

INDIAN HORTICULTURE
WEST AND NORTHWEST OF THE
COLORADO RIVER

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By Jack D. Forbes

IT HAS GENERALLY BEEN ASSUMED by historians and anthropologists that the indigenous groups living to the west and northwest of the Colorado River were non-horticultural with three or four exceptions: some horticulture among the eastern-most Kamia, among the Chemehuevi who settled at a late date along the Colorado River, and among the Paiute of the Virgin River (considered by some to have been a Mormon-taught group); and the tobacco-planting of northwest California. A. L. Kroeber attempted to explain the absence of horticulture in much of California by asserting that

. . . native California failed to become agricultural because of its dry summers, for which, so far as maize was concerned, no amount of winter precipitation could compensate. . . . California today is not notably a corn-raising state.

This statement apparently overlooks several important facts, however. Coastal California's subsistence was based in considerable measure upon maize from 1769 until the 1850's and California Indians were the primary growers of that crop.* Furthermore there is considerable evidence which indicates that a number of groups beyond the Colorado were practitioners of simple horticulture. The bulk of the Indians of California (except in the north) became horticultural due in part to the influence of the Spanish establishment along the coast (1769-1821). In some cases the natives were taught how to care for crops as part of the enforced acculturation of the mission system, however, many Indians took up horticulture as a result of a more indirect type of diffusion, in some cases apparently learning from other Indians. Still others may have derived their horticulture from the Colorado River region.

Of course, most anthropologists might refuse to consider agriculture derived from a Spanish source, no matter how far removed, as forming a part of the native culture of an area. Only "aboriginal" traits are to be so considered. On the other hand, the kind of horticulture brought

* Kroeber, 1939, p. 211. For example, in 1793 San Buenaventura Mission harvested 1,800 *fanegas* of maize as compared with 230 of wheat. C-A 50, Bancroft Library, p. 118.

to California through the medium of the Spanish conquest was largely of Mexican Indian origin. It is true that some wheat was grown, and later grapes and fruit orchards were planted; however, maize and beans always remained staple foods; and their preparation in such dishes as atole, as well as the standard use of tortillas, betrays the Indian orientation of the complex. Furthermore, it is worth noting that the Spanish-speaking people who came to California (most of whom were males) were largely of Indian or eurindian (Indian-Spanish) ancestry with a sprinkling of Negro inheritance. Once in California they miscegenated with native California Indian women and increased the strength of the Indian genetic heritage. Thus, in the final analysis, the California Indians who became horticultural in the post-1769 period acquired a modified Indian complex through the medium of an Hispanicized eurindian community.

It should also be pointed out that the terms "aboriginal" and "native" are highly ambiguous. The anthropologist usually considers a particular Indian culture as being aboriginal if it is free from any European influences; however, the truth is that if that culture has borrowed traits from alien Indian cultures it has become just as non-aboriginal as if it had borrowed from Europeans. It is highly unlikely that there have been any truly aboriginal cultures in the world for many thousands of years, if there ever were any; that is, if we mean by aboriginal, a culture totally indigenous and free from alien influences. The term "native" is, of course, even more ambiguous than aboriginal. A more realistic way of looking at American Indian cultures is to differentiate not between aboriginal and non-aboriginal but between pre-European contact and post-European contact.

It seems quite clear from the evidence herein presented that many California Indians made horticulture an integral part of their "native" culture. This situation is comparable to the northeastern United States after 1610-1625 when the Iroquois and other groups made the use of guns and the European fur trade a part of their cultures; or to the Plains region after the 1600's when the European-derived horse greatly modified the pre-contact way of life. If the scholar is only going to consider as "native" those cultures or phases of culture completely free of European influence then it seems to this author that he is going to have to limit his attention largely to the archaeological horizon.

The evidence relating to agriculture beyond the Colorado River follows in an area-by-area sequence. It should be noted that this survey is not intended as an exhaustive study but merely as indicative of what future ethnohistorical research may reveal. Likewise one must bear in mind that the occasional horticulture practiced in areas of little rainfall could easily be overlooked by early travelers, or could simply be taken for granted and go unreported.

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I. THE PAIUTE

The Paiute had excellent opportunities for learning horticulture since their southern neighbors, the Yumans, Navahos and Hopis all practiced it. Furthermore, horticulture apparently extended into Utah and Nevada