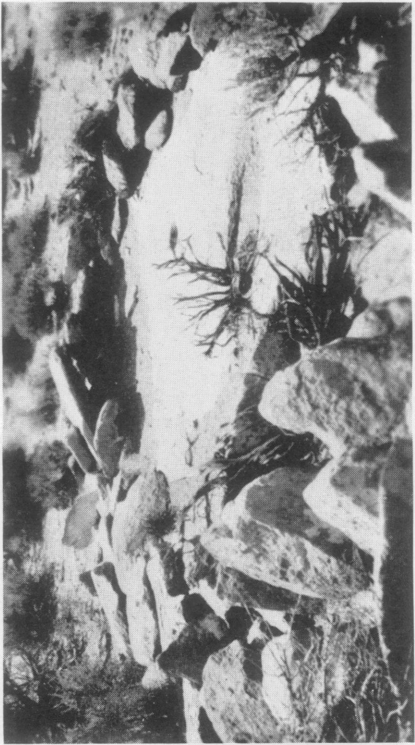


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PAIUTE INDIANS



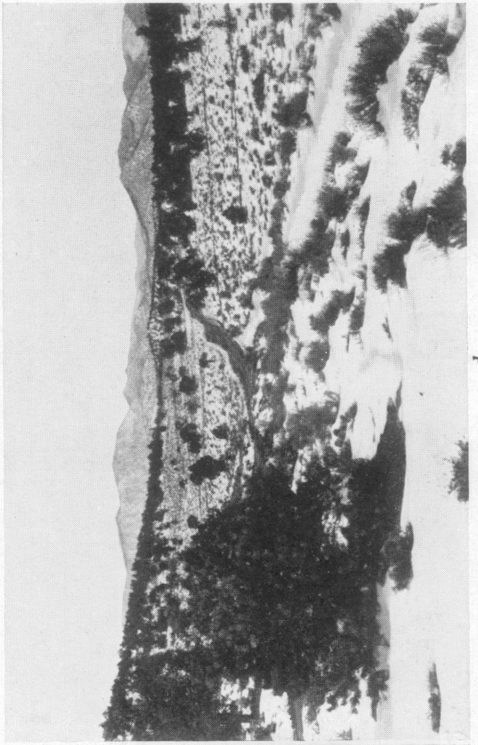
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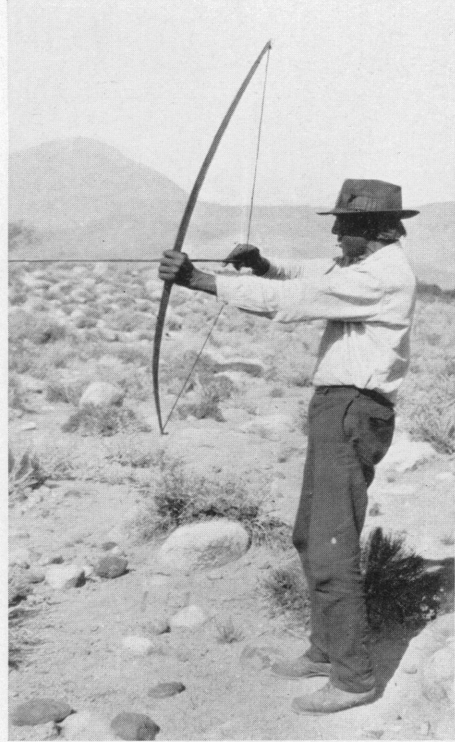


