

# UC Berkeley

## Reports of the University of California Archaeological Survey

### Title

Trade and Trails in Aboriginal California

### Permalink

<https://escholarship.org/uc/item/7kh6t20h>

### Author

Sample, L L

### Publication Date

1950-09-15

### Copyright Information

This work is made available under the terms of a Creative Commons Attribution-ShareAlike License, available at <https://creativecommons.org/licenses/by-sa/4.0/>

Reports of the  
**UNIVERSITY OF CALIFORNIA**  
**ARCHAEOLOGICAL SURVEY**



*Report*  
*2*

**No. 8**

TRADE AND TRAILS IN ABORIGINAL CALIFORNIA

By L. L. Sample

Issued September 15, 1950

**The University of California Archaeological Survey**  
**Department of Anthropology**  
**University of California**  
**Berkeley 4, California**

# TRADE AND TRAILS IN ABORIGINAL CALIFORNIA

## CONTENTS

	Page
Introduction . . . . .	1
Trading customs . . . . .	3
Articles traded . . . . .	7
Bibliographic references to trails shown on map . . . . .	24
Bibliography . . . . .	25

## ILLUSTRATIONS

Indian trails and trade routes in California . . . . . after page 23

\* \* \* \* \*

## INTRODUCTION

This preliminary report does not cover fully the data on Indian trade in California. It may show, however, that the study of native trade is an important approach to the study of aboriginal culture contact in California. The trails are lines of direct diffusion and culture may spread rapidly along these routes. Charting of material traded between particular tribes as obtained from ethnographic and historical sources may help the archaeologist analyze sources of artifact materials found in sites.

Trade as described in this paper represents the situation as it existed at the time of Caucasian discovery and during the early period of contact. This means a different time period for northern, central, southern, and sierral California, each explored at different times. Some of the trade mentioned is undoubtedly very old. It is possible, also, that some was stimulated by the presence of white traders and highly valued white man's goods. Wherever the circumstances point to its being a late development, these facts are pointed out.

As can be seen from the map, trails covered all of California. The dotted lines are used to show probable routes. On a map of this small scale the trails are necessarily diagrammatical. An accurate representation of these trails plus minor ones has been drawn on a 1:500,000 projection of California and deposited in the office of the University of California Archaeological Survey for reference. The complete mapping of trails is important to the study of culture history and diffusion in California.

Myriads of Indian trails crisscrossed each other in the valleys of California. Early travelers were often confused by the multitude of choices; they needed and used Indian guides to show the correct paths. George Gibbs, with Colonel Redick McKee's expedition in 1851, became lost on the way between Sonoma and Humboldt Bay even with a guide: "We halted for half an hour, while the guide sought a route; no easy thing in a country presenting such an endless succession of hills and cut up everywhere by Indian and deer trails."<sup>1</sup>

<sup>1</sup> See notes, p. 6

The trails in the sierra regions followed natural passes. Many trails were wide and worn a couple feet deep from long use. They could be traced long after the Indians had gone and the paths were abandoned. They seem to have gone in straight lines--the shortest route to the destination--without detouring for mountains in the way. Stephen Powers says in speaking of the Wailaki that time and again he wondered why trails went over the highest part of the mountains. He finally decided that the elevated points provided lookout-stations for observing the movements of enemies. He describes Indian trails as running along streams where the whole face of the country was wooded. In somewhat open country, they ran along the ridges, a rod or two below the crest--on the south side of the crest if the ridge trended east and west, on the east side if it trended north and south. The west or north side of a hill is more thickly wooded; on open ground the traveling was easier, and the Indian could not be surprised either by their enemies or by wild animals.<sup>2</sup>

Trails were marked in various ways. It has often been suggested that pictographs were used to show the route or mark the way. Mallery says that pictographs are found at or near the origin of all the trails in the Santa Barbara region and that a pictograph in Azusa canyon between San Gabriel Valley and the Mohave Desert refers to the course of the trail through the canyon.<sup>3</sup> This explanation of pictographs has never been adequately proved, however. Sometimes piles of twigs or cairns of stone along a trail have been called markers. Powers says that branches and twigs piled at the junction of Yurok trails sometimes accumulated in heaps several feet high. Every Indian passing deposited a twig on the pile. The Yurok could not explain the significance of this custom. It may have been a gesture to luck such as was the Yurok custom of shooting arrows at certain trees on the trail.<sup>4</sup> When Gibbs asked the Indians along the Klamath about stones piled three or four high beside the trail he was told that they were built only for amusement of idlers. According to Barrett and Gifford, the Miwok sometimes marked an obscure trail by throwing sticks down; in the treeless high Sierra Nevada, they were supposed to mark the trail over the rocks with pine needles.<sup>5</sup> Powers says that the Miwok would also hang up a dead skunk beside a difficult trail and let the scent guide the traveler. He maintains he saw this himself!<sup>6</sup>

TRADING CUSTOMS

The Yurok of northwestern California preferred canoeing to other forms of travel and were, consequently, better acquainted with the Hupa and Karok up the Klamath River than with the Tolowa just north on the coast.<sup>7</sup> The Hupa of the lower Trinity River traded chiefly with the Yurok. They had products very similar to the Karok and had little intercourse with the Wiyot, Nongatl or Wintun.<sup>8</sup> The Bear River Athapascans did not trade much with the Wailaki and Sinkyone because they had troubles with them. According to one of Nomland's informants the Wailaki made a special kind of poison that the Bear River people did not know and people who went into this territory were liable to be poisoned and die in a week or two. The Bear River people seem to have traded mostly with the Hupa although these were farthest away from Bear River territory.<sup>9</sup> Between the Sinkyone and northern Athapascans there were steep mountains; to the south there were natural passes giving easy access to the Kato and Yuki. This may account somewhat for the lack of trade between the Sinkyone and northern Athapascans. Most Yuki trade was with peoples to the south; hostility was felt toward the northern groups. The Coast Yuki would not go through Wailaki territory although they were friendly with the Sinkyone.<sup>10</sup> The Yuki were friendly with the Wailaki but did little trading with them, perhaps because of a lack of desirable trade material which the Wailaki could<sup>11</sup> offer. The Round Valley Yuki made periodic trading trips to the Russian River. They did not, however, often cross the Coast Range barrier to trade with the Wintun of the upper Sacramento Valley.<sup>12</sup>

The Wappo of Napa Valley traveled to the coast at least once a year taking about two days each way. In spring and summer they made trips to Clear Lake and to St. Helena for trading purposes.<sup>13</sup> The Pomo were extensive traders; they made long trips within their territory and as far south as Bodega Bay on the coast. Clear Lake was open to visitors and these included: the Matuho and Potter Valley Pomo groups; Cache Creek Patwin, and Coyote Valley Miwok to Lower and East Lakes; Long Valley Patwin to Shigom and Upper Lake.<sup>14</sup> The Pomo area was the principal source of clam shell beads and magnesite cylinders for northern California. There are more beads found in sites along the north side of San Francisco Bay than in the sites along the south Bay.<sup>15</sup> The Pomo, therefore, probably supplied the northern San Joaquin Miwok, also. It is known that the Miwok made trips to Monterey and an informant of Miwok ancestry claimed that they got abalone shell from Monterey.<sup>16</sup> Yokuts friends sometimes traded to the Miwok to the north a string of clamshell disc beads.

The Nez Perce Indians of southeastern Washington visited California in the first half of the 19th century coming along the Walla Walla trail (shown entering California at Goose Lake, following down the Pit River and Hat Creek to the Sacramento River). Plains influence may have reached northeastern California along this trade route. Kroeber suggests that these influences diffused down the Columbia, up the Deschutes River, and over the divide into the drainage of Klamath Marsh.<sup>17</sup> There was a trail up the Deschutes (the one used by Peter Skene Ogden in 1827) which may have reached California. Intercourse with the Klamath Lake people, however, was evidently slight for all California tribes, although the Shasta traded with them to some extent. It seems more likely that Plains influence should have come from the east directly from the most Plains-ized of the Plateau tribes, the Nez Perce, rather than through the less Plains-ized Columbia tribes.

The Achomawi served as middlemen in the trade between the Wintun and the Modoc and Paiute. The Wintun had shell beads wanted by these northeastern people. The Maidu traded chiefly with the Wintu. The Nisenan (Southern Maidu) had little trade relations with the Maidu, Miwok, or Washo excepting

those at the head of the south fork of the American River. While crossing the summit of the Sierras in this region while it was still winter, Fremont found Washo crossing to the west.<sup>18</sup>

The Paiute carried trade articles to the Miwok, to the Western Mono (Monachi) and to the Yokuts. The Mono only occasionally went east across the Sierras to the Owens Valley Paiute,<sup>19</sup> but they made trips to the Yokuts trading their own products and those obtained from the Paiute. T. J. Mayfield, who grew up with Yokuts, maintained that, the Yokuts and Mono being essentially unfriendly to one another, the trading was carried on by a few members who made a business of it.<sup>20</sup> The Miwok and Yokuts made trips into Costanoan territory to trade; the Yokuts also traveled to the Salinan and Chumash on the coast. The Tubatalabal went as far east as Randsburg on the Mohave Desert, southwest of Tejon and west to the Chumash area around Ventura, and to Tulare Lake. The Chumash may have come occasionally as far as Tubatalabal territory.<sup>21</sup> Mason says that "numerous items make it appear that the Salinan Indians made trips to the Tulare Lakes as well as receiving those people as visitors."<sup>22</sup> The coast people probably did return the visits of some Yokuts tribes, but these trips appear not to have been continuous or regular.<sup>23</sup>

The Salinans were enemies of the Costanoans on the north and, according to Kroeber, were too far away from the Chumash for trading.<sup>24</sup> It is also possible that the products of these two coastal peoples were enough alike that the interior Yokuts articles held greater trade value to both.