*d*

HABITAT VIEWS AND HOUSE RING



*a*



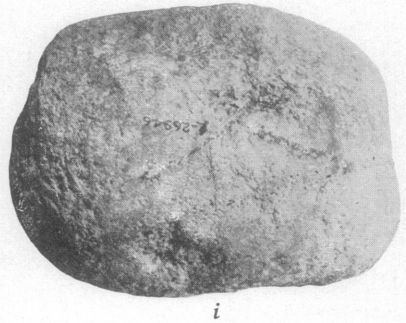
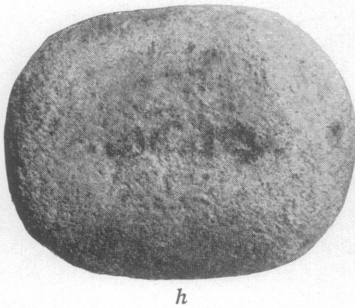
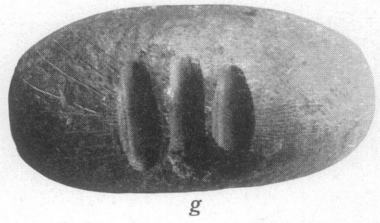
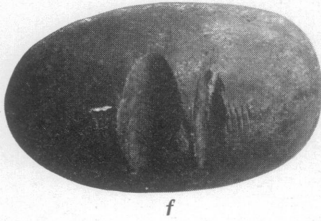
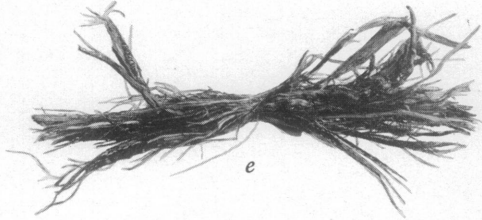
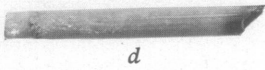
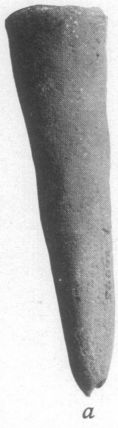
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*c*

FIREDRILL, BOW, TULE HOUSE



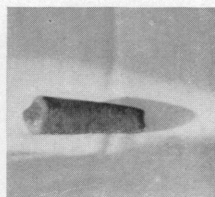


PIPES, TINDER, ARROW-STRAIGHTENERS, MULLERS



*a*

*b*



*c*



*d*



*e*



*f*



*g*

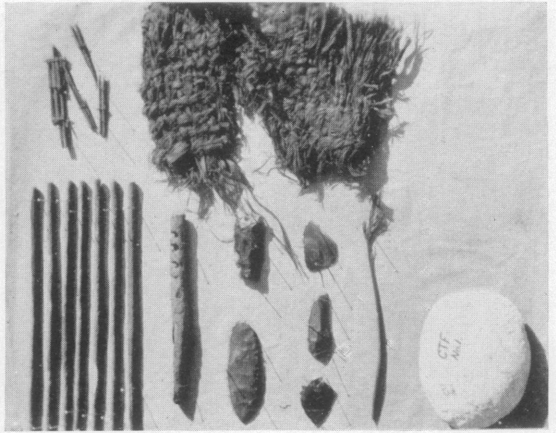
POTTERY OBJECTS, SHAPING AN ARROWPOINT, MEXICAN METATE



a



b

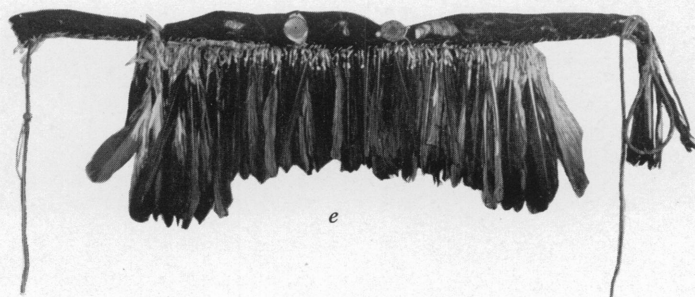
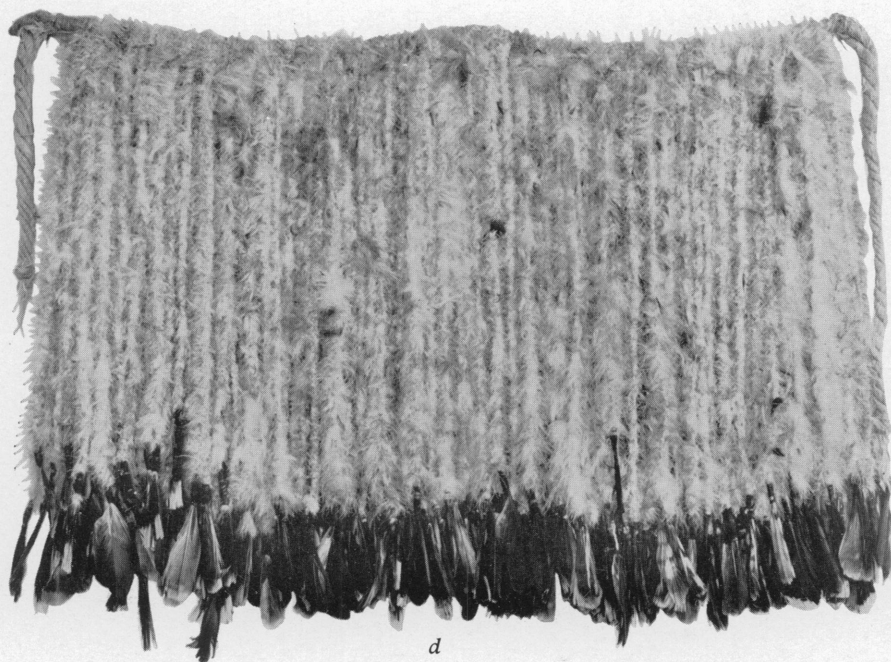
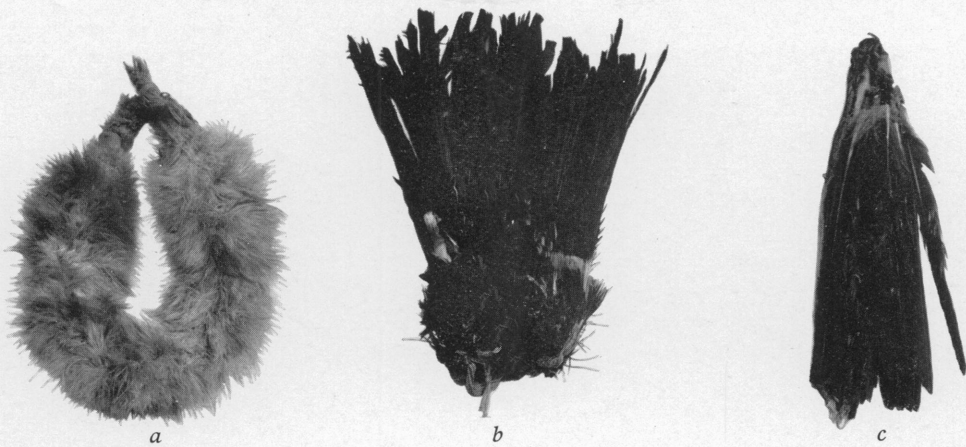


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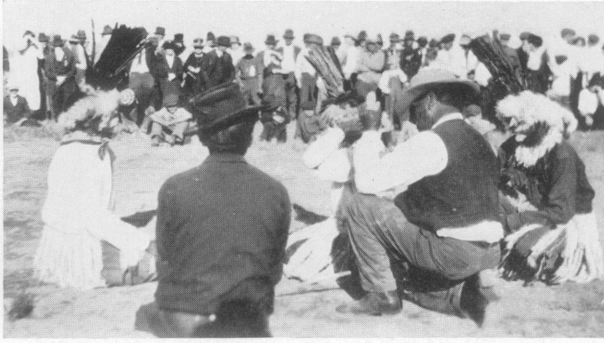


d

SWEAT-HOUSE, BASKET-MAKING, CAVE OBJECTS, HAND GAME PLAY



DANCE OUTFIT



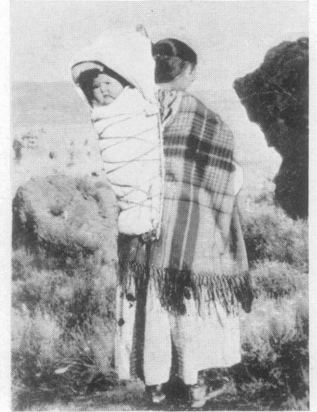
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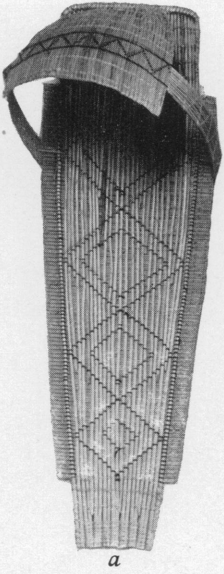


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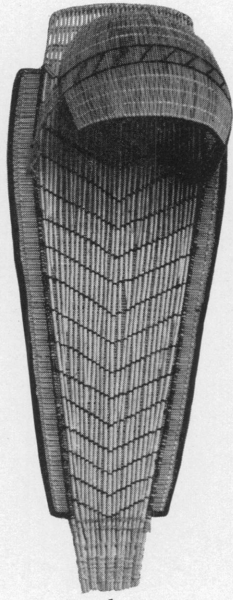