In the far south the Kamia and Diegueno visited each other regularly. The Eastern Diegueno living in the mountains, usually came in the cold season when they were running low on food.<sup>25</sup> The Yumas wandered extensively up and down the Colorado. They traveled to the territory of and received visits from Halchidoma, Mohave, Yavapai, and Papago.<sup>26</sup>

Some of the longest trips in California were made by the Mohave traveling to the California coast to trade with the Chumash, to the lower San Joaquin Valley to trade with the Yokuts, into Arizona to trade with the Yavapai and others. They were the distributors of Southwest material in California. Trade between southern California and the Southwest has been demonstrated archaeologically. Pacific coast shells have been found in Pueblo ruins. According to Brand, nine species of shells found in 132 Southwestern archaeological sites could have come only from approximately what is now the Southern California coast.<sup>27</sup> This trade was already important by 900 A. D. (some trading may have taken place earlier) as inferred from dating of Southwestern sites in which Pacific Coast Haliotis sp. and Olivella biplicata are found and from dated Southwestern pottery shards found in Pacific Coast shell mounds.<sup>28</sup> Grooved axes of Southwestern origin have been found in the Santa Barbara Channel region and sporadically as far north as the Oregon line.<sup>29</sup> An interesting archaeological specimen is a Glycymeris shell bracelet found in Orange County, Southern California. Glycymeris shell was a Gulf of California shell traded into Arizona. A. Woodward says that the carving on the Orange County specimen is reminiscent of Gila Valley work.<sup>30</sup>

That the coast Indians were in contact with the Colorado River tribes is documented in historic sources. The Spanish mission padres were constantly hearing Coast Indian rumors of white, bearded and armoured men to the east. Cabello in 1542 was told by the Chumash that armed and mounted men were seen to the east-- a reference, with little doubt, to the Coronado expeditionary force. Garces in 1776 was told by Mohave Indians that they would gladly guide him across the desert-- they were used to making the trip to the coast. On the trip along the Mohave trail, Garces met two groups of Mohave returning from the west with shells. He was amazed to find them making the trip without provisions or weapons to hunt. Without burdens of this kind the Indians said that they could cross the desert in four days. At the edge of the San Joaquin Valley the Mohave guides refused to go north. They said that

they were afraid of the "Nochi tribes." This might indicate that the Indians of Tejon, Kitanemuk or Alliklik, were middlemen in the trade of Mohave and Southwestern goods into the valley. When Fremont left the San Joaquin Valley in 1846-7, however, there were Colorado River people actually in the Valley trading. Fr. Front said that the Indians of the Channel (Serrano) had commerce with the Mohave and other Colorado tribes in their shell beads. At Rincon, he saw an Indian who wore a cotton blanket like those made by the Gila Pimas and decided it came through commerce the coast had with the interior.<sup>32</sup> Garces saw this same type of cotton blanket among the Halchidhema and indicated that they also reached the Mission of Monterey. Soldiers from Monterey talking to Tulare Indians about 30 leagues from San Luis Mission heard that the blankets came from the east five days distant.<sup>33</sup>

Anza was told in 1774 that the journey from the Yuma country to the Hopi took twelve days. He says that there were many Hopi blankets among the Yumas and that they acquired them from the Siopa.<sup>34</sup> Font, on his second expedition, stated that the Yuma had no blankets when he saw them the year before but now they were getting cotton blankets made by the Maricopas and some from the Hopi. He notes the Halchidoma as a source of the supply of Pueblo blankets among the Yuma.<sup>35</sup> Forde thinks the Mohave and the Havasupai were the middle-men transmitting Pueblo goods to California.<sup>36</sup>

It would seem, then, that Southwest products reached California through Mohave hands. The Halchidoma got the products from Mohave and traded them to the Yuma who passed them through the Kamia of Imperial Valley to the Diegueno. The Mohave carried the articles directly to the California coast and either brought them directly or passed them through intermediaries into the San Joaquin Valley.

It seems apparent that in California as a whole east-west trade was more important than north-south trade. The ecological differences imposed by seacoast, coast range, interior valley, and sierral environments is probably the answer. Important and long distance trading occurs between people having available a surplus of desirable and contrasting products. For example, the valley people always looked to the mountaineers for those articles needing particularly pliable or strong wood--such as cedar and yew bows; the interior depended on the coast for shells. It is interesting that Pomo clam shell discs that came to the Karok and Hupa did not come up the coast but passed east and then west. Dentalia shells from the north found their way roundabout and came to the Yuki from the east. There seems to be a decided break in trade in the Sinkyone-Yuki area. The principal traveling here was east to west. The Shasta and Modoc carried their goods toward the west. The Wintun crossed to the Pomo, and the Miwok went to the Costanoan. The Paiute crossed to Western Mono, Western Mono to Yokuts, Yokuts to Salinan and Chumash. Mohave traders traveled to the coast. Travel west to east was mostly sporadic and for short distances.

Raw material was traded but oftimes it could be gathered free. Manufactured goods such as bows, arrowheads, beads, baskets, clothing, were always bartered. The value of goods lay in the labor involved in their manufacture.

It is hoped that this information, gathered mostly from ethnographic sources, will help the archaeologist draw conclusions on the sources of trade material in sites. In a final report, the combination of knowledge gained from archaeological site reports with the ethnological material should make a fairly complete and significant contribution on this phase of primitive economics in California.

Laetitia Sample  
University of California  
Department of Anthropology

Footnotes

- 1 Gibbs, p. 99.
- 2 Powers, p. 119
- 3 Mallery, 1888-89, p. 355.
- 4 Waterman, 1920, p. 185. See also Powers, 1877, pp. 382-83.
- 5 Barrett and Gifford, 1933, pp. 256-7.
- 6 Powers, 1877.
- 7 Waterman, 1920, pp. 184-5.
- 8 Kroeber, 1925, p. 132
- 9 Nomland, 1938, p. 105
- 10 Gifford, 1939, p. 306
- 11 Kniffen, 1939, p. 375
- 12 Powers, 1877, p. 127.
- 13 Driver, 1936, p. 194
- 14 Kniffen, 1939, pp. 361, 375
- 15 Schenck and Dawson, 1929, p. 373
- 16 Schenck and Dawson, 1929, p. 374.
- 17 Kroeber, 1929, p. 334
- 18 Fremont, 1887, p. 333
- 19 Gifford, 1932, p. 19
- 20 Latta, 1929, p. 15
- 21 Voegelin, 1938, p. 52.
- 22 Mason, 1912, p. 108
- 23 Gayton, 1948, p. 9
- 24 Kroeber, 1925, p. 132
- 25 Gifford, 1931, p. 17
- 26 Forde, 1931, p. 105
- 27 Brand, 1938, p. 5; Colton, 1941, p. 6, adds one more species.
- 28 Heizer, 1946, p. 191
- 29 Heizer, 1941, p. 188
- 30 Ashby and Winterbourne, p. 84.
- 31 Bolton, 1930, Vol. 1, pp. 447 ff.
- 32 Bolton, 1931, pp. 250, 257
- 33 Bolton, 1930, Vol. 2., p. 386
- 34 Bolton, 1930, Vol. 2, p. 50
- 35 Bolton, 1930, Vol. 4, pp. 52, 73, 103, 109
- 36 Forde, 1931, p. 106



ARTICLES TRADED

TOLOWA

Supplied:

Received from:

According to Drucker (p. 243) the Tolowa received pine needles in trade from the interior.

YUROK

Supplied to:

Karok ----- canoes of redwood (Powers, p. 47)  
pipes and bows "pretty bows painted red  
and blue" (Harrington, 1932, 162ff)

Hupa ----- canoes since Hupa lacked redwood, dried  
seafood especially surf fish, mussels,  
salty sea weed, dentalia (Kroeber, 1925,  
132; Curtis, Vol. 13, 8-16).

Wiyot ----- iris fibre rope (Curtis, Vol. 13, 87)

Received from:

Wiyot ----- known to have traded an albino deer skin.  
The Wiyot remembered killing three such  
(Loud, 1918, 250)

South ----- haliotis shell ornaments (Kroeber, 1925,  
25)

See: Shasta

KAROK

Supplied to:

Up River ----- Dentalia, abalone, salt, seaweed, bowl  
(Shasta) baskets, open work plates, dipper baskets  
(Harrington, 1932, 128); prepared salt  
(Driver, 1939, 382) (See: Shasta)

Received from:

Up River ----- blankets, juniper seeds, basket hats  
(Shasta) which the Karok used as tobacco measures  
(Harrington, 1932, 128) (See: Shasta)

Nongatl ----- salt (originally from Hayfork) (Driver,  
1939, 382).

See: Yurok

HUPA

Supplied to:

Bear R. Athapascans-- hill grass with which to make rope,  
carved pihe nuts for beads (Nomland, 1938, 105)

Received from:

Bear R. Athapascans - angelica root, wild tobacco from Mattole  
River (considered superior), abalone  
shell, foodstuffs (Nomland, 1938, 105)

Wiyot ----- other two albino deer skins that Wiyot  
remembered killing were traded to Hupa  
(Loud, 1918, 250)

See: Shasta, Yurok.

WIYOT

Supplied to:

Bear R. Athapascans - canoes, foodstuffs (Nomland, 1938, 105)

Sinkyone ----- beads (dentalia?) (Nomland 1935, 165)

Received from:

Bear R. Athapascans-- abalone shell, wild tobacco, foodstuffs,  
(Nomland, 1938, 105)

See: Yurok, Hupa.

BEAR RIVER ATHAPASCANS

See: Hupa, Wiyot

Intratribal trade carried on in canoes, rabbitskin blankets, deerhide  
blankets, elkhorn purses, bows and arrows, baskets, and food (Nomland,  
1938, 106).

SHASTA

Supplied to:

Achomawi ----- dentalia (Curtis, Vol. 13, 131)

Karok and other----- large black and cloudy red obsidian  
Lower Klamath blades (Voegelin, 1942, 201); obsidian,  
deerskins, sugar pine nuts (Dixon, 1907,  
436); juhiper beads, Wintu beads, salt  
(Holt, 312).

Klamath ----- Shasta beads [?] (Spier, 1930, 41)

Rogue River ----- surplus acorn flour (Dixon, 1907, 436)  
Wintu ----- dentialia, some obsidian (Dubois, p. 25)  
green pigment for bow decoration? (Kroeber,  
1925, 418); deerskins, sugar pine nuts  
(Dixon, 1907, 436)

Received from:

Karok et al. ----- dentialia, bows -- at least in late times,  
abalone, cradle frame -- at least in late  
times (Dixon, 1907, 435-6); salt, seaweed,  
baskets of all kinds, tanoak acorns,  
canoes (Holt, p. 303); olivella (Voegelin,  
1942, 201)  
Klamath ----- skins and skin blankets (Spier, 1930, 41)  
Rogue River ----- dentialia (Dixon, 1907, 426)  
Wintu ----- acorns, sometimes baskets, clam disk bead  
currency (Holt, pp. 312, 303); deer hides,  
woodpecker scalps (DuBois, 25)

See: Karok

The Konomihu around the forks of the Salmon River in Siskiyou County  
traded furs and deer skin clothing to the people on the Klamath River in  
return for dentialia and baskets. The Konomihu also traded furs and  
deer skin clothing to the Shasta further south and east for disk bead  
money (Kroeber, 1925, 284)

MODOC

Supplied to: Klamath ----- shallow bowl-shaped twined basket called  
k!wc'lu (Spier, 1930, 42)

Received from: Pit River People- the baskets traded to the Klamath  
(Spier, 1930, 42)

YANA

Supplied to:

Achomawi-Atsugewi--- deer hides and buckskins (Gifford and  
Klimck, p. 91)  
Atsugewi ----- dentialia (Voegelin, 1942, 201)  
Wintu ----- salt (Dubois, 25); baskets (Gifford  
and Klimck, 91)

Received from:

Achomawi-Atsugewi ----- dentialia (Sapir and Spier, 1943, 255)  
barbed arrowheads of obsidian with notched  
base, raw obsidian (Gifford and Klimck,  
91, 98)

- Atsugewi----- buckskin, arrows, wildcat quivers,  
woodpecker scalps (Voegelin, 1942, 201)
- Maidu ----- disk beads from people at Chico --  
reputed to have come from the ocean,  
magnesite cylinders? (Sapir and Spier,  
1943, 254-5)
- Wintu ----- clam shell disk beads, magnesite cylinders  
dentalia from McCloud River Wintun  
(Gifford and Klimck, 83, 92, 98; Sapir  
and Spier, 1943, 255)

ACHOMAWI

Supplied to:

- Maidu ----- bow and arrow, deer skins, sugar pine nuts?,  
obsidian, probably green pigment for bows  
(Kroeber, 1925, 399) (Dixon, 1905, 201)
- Modoc ----- clam shell beads - probably late (Curtis,  
Vol. 13, 131)
- Paiute ----- clam shell beads? (Kroeber, 1925, 309)  
To Surprise Valley Paiute: a kind of sucker,  
salmon and other dried fish, basket caps  
for women (a few) a few other baskets,  
Achomawi sinew-backed bow of young oak,  
some arrows (Kelly, 1932, 114, 151).
- Wintu ----- furs, bows (Curtis, Vol. 13, 131)  
salt (Dubois, 25)

Received from:

- Maidu ----- bows and deer hides (Dixon, 1905, 201);  
clam shell disk beads, salmon, salt, nuts  
of the digger pine (Kroeber, 1925, 399;  
Curtis, Vol. 13, 131)
- Modoc ----- furs (Kroeber, 1925, 309); horses (late),  
dentalia-originally from Columbia river,  
(Curtis, Vol. 13, 131)
- Paiute ----- sinew, arrowheads, red paint, buckskins,  
(Surprise rabbitskin blankets, various  
Valley) foods such as ya'pa, hu' ni•bui, and  
hopi'i (Kelley, 1932, 151).
- Wintu ----- clam shell beads (Curtis, Vol. 13, 131,  
257; Dubois, 26); McCloud River salmon  
flour (Dubois, 25)

See: Shasta, Yana, Modoc

The Hammawai about the south fork of the Pit traded skins and meat to their relatives down the Pit for yew bows, clam shell disk beads, Kniffen, 1928, 304). The Pit people came up and hunted; they left the latter articles in exchange when they went home.

ATSUGEWI

Supplied to:

Maidu ----- horses to Mountain Maidu (Voegelin, 1942, 201)

Received from:

Maidu ----- clam shell disk beads from the Mountain Maidu may have been recent (Voegelin, 1942, 201)

See: Yana

The Atsugewi on Upper Hat Creek (Atsuge) traded with the people from Pit on North to Susan River on south (Aporige). The former gave acorns, and received furs, roots, hides, and meat. The Atsuge traded furs, roots, and meat on the west in return for yew bows and disk shell money. The Aporige traded sometimes with the people below Fall River giving roots, meat, hides and furs for salmon and disk beads. They traded the same to the Goose Valley people for yew bows. (Kniffen, 1928, 316).

SURPRISE VALLEY PAIUTE

Supplied to:

Warm Springs ---- sacks of camas and buckskin (Kelly, 1932, 151)

Received from:

Warm Springs ----- horses (first Paiute horses came from here), ocean shells (haliotis, earrings made from them), white disk beads, and modern beadwork in Plains style (Kelly, 1932, 118 and 151-2)

See: Achomawi.

MAIDU

Supplied to:

Patwin ----- yellow hammer and woodpecker feathers (Kroeber, 1932, 273)

Washo ----- papam bulbs, acorns and skins (Barrett, 1917, 94; W. Evans and F. Riddell, Field Notes).

Wintun ----- considerable trade from Wintun to Maidu  
but what was given in return is not known.

Received from:

Patwin ----- shell beads (Kroeber, 1932, 273)  
Washo ----- obsidian, pine nuts, skins (Barrett,  
1917, 14; Curtis, Vol. 15, 94)  
Wintu ----- clam shell disks, dentalia, magnesite  
cylinders, woodpecker scalps, yellow  
hammer feathers, haliotis--clam shell bead  
most important item, it was broken and  
strung but not often in a polished form--  
(Curtis, Vol. 14, 106 and 109); Dixon,  
1905, 141 and 202, Sapir and Spier,  
1943, 255).

See: Shasta, Yana, Achomawi.

The Northwest Maidu traded beads, pine nuts, salt, and salmon into the high Sierra for arrows, bows, deer hides, and some food like sugar pine nuts. They also traded woodpecker scalps, yellowhammer feathers which they got from the Wintun and nets and rope snares to these hillpeople in exchange for their valuable yew sinew bows. (Curtis, Vol. 14, 106 and 109; Dixon, 1905, 201 and 202). The Honey Lake Maidu gathered tobacco and traded it quite extensively in all directions. The Northern Maidu esteemed grasshoppers, locusts, crickets and traded them in a dried condition. (Dixon, 1905, 184 and 202).