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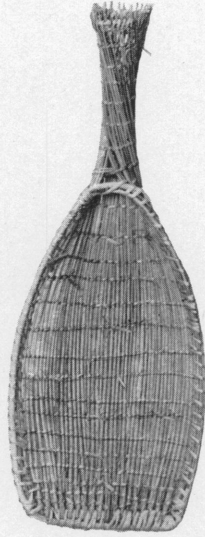
TOTSOHOID<sup>u</sup> DANCE SCENES, AND WOMEN CARRYING



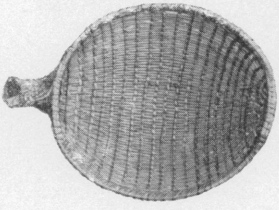
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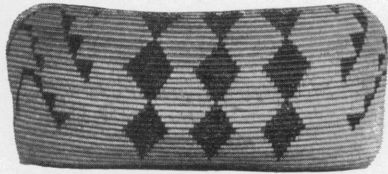
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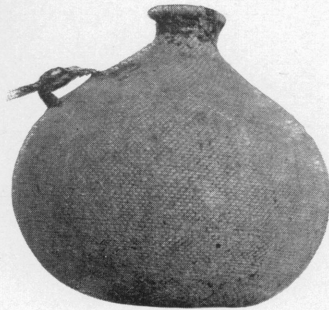
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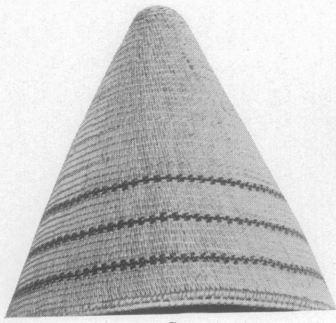


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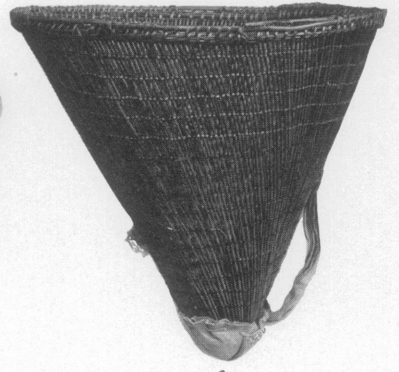
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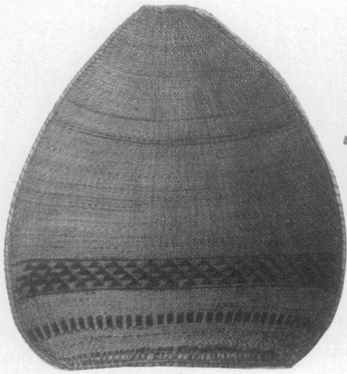
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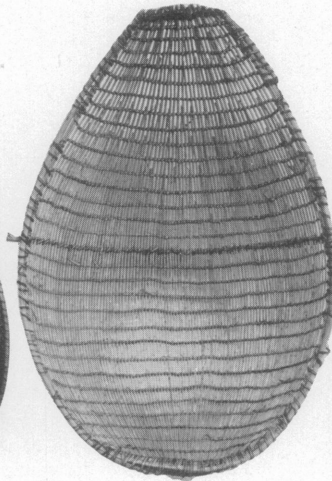
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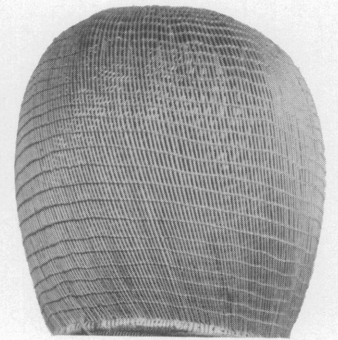
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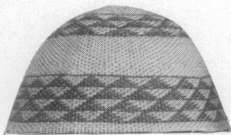
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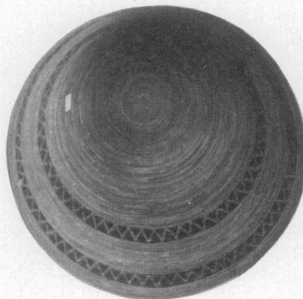
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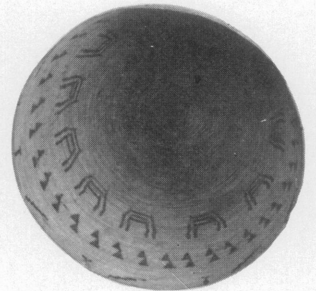
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BASKETRY

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