NISENAN

Received from:

Wintun ----- (Patwin?) shell beads (Beals, 1933, 355)

The mountain groups traded to the foothills for salt, game, fish, and roots and grasses of types rare in the mountains, beads, and shells. They gave in trade black oak acorns which were a greatly desired variety and sugar-pine nuts. The foothill groups got some of the above from valley groups to whom they also passed on some mountain goods. Yellowhammer scalps were also traded from the mountains and salt up from the valleys. (Beals, 1933, 365)

WINTU

Supplied to:

Patwin ----- yew bows --sinew and salmon skin backing  
(Curtis, Vol. 14, 80; Kroeber, 1932,  
274-280)  
Wailaki ----- Lassik got obsidian from Hayfork Wintun  
(Essene, 1942, 61); Nongatl got salt from  
Hayfork Wintun (Driver, 1939, 382);

some other Wailaki groups got salt from  
Stony Creek Wintun (Curtis, Vol. 14, 22)

Received from:

Patwin ----- clamshell disk money (Dubois, pp. 25-6)  
Yuki ----- clam shell disk beads (Curtis, Vol. 13,  
131 and 257).

See: Shasta, Yana, Achomawi, Maidu, Nisenan

The Valley Wintu traded dried salmon, clams, shell money to the mountain-  
ers for bows, arrowheads, manzanita berries, wild flesh, furs.  
(Powers, p. 235). The McCloud River Wintu gave their salmon for clam  
shell dick beads, seeds, and acorns of the Bald Hill Wintu. The McCloud  
River Wintu also passed on obsidian that they got from a place on the  
north side of Mt. Shasta about sixty miles away (Modoc?). (Dubois,  
25; Redding, 669).

PATWIN

Supplied to:

Pomo ----- bows (Kniffen, 1939, 361)

Received from:

Pomo ----- clam shell disk beads, magnesite cylinders,  
salt, obsidian (Kroeber, 1932, 273 and  
297); fish and clams (Kniffen, 1939, 361)

See: Maidu, Nisenan, Wintu

The River Patwin got coast shells from the hill Patwin in return for  
passing on the yellowhammer headbands and woodpecker scalp belts. The  
hill Patwin scraped salt from stones in certain creeks in the Cortina  
region and sold it, also tobacco that they gathered along the streams.  
The river Patwin were said to trade in bear fur. (Kroeber, 1932,  
273, 274 and 297).

WAILAKI GROUP

Supplied to:

Inland ----- Kato traded salt that they got from Coast Y  
Yuki on to inland groups (Essene, 1942, 9)  
Yuki ----- very fine bows "too valuable for use,"  
often whole shells (Essene, 1942, 61)  
Coast Yuki ----- Kato supplied the Coast Yuki with hazel  
bows (Gifford, 1939, 334)

Received from:

- North ----- Lassik and Kato got dogs from the north  
(Essene, 1942, 90)
- Yukian Huchnom -- Lassik got clamshells ready-made from the  
Huchnom late (Essene, 1942, 61)
- Coast Yuki ----- Kato got thin clam shells from coast  
near West Port -- probably just gathered--  
and imported thick clam shells from  
Usal Coast Yuki; Kato got salt (Essene,  
1942, 9 and 61; Driver, 1939, 382);  
Kato got mussels from the Coast Yuki  
(Gifford, 1939, 332).

See: Wintu

The Lassik got ready-made clam shell beads from the Wailaki and the Kato--  
probably late. The Lassik got salt from the Wailaki. (Essene, 1942,  
61, 23, and 9; Driver, 1939, 382). The Kato gave baskets, arrows, and  
clothing to the Wailaki (Curtis, Vol. 14, p. 4) and received dentalia  
(Essene, 1942, 90).

YUKI PROPER

Supplied to:

- Nomlaki ----- black bear skins to be buried in -- late --  
\$20 or "30 in payment (Powers, 240)
- Pomo ----- furs (Kroeber, 1925, 166); beads, baskets,  
skins (Foster, 167)

Received from:

- Coast Yuki ----- salt, fish (Foster, 167)
- Huchnom ----- seaweed and kelp in small quantities,  
clam-shells from Bodega Bay -- both raw  
shells and beads, sea food, sometimes  
salt (Foster, 167; Essene, 1942, 9, 61)
- Nomlaki ----- possibly obsidian (Foster, 174)
- North ----- dogs (Essene, 1942, 9)
- Pomo ----- clam shell disk money (Curtis, Vol. 13,  
131 and 257); magnesite cylinders, dried  
haliotis, mussel and seaweed from North  
Pomo, dentalia from North Pomo of  
Sherwood and Willits (Kroeber, 1925, 166,  
173, 176) moccasins from Sherwood Pomo  
by a few rich -- probably recent --, salt  
from Stonyford Pomo, clamshells-- raw and  
in beads -- from Bodega Bay through Pomo  
(Foster, 167; Essene, 1942, 9)



See: Wintu, Wailaki

The principle exports of the Yuki were dried venison, fish, skins, and rope (Foster, p. 174). Probably much of the Pomo material reached the Yuki through the Huchnom as intermediaries.

#### COAST YUKI

Supplied to:

Pomo ----- Hinnites giganteus shell (Gifford, 1939, 340)

Received from:

Inland ----- buckeye for firedrills (Gifford, 1939, 338)

North ----- harpoon head of bone known to have been traded--Coast Yuki made own handle --, red obsidian from the northeast (Gifford, 1939, 334, 355).

Pomo ----- clam shell disk beads, beads made from hinnites giganteus which Pomo had obtained from Coast Yuki (Giddord, 1939, 340)

See: Wailaki, Yuki proper

The Yuki imported redbud baskets, also. (Gifford, 1939, 335)

#### WAPPO

Supplied to:

Products traded out not known.

Received from:

Coast Miwok----- clams, clam shell disk beads (probably gathered and made some of own) (Driver, 1936, 194)

North ----- yellow hammer headbands, sinew backed bows (Hill Patwin?) (Driver, 1936, 194)

Pomo ----- from Lake county tule mats because poor ones made locally, from Sulphur Bank magnesite cylinders ready made, fish, flint nodules whole from St. Helena (obsidian), clam and abalone shells from coast (Pomo or coast Miwok) (Driver, 1936, 194)

POMO

Supplied to:

Coast Miwok ----- Magnesite, skins, acorns (Kniffen, 1939, 361; Loeb, 1926, 195)

Received from:

Coast Miwok ----- clam shells (probably gathered a great deal freely) (Kniffen, 1939, 361)

See: Patwin, Yuki, Coast Yuki, Wappo

Clear Lake Pomo: These received iris cord for deer snares from the north (Kniffen, 1939, 361). Since their native backed-bow was of mahogany they also traded for northern yew bows and arrows (Kroeber, 1925, 257). Parties from Sherwood visited the east Lake people yearly bringing bows and arrows. The northeast Pomo were the source of salt for the Lake people and they traded for acorns sometimes from the Russian River people. The source of the highly valued magnesite was in Kai territory a little east of the lake. Lake people might go there and help themselves but more frequently the Kai sold it. Parties went to Bodega Bay (100 miles) in the late summer for clam shells. They got mussels, seaweed, haliotis shells, furs of small seals or possibly sea otters from Pomo of the coast giving them fish acorns, skins, and magnesite. The Clear Lake region had a surplus of magnesite, fish, furs, skins, and sometimes acorns. They needed yew bows, shells for making money, seaweed, and salt. (Kniffen, 1939 360, 361; Stewart, 1943, 43; Kroeber, 1925, 257)

Northern Pomo: The northern Pomo gave salt to the Potter Valley people who came across the mountains to purchase it. Clear Lake Pomo sometimes come to get salt. The northern Pomo got some clamshell from Shelter Cove in Athapascan territory. (Kroeber, 1925, 236, 248). In this northern area the coast people provided clamshells and the interior people furnished red bud for basketry (Essene, 1942, 21) and apocynum, Indian hemp, (Gibbs, 173). The Mato of the Northern Pomo got their bead money already made and magnesite cylinders from the Ukiah Indians. The Mato also got obsidian points from Lake county. Other northern Pomo (the Masut of Calpella) went to Lake County for obsidian and magnesite. (Stewart, 1943, 34, 36, 78)

Central Pomo: The Cokoa Pomo just south at Hopland took pinole or acorn flour to the Bokeya of Point Arena and exchanged it for dried sea food. They got fresh seafood and salt free. They went to Bodega Bay for whole shells and got obsidian and unbaked magnesite and lake fish from Lake Pomo. The Point Arena people (Bokeya) got shell beads, magnesite money and obsidian from the East (Lake Pomo) and gave sea food, acorns, berries, pinole seed, deer??. The Makomotcemi Pomo of Cloverdale got salt and sea food from Stewart's Point (Southwest Pomo) free and did not pay for clamshells at Bodega. They also procured obsidian and magnesite from Lake county. (Stewart, 1943, 38, 46, 49, 52).

Southern Pomo: The Bitakomtara Pomo of Santa Rosa went to Bodega Bay to get clamshells and made their own bead money, but they bought magnesite cylinders from the east (Stewart, 1943, 53). The southern

Pomo also got arrowhead material when they went to the lake (Kniffen, 1939, 385-8). The Kacha Pomo of the north Russian River region were able to get obsidian in Potter Valley without cost. They also got specially made sinew-backed yew bows from the Elk River and Round Valley Indians. They were used as war bows or for big game and were made especially to suit the taste of the Russian River people. (Kniffen, 1939, 378)

#### COAST MIWOK

Traded clam shells and clam shell disk beads to the Pomo (Curtis, Vol. 13, 131, 257). See:--Wappo and Pomo.

#### MIWOK

Supplied to:

- |              |   |
|--------------|---|
| Paiute ----- | acorns (Taylor, H. J., 51); clam shell beads, baskets, arrows (Barrett and Gifford, 193, 224-5); manzanita berries, sow berries (Steward, 1933, 257)  |
| Washo -----  | acorns, shell beads (clamshell), baskets (Barrett and Gifford, 193); redbud bark for weft and sewing material for production of geometric designs in baskets, bunch soap-root fibers used for brushing back scattered meal into mortar and for dressing hair, manzanita berries (Barrett, 1917, 14) |
| Yokuts ----- | baskets, bows and arrows (Barrett and Gifford, 270)   |

Received from:

- |                 |  |
|-----------------|--|
| Costonoan ----- | the people of Monterey Bay allowed the Miwok to make journeys to get olivella shells (Barrett and Gifford, 251f)   |
| North -----     | clam shell disk beads and a few magnesite cylinders (Curtis, Vol. 14, 131)   |
| Paiute -----    | raw obsidian (Taylor, H. J., 51; Clark, G., 22-3); salt came in solid blocks from mines two days travel from foot of Mono Lake (Clark, G. 22-3; Barrett and Gifford, 1933, 255); obsidian points for arrows and fish spears (Curtis, Vol. 14, 131; Barrett and Gifford, 255); sinew-backed bows (Latta, 1929, 16); rabbit skin blankets, pinon nuts, buffalo skins (Barrett and Gifford, 193, 221, 255); pupae of certain kind of fly breeding on shores of Mono Lake, nuts of pinon pine, <u>P. monophylla</u> , which was considered superior to digger or sugar pines |

(Clark, G., 44, 46); baskets, red paint, white paint (Steward, 1933, 257)

South ----- olivella disk beads (Miwok usually imported but sometimes made own), not considered as valuable as clam shell beads (Barrett and Gifford, 252f)

Washo ----- pinon nuts, salt, rabbit skin blankets, buffalo skins (Barrett and Gifford, 1933, 193, 221); dried fish from Lake Tahoe (Curtis, Vol. 15, 95)

Yokuts ----- probably dogs as pups, rare (Barrett and Gifford, 1933, 270)

The Central Miwok in the foothills near Knights Ferry got digger pine nuts from people in the higher hills in exchange for certain seeds. They dried fish and traded them to the mountain people still higher up for salt. The Mountain Miwok produced the bows. It was the Mountain Miwok who traded with the Paiute. (Powers, 352).

#### WASHO

See: Maidu, Miwok

#### WEST MONO

Supplied to:

Paiute ----- acorns, willowbark baskets, bead money (Gayton, 1948, 56, 159); besides these they furnished the Owens Valley Paiute with manzanita berries (Steward, 1933, 257) and salt (Steward, 1934, 437); buckskin, clam shell disk and tubular shell money, Yokuts baskets, canes for arrows, acorn flour, tobacco (Gayton, 1948, 228, 259)

Yokuts ----- (foothill Yokuts) rabbit skin blankets, moccasins, rock salt, red and blue paint, and pine nuts which they got from the Paiute (Gayton, 1948, 159); Choinimni bought all sinew-backed bows from "Monachi" and took them back to the Monachi for repairs (Gayton, 1948, 146). Most Yokuts bows came from the Mono (Gayton, 1948, 73).

Received from:

Paiute ----- rabbit skin blankets, moccasins, rock salt, red and blue paint, sinew backed bows, jerked deer meat, pine wood "hot rock lifters" (Gayton, 1948, 56, 159); nuts of digger pine, sugar pine,

and the pinon, basket water bottles waterproofed with pitch (Gifford 1932, 21-6); obsidian, including the "poisonous" variety, buckskins (Steward, 1933, 257); baskets, mountain sheep skins, sleeveless buckskin jacket sewn up sides, leggings of foxskin cured with fur on, unfinished obsidian arrowheads (Gayton, 1948, 214, 258).

Yokuts ----- (foothill Yokuts) bead money, tule house mats (Gayton, 1948, 55); baskets, tobacco, baked freshwater oyster shell (Gayton, 1948, 228, 259).

#### OWENS VALLEY PAIUTE

##### Supplied to:

Yokuts ----- lots of obsidian (Latta, 1949, 64) number of things through West Mono q.v.; not rock lifters (Gayton, 1948, 79)

##### Received from: lived from:

Yokuts ----- (through West Mono) acorns, willowbark baskets and bead money, tobacco (Gayton, 1948); deer skins, antelope skins, elk skins, steatite, salt and good baskets (Latta, 1949, 64)

See: Miwok, West Mono

The Owens Valley Paiute traded some into the Great Basin. They got yellow paint from the east, red paint and white paint used on baskets from Nevada Paiute, black paint also, pottery from Big Pine, and salt from Saline Valley. In exchange they gave shell money and food. (Steward, 1933, 257, 266, 276, 277)

#### TUBATULABAL

##### Supplied to:

Chumash ----- pinons (Voegelin, 1938, 52)

Yokuts ----- pinons (Voegelin, 1938, 52)

##### Received from:

Chumash ----- steatite, horses (late), shell cylinders and other shell beads, collected asphalt and fish while at coast trading (Voegelin 1938, 23, 52).

Yokuts ----- shell money, certain varieties of acorns (Voegelin, 1938, 23, 52)

In winter the Tubatalabal exchanged dried meat intratribally. They also traded yellowhammer bands back and forth. (Voegelin, 1938, 52).

## YOKUTS

### Supplied to:

Coast in general -- obsidian, fish, salt grass salt, some seeds

Chumash ----- obsidian (Latta, 1949, 66)

Monterey Costanoan - pinon nuts (Pilling, Ms.)

### Received from:

Coast in general -- Yowlumne, Tulare Lake Yokuts, Chunut, Wowol all went to coast and got abalone shells, shell money and unworked shells, fish (Gayton, 1948, 7, 9, 14); clam, olivella (Latta, 1949, 275)

Chumash ----- San Luis Obispo: abalone and clam shells (Curtis, Vol. 14, 154); asphaltum (Latta, 1949, 65); Morro bay; abalone shell, Pismo clam, keyhole limpet, and periwinkle shells (Latta, 1949, 65).

Monterey Costanoan -salt in abalone shells, abalones collected and dried, mussels (Pilling, Ms.)

Inyo county ----- mineral salt and obsidian (Latta, 1949, 65)

Salinan ----- (Salinan on Cholame Creek) raw shell and various types of shell money (Gayton, 1948, 7, 9)

See: Miwok, West Mono, Owens Valley Paiute

Yokuts tribes kept up considerable trade among themselves: with roots (Blandis cladium root, sword fern root, etc.), herbs, seeds, redbud wood, red, black, white, and yellow paint, salt from salt grass and salt-weed ashes. The river people traded blackberries to people back on the plains. Steatite was mined by the Yokodo Yokuts near Lindsay Peak and traded to tribes all over the San Joaquin. (Latta, 1949, 65, 69). The foothill Yokuts traded deer meat, oak wood, stone mortars, and pestles, bow, fire and digging sticks, salt and fine baskets to the valley in exchange for bead money. The northern foothill Dumna got plain bows from the Kechayi or Pasgisa, also sinew-backed bows. The Wukchumne got white paint (diatomaceous) from the Yokuts in the Coast mountains. Shells came through intervening tribes to the Valley Yokuts in exchange for bows, fire and digging sticks, salt and baskets. The Central foothills informant said that natural obsidian was obtained from the lake people; if this was true the lake tribe must have got it from the Coast Range.

A Tachi informant affirmed that the lake people did not made coiled baskets in old times but obtained them in trade with the foothill people. The Wukchumni, Gawia, and Yaudanchi were the ultimate source. The foothill people prized the lake people's tule mats in exchange. Large burden baskets were bought from the foothill people. The Tachi also got pottery vessels from the Wukchumni and rabbit skin blankets from the Wimilchi up King's river. The Tachi were friendly to all tribes around the lake but especially to the Wowol who came as far as the Wolasi to trade for a grass-seed food giving shell-money in return. The Wowol and Tachi and other lake people acquired the raw shells from the Salinan and Chumash and made them into money. The eastern Wukchumni took tule house mats with them to make shelter when they went into Patwisha territory snaring wild pigeons. The Patwisha lacked tule and gladly bought up the mats. A Yowlumne informant said that the local articles of trade were chiefly elk, deer and antelope skins, steatite, and salt from native salt grass. Skins had a set value in obsidian and were valuable in desert trade. (Gayton, 1948, 87, 17, 7, 55; Latta, 1949, 65)

#### COSTANOAN

See: Miwok, Yokuts

#### SALINAN

Received from:

Chumash ----- univalve columella ornaments, probably  
steatite vessels, wooden dishes (Mason, 1  
180)

See: Yokuts. The Salinans went to Tulare Lake in Yokuts country for fish (Mason, 122), but probably were more often visited by Yokuts coming west.

#### CHUMASH

Supplied to:

Interior ----- shell beads, dried fish, sea otter furs,  
soapstone vessels (Kroeber, 1925, 630)

Received from:

Interior ----- deerskins, acorns, fish, grasshoppers  
(Taylor, A., ser. I., No. 13)

Santa Catalina ---- steatite in small ornaments or charms,  
(Kroeber, 1925, 633); bowls, comals,  
steatite disk beads, cylindrical  
steatite beads, beads of reddish stone --  
archaeological evidence -- (Harrington,  
1926-7, 84)

See: Tubatalabal, Yokuts

SERRANO

Eastern bands got acorn supply from western ones (Kroeber, 1925, 618)

DIEGUENO

Supplied to:

Cocopa ----- eagle feathers (Gifford, 1933, 279)  
Kamia ----- acorns, baked mescal root in form of  
dried fibrous cakes, tobacco, fiber  
sandels, carrying nets, some eagle  
feathers (Gifford, 1931, 17, 23, 25, 49)  
Yuma ----- acorns (recent) (Spier, 1923, 349)

Received from:

Desert folk ----- roots of tules, cattails, various bulbs,  
young cattail sprouts, scapes and leaf-  
bases of the dwarf yucca, mescal (i.e.  
leaf of the agave), pine nuts, manzanita  
berries, chokecherries, and mesquite  
beans (Curtis, Vol. 15, 43)  
Kamia ----- cultivated plants especially watermelon  
(late); (Gifford, 1931, 17)  
Salton Sink people - salt (Curtis, Vol. 15, 43)  
Yuma ----- gourd seeds (recent) (Spier, 1923, 349)

KAMIA

Supplied to:

Yuma ----- tobacco (Yuma preferred to their own  
brand) (Forde, 117).

Received from:

Cocopa ----- Gulf shells (Gifford, 1931, 37)

See: Diegueno

YUMA

Supplied to:

Cahuilla----- Gourd rattles (Curtis, Vol. 15, 25);  
glass beads late (Hooper, 360)  
W. Yavapai ----- watermelons, dried pumpkin, maize, beans,  
small white glass beads (late) (Gifford,  
1936, 253)

Received from:

Mohave ----- gourds (Spier, 1923, 349); eagle feathers  
(Gifford, 1931, 49)  
W. Yavapai ----- rabbit skin blankets because Yavapai  
better hunters (Forde, 126), mescal,  
baskets, buckskins and other skins,  
sometimes in the form of dresses  
(Gifford, 1936, 253-4).  
Pima ----- martynia pods (used in making basketry)  
(Forde, 1931, 124)  
Northeast ----- buckskin (highly valued) (Forde, 1931,  
107)



See: Diegueno and Kamia

CHEMEHUEVI

Supplied to:

W. Yavapai ----- shell beads (Gifford, 1936, 254)

MOHAVE

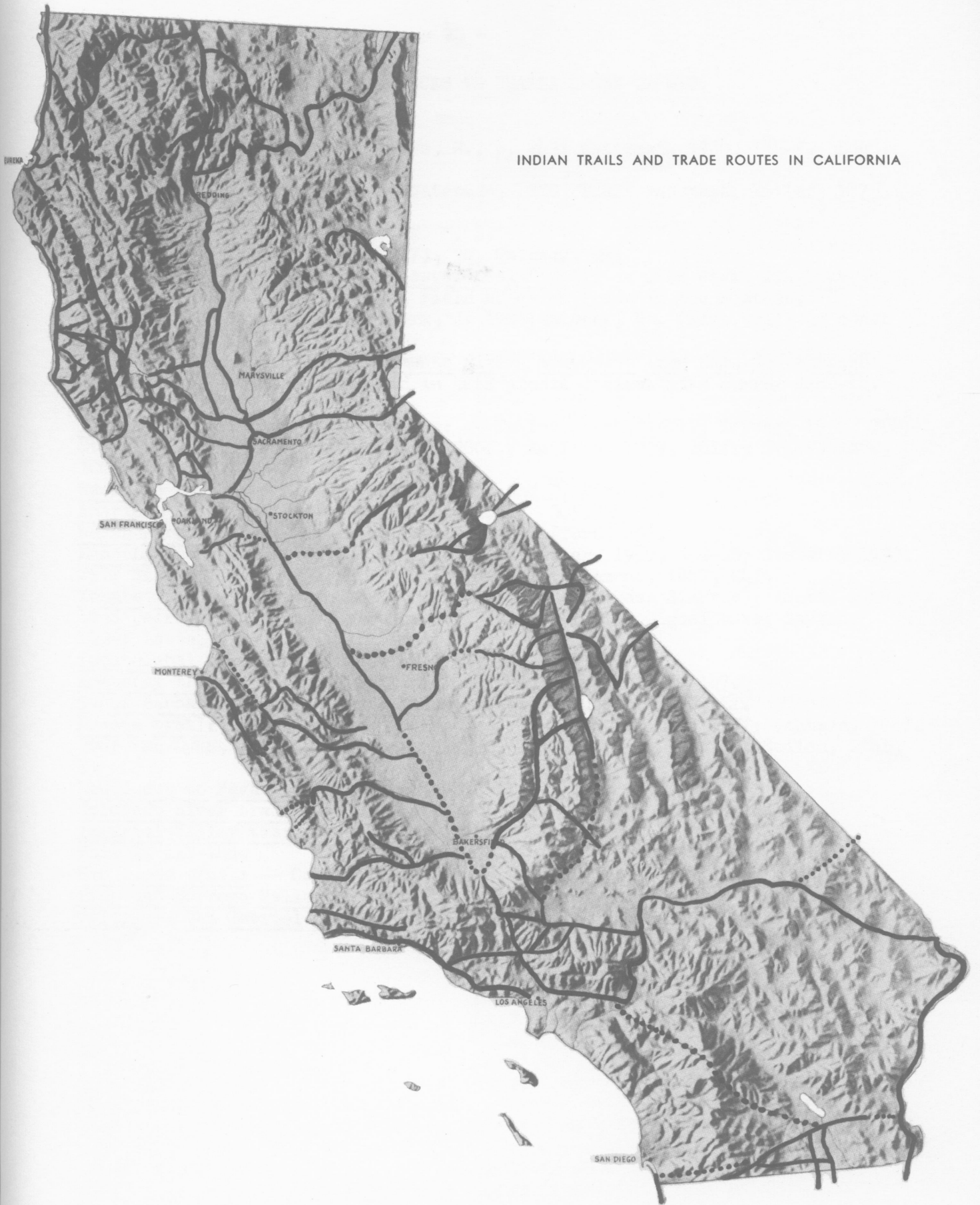
Received from:

Shoshone? ----- basketry, "a few pieces" (Kroeber, 1908,  
41)

W. Yavapai ----- mescal, red paint, (Kroeber, 1908, 62, 41)

See: Yuma

INDIAN TRAILS AND TRADE ROUTES IN CALIFORNIA



BIBLIOGRAPHIC REFERENCES TO TRAILS SHOWN ON MAP.

- Northwest Coast trails: -- Rogers, H., p. 243; Waterman, 1920, 184-5. Loud, 1918, 23, 263.
- Klamath and Trinity trails: -- Waterman, 1920, 184ff and maps; Miller, 1873, 162.
- Castle Crags trail: -- Miller, N. D. 4.
- Mt. Shasta trail: -- Miller, 1873, 32; Maloney, Ms.
- Nez Perce trail entering northeastern California: -- John Work, 1945 passim, and map.; Maloney, Ms.; Sample, Field Notes on Trade in the Plateau.
- Sacramento Valley trails: -- Work, J., 1945; Maloney, Ms. (Also trail up coast from Ft. Ross).
- Trails leading west from Sacramento River, northwest from Bay, and through Donner Pass: -- Trails recorded in UCAS Archaeological Site Survey Reports. n.d.
- Trails of Wappo, Pomo, Yuki region: -- Foster, 1944, 157f.; Driver, 1936, 194; Stewart, 1943, 34f.; Gifford 1939, 300f.; Kniffen, 1939, 261f.; Gibbs, 1860, 100-9.
- Washo to Maidu: -- Field Notes W. Evans and F. Riddell.
- American River and Pass: -- Fremont, 1846. 305, 346.
- North Fork Tuolumne River: -- Barrett and Gifford, 256.
- Mono Lake and Owen's Valley trails: -- Farquahar, 1949, 539-40; Steward, 1933, 257; Steward, 1934, 431; Steward, 1938, 44f.; Fremont, 1847, 445.
- Yokuts trails: -- Gayton, 1948, 147, 175, maps (across Sierras); Latta, 1949, 67-8 (across Coast range); Farquahar, 1932, 251, San Miguel Pass; Gayton, 1936; Latta, 1929.
- Tubatalabal trails: -- Voegelin, 1938, 51.
- Monterey trails: -- A. R. Pilling, n.d. (b); Fages, 1911, 147.
- Santa Barbara coast and Santa Ynez trails: -- Cooke, 1940, 5f.
- Mohave trail: (Los Angeles to Needles): -- Farmer, 1935, 155f; Johnson, 1927, 368; Van Dyke, 1927, 356; Fremont, 1846, 156-9; Brand, 1938, 8; Colton, 1941, 1.
- Route out to Nevada: -- Colton, 1941, 11.
- Colorado River trails: -- Bolton, 1930, Vol. 2, 384.; Vol. 1, 108-11.
- Imperial Valley trails: -- Gifford, 1931, 8f; Bolton, 1930, Vol. 2, 59; Vol. 1, 118-148.
- San Diego trail: -- Colton, 1941, 11.
- Proposed Borrego Valley -- Coyote Canyon -- San Carlos Pass -- Cahuilla Valley -- San Gabriel trail: -- Bolton, Vol. 1, 148ff.

BIBLIOGRAPHY

- Aginsky, B. W.  
1943 Culture Element distributions XXIV: Central Sierra. UC-AR, 8:1-4.
- Ashby, G. E. and J. W. Winterbourne  
1939 A Study of Primitive Man in Orange County. WPA Project. Santa Ana. (mimeographed)
- Bancroft, H. H.  
1886. History of California. Vol. I., 1542-1800. San Francisco.  
1886 Native Races, Vol. 1, Wild Tribes. San Francisco.
- Barrett, S. A  
1917 The Washo Indians. Publications of the Museum of the City of Milwaukee, Bull. 2 No. 1.
- Barrett, S. A. and E. W. Gifford.  
1933 Miwok Material Culture. Publications of the Museum of the City of Milwaukee, Bull. 2, No. 4.
- Barrett, S. A.  
1910 The Material Culture of the Klamath Lake and Modoc Indians of Northeastern California and Southern Oregon. UCFAAE 5, no. 4.
- Beals, R. L.  
1933 Ethnology of the Wisonan. UCFAAE 31 no. 6
- Bolton, H. E.  
1911 Diary of Expedition to San Francisco Bay in 1770 by Pedro Fages. Publications of the Academy of Pacific Coast History. Vol. 2. No. 3. Univ. of Calif. Press.
- 1926 Historical Memoirs of New California by Fray Francisco Palou. Univ. of Calif. Press. 4 vols.
- 1927 Fray Juan Crespi, Missionary Explorer on the Pacific Coast, 1769-1774. Univ. of Calif. Press.
- 1930 Anza's California Expeditions. Univ. of Calif. Press. Vols. 1-5.
- 1931 Font's Complete Diary. Berkeley.
- 1935 In the Southern San Joaquin ahead of Garces. Kern County Historical Society.
- Brand, D. D.  
1938 Aboriginal Trade Routes for Sea Shells in the Southwest. Yearbook of the Association of Pacific Coast Geographers. 4:3-9.
1937. Southwestern Trade in Shell Products. American Antiquity. 2:300-302.
- Chappell, M.  
1947 Early History of Mono County. California Historical Society Quarterly, 26:233-243.
- Clark, Galen  
1904 Indians of the Yosemite.
- Clark, S. A.  
1905 Pioneer Days of Oregon History. Portland.
- Colton, H. S.  
1941 Prehistoric Trade in the Southwest. Scientific Monthly 52: 308-319.
- Cook, D. I.  
1940 Indian Trails [of the Santa Barbara Region]. Santa Barbara Museum of Natural History, Leaflet 15:5-7.

- Coues, E.  
1900 On the Trail of a Spanish Pioneer; Francisco Garces 1775-1776. N. Y. 2 vols.
- Curtis, E. S.  
1924 The North American Indian. Norwood, Mass. Vols. 13, 14, 15.
- Dalton, A. M.  
1897 Ethnographical Collections from the West Coast of North America, Hawaii and Tahiti formed during the voyage of Captain Vancouver 1790-1795... Internationales Archiv fur Ethnographie. 10:225-245.
- DeMassey, E.  
1927 A Frenchman in the Gold Rush (Trans. Marguerite Eyer Wilbur). San Francisco: California Historical Society.
- Dixon, R. B.  
1905 The Northern Maidu. American Museum of Natural History, Bull. 17:119-346.  
1907 The Shasta. American Museum of Natural History. Bull. 17:381-498.
- Driver, H. E.  
1936 Wappo Ethnography. UCP-AAE 36:179-220.  
1937 Culture Element Distributions: 6: Southern Sierra Nevada UC-AR 1:53-154.  
1939 Culture Element Distributions 10: Northwest Coast. UCP-AR 1:6
- Drucker, P.  
1937 The Tolowa and their Southwestern Oregon Kin. UCPAAE 36:221-300.
- DuBois, C.  
1935 Wintu Ethnography. UCPAAE 36:1-148.
- Elliot, T. C. (ed.)  
1909 Peter Skene Ogden Journals, Part 1. Oregon Historical Quarterly 10:331-365.  
1910 Peter Skene Ogden Journals, Part 2. Oregon Historical Quarterly 11:201-365.
- Essene, F.  
1942 Culture Element Distributions 21: Round Valley. UC-AR 8:1
- Fages, P.  
1937 A Historical, Political, and Natural Description of California (trans. H. I. Priestley). Berkeley, Univ. of Calif. Press.
- Farquhar, F. P.  
1932 The Topographical Reports of Lt. Geroge H. Derby. Calif. Hist. Soc. Spec. Pub. No. 6.  
1949 Up and Down California in 1860-64. The Journal of William H. Brewer. Univ. of Calif. Press.
- Farmer, M. J.  
1935 The Mohave Trade Route. Masterkey 9:154-157.
- Fewkes, J. W.  
1896 Pacific Coast Shells from Prehistoric Tusayan Pueblos. Amer. Anthropologist, o.s. 9:
- Forde, C. D.  
1931 Ethnography of the Yuma Indians. UCP-AAE 28:83-278.
- Foster, G. M.  
1944 A Summary of Yuki Culture. UCP-AR 5:3
- Franchere, G.  
1904 Diary. In Early Western Travels (ed. by Reuben Thwaites) Cleveland. Vol. 6.
- Fremont, J. C.  
1846 Narrative of an Exploring Expedition to the Rocky Mountains in the Year 1842 and to Oregon and Northern California in the years 1843-44. N. Y. Memoirs of My Life. Chicago and N. Y.
- 1887 Estudillo Among the Yokuts: 1819. In: Essays in Anthropology in Honor of A. L. Kroeber. Univ. of Calif. Press.
- Gayton, A. H.  
1936 Yokuts and Western Mono Ethnography. UCP-AR 10 pts. 1 and 2.  
1948

- Gibbs, G.  
1860 Journal of the Expedition of Colonel Redick  
McKee, 1851. In Schoolcraft, Archives of  
Aboriginal Knowledge. 3:99-180. Philadelphia.
- Gifford, E. W.  
1931 The Kamia of Imperial Valley. BAE-B 97.  
1932 The Northfork Mono. UCPAAE 31:15-65.  
1933 The Cocopa. UCPAAE 31:257-334.  
1936 Northeastern and Western Yavapai. UCPAAE 34:  
247-354.  
1939 The Coast Yuki. Anthropos 34:292-375.
- Gifford, E. W. and A. L. Kroeber  
1937 Culture Element Distributions 4:Pomo.  
UCPAAE 37:117-254.
- Gifford, E. W. and S. Klimek.  
1926 Archaeology of the Southern San Joaquin  
Valley, California. UCPAAE 23:1-122.
- Goddard, P. E.  
1914 Chilula Texts. UCP-AAE 10:289-379.
- Harrington, J. P.  
--- A New Original Version of Boscan's Histori-  
cal Account of the San Juan Capistrano Indians  
of Southern California. Smithsonian Misc.  
Colls. 92:1-62.  
1926-7 Exploration of the Burton Mound at Santa  
Barbara, California. BAE-AR 44:23-168.  
1932 Tobacco among the Karuk Indians of California.  
BAE-B 94.  
1942 Culture Element Distributions 19: Central  
California Coast. UCP-AR 7, pt. 1
- Heizer, R. F.  
1941 Aboriginal Trade between the Southwest and  
California. Masterkey 15:185-188. No. 5.  
1946 The Occurrence and Significance of South-  
western Grooved Axes in California. Amer.  
Antiq. 11:187-193. No. 3.  
1949 The Archaeology of Central California I:  
The Early Horizon. UCAR 12: pt. 1.
- Heizer, R. F. and R. K. Beardsley.  
1942 Fired Clay Figurines in Central and Northern  
California. Amer. Antiq. 9:199-207. No. 2
- Heizer, R. F. and A. E. Treganza.  
1944 Mines and Quarries of the Indians of Calif-  
ornia. Calif. Journal of Mines and Geology  
40:291-359.
- Henderson, J.  
1930 Ancient Shell "Trade Routes." Nautilus 43:  
109-110.
- Hill, J. J.  
1921 The Old Spanish Trail. Hispanic-American  
Historical Review. 4:444-473. No. 3.
- Hodge, F. W.  
1935 Coral Among Early Southwestern Indians.  
Masterkey 9:157-159. No. 5.
- Hoffman, C. F.  
1868 Notes on the Hetch-Hetchey Valley. Proceedings  
of the California Academy of Science 3:368-  
370.
- Holt, C.  
1946 Shasta Ethnography. UCAR 3:pt. 3.
- Hooper, I.  
1920 The Cahuilla Indians. UCPAAE 16:315-380.  
No. 6.
- Hoover, M. B. and H. E., and  
E. G. Rensch.  
1948 Historic Spots in California. Stanford  
Univ. Press.
- Johnson, H. W.  
1927 Where did Fremont cross the Tehachapi  
Mountains in 1844? Historical Society of

- Southern California. 13:365-373. Pt. 4.
- Kelly, I. T.  
1932 Ethnography of the Surprise Valley Paiute.  
UCPAAE 31:67-210. No. 3.
- Kniffen, Fred B.  
1928 Achomawi Geography. UCPAAE 23:297-332. No. 5.  
1939 Pomo Geography. UCPAAE 36:353-400. No. 6.
- Kroeber, A. L.  
1908a Ethnography of the Cahuilla Indians. UCPAAE  
3-29-69.  
1908b A Mission Record of the California Indians.  
UCPAAE 8:1-27.  
1920 Yuman Tribes of the Lower Colorado. UCPAAE  
16:475-485  
1922 Elements of Culture in Native California.  
UCPAAE 13:259-328.  
1925 Handbook of Indians of California. BAE-B 78.  
1932 The Patwin and their Neighbors. UCPAAE 29:  
253-423.
- Latta, F. F.  
1929 Uncle Jeff's Story. Press of Tulare Times,  
Tulare, Calif.  
1949 Handbook of Yokuts Indians. Bear State Books,  
Oildale, Calif.
- Loeb, E. M.  
1926 Pomo Folkways. UCPAAE 19:149-405.
- Loud, L. L.  
1918 Ethnogeography and Archaeology of the Wiyot  
Territory. UCPAAE 14:221-436.  
1924 The Stege Mounds at Richmond, California.  
UCPAAE 17:355-372.
- Mallery, G.  
1888-9 Picture-Writing of the American Indians.  
BAE-AR 10:25-807.
- Maloney, A. B.  
1940 Peter Skene Ogden's Trapping Expedition to the  
Gulf of California, 1829. Calif. Hist. Soc.  
Quart. 19:308-316.  
1945a A Botanist on the Road to Yerba Buena --  
Journal of William Dunlop Brackenridge, Oct.  
1-28, 1841. Calif. Hist. Soc. Quart. 24, No. 4.  
1945 b Shasta was Shatasla in 1814. Calif. Hist.  
Soc. Quart. 24: 229-234. No. 3.  
n.d. Trails in Northern California. MSS
- Malouf, C.  
1940 Prehistoric Exchange in the Northern Periphery  
of the Southwest Amer. Antiquity 6:115-122.
- Mason, J. A.  
1912 The Ethnology of the Salinan Indians.  
UCPAAE 10:97-240.
- Merrill, R. E.  
1923 Plants used in Basketry by the California  
Indians. UCPAAE 20:215-242.
- Meyer, Carl  
1855 Nach dem Sacramento Reislander eines Heim-  
gekehrten Vaaren. pp. 196-236.
- Miller, J. 1873  
1873 Life among the Modocs. London.  
n.d. The Battle of Castle Crags. Published by  
the Traveler, San Francisco, Calif.
- Nomland, G. A.  
1935 Sinkyone Notes. UCPAAE 36:149-178. No. 2  
1938 Bear River Ethnography. UC-AR 2: pt. 2.

- Olson, R. L.  
1930 Chumash Prehistory. UCPAAE 28:1-21.
- Pilling, A. R.  
n.d. (a) The Archaeological Implications of an Annual Coastal Visit for Certain Yokuts Groups. Amer. Anthropologist. (in press).  
n.d. (b) Ethnographic notes on Carmel Indians. California Archaeological Survey MS. No. 75.  
n.d. (c) Ethnographic Notes on Tulare Indians at Monterey. California Archaeological Survey MS.No. 74.
- Powers, S.  
1877 Tribes of California. Contr. to No. Amer. Ethnol. Vol 3. Washington.
- Redding, B. B.  
1879 How are Ancestors in the Stone Age Made their Implements. Amer. Naturalist. 13:667-674.
- Reid, H.  
1852 Los Angeles County Indians. Collection of Letters written to Hon. A. F. Coronel of L. A. County. Los Angeles Star (newspaper.) Copy in Bancroft Library.
- Rogers, H. G.  
1918 Journal in Dale, H. C., The Ashley-Smith Expedition and the Discovery of a Central Route to the Pacific 1822-29. Cleveland.
- Rogers, M. J.  
1941 Aboriginal Culture Relations between Southern California and the Southwest. San Diego Museum Bull. 5:1-6.
- Russell, F.  
1904-5 The Pima Indians. BAE-AR 26:17-385.
- Sapir, E. and L. Spier.  
1943 Notes on the Culture of the Yana. UC-AR 3:pt. 3.
- Schenck, W. E.  
1926 The Emeryville Shellmound Final Report. UCPAAE 23:147-282.
- Schenck, W. E. and E. J. Dawson  
1929 Archaeology of the Northern San Joaquin Valley. UCPAAE 25:289-413
- Shinn, C. H.  
1879 Glimpses of Colusa. San Francisco Bulletin, June 18, 1879. In H. H. Bancroft, "Scraps" Vol. I, p. 161.
- Sparkman, P. S.  
1908 The Culture of the Luiseno Indians. UCPAAE 8:187-234.
- Spier, L.  
1923 Southern Diegueño Customs, UCAAE 20:297-358.  
1928 The Havasupai. Anthropological Papers, American Mus. Nat. Hist. 39:244-245, pt. 3.  
1930 Klamath Ethnography. UCPAAE 30:1-338.  
1933 Yuman Tribes of the Gila River. Univ. of Chicago Press.
- Smith, D. F. and F. J. Teggart  
1909 Diary of Gaspar de Portola during the California Expedition of 1769-1770. Publications of the Acad. of Pac. Coast Hist. Univ. of Calif. Vol. 1, No. 3.
- Steward, J. H.  
1933 Ethnography of the Owens Valley Paiute. UCPAAE 33:233-350.  
1934 Two Paiute Autobiographies. UCPAAE 33:423-438.  
1938 Basin-Plateau Aboriginal Sociopolitical Groups. BAE-B. 120.
- Stewart, O. C.  
1943 Notes on Pomo Ethnogeography. UCPAAE 40:29-62.



- Sullivan, M. S.  
1934  
Travels of Jedediah Smith. Fine Arts Press,  
Santa Ana, Calif.
- Taylor, A.  
1860-63  
Indianology of California (California Farmer  
from 1860-63). Series I. No. 13.
- Taylor, H. J.  
1932  
The Death of the Last Survivor. Univ. of  
Calif. Chronicle Jan. 1932, 34:51-55.
- Tower, D.B.  
1945  
The Use of Marine Mollusca and their Value in  
Reconstructing Prehistoric Trade Routes in the  
American Southwest. Papers of the Excavator's  
Club. 2:2-56.
- U. S. Army, Engineer's Dept.  
1853  
Report of an Expedition down the Zuni and the  
Colorado Rivers in 1853 by Captain L. Sitgraves.  
Washington.
- Van Dyke, D.  
1927  
A Modern Interpretation of the Garces Route.  
Hist. Soc. of So. Calif. Quart. 13:353-359.  
pt. 4.
- Van Hemert-Engert, A. and F. J. Teggart, 1910.  
The Narrative of the Portola Expedition of  
1769-1770 by Miguel Costanso: Publ. Acad. Pac.  
Hist. 1, no. 4.
- Vargas,  
1940  
First Expedition of Vargas. Coronado Cuarto  
Centennial Pub. 1540-1940. Vol. 10. Univ. of  
Mexico Press.
- Voegelin, E.  
1938  
1942  
Tubatulabal Ethnography. UC-AR 2:Pt. 1  
  
Culture Element Distribution 20: Northeastern  
California. UC-AR 7: pt. 2.
- Walker, E. F.  
1935  
A Yokuts Cemetery at Elk Hills. Masterkey  
9:145-150. No. 5.
- Waterman, T. T.  
1920  
Yurok Geography. UCPAEE 16:177-314.
- Wedel, W. R.  
1941  
Archaeological Investigations at Buena Vista  
Lake, Kern County, California. BAE-B 130.
- Whipple, A. W.  
Report of Explorations for a Railway Route  
Near the 35th Parallel of North Latitude from  
the Mississippi River to the Pacific Ocean.  
In: U. S. War Dept. Pacific Railway Explorations  
and Surveys. Vol. 3.
- Wiley, F. A.  
n.d.  
Jedediah Smith in the West. Ph.D. thesis, Univ.  
of Calif., Berkeley.
- Work, John  
1945  
Fur Brigade to the Bonaventura, 1832-33. San  
Francisco: California Historical Society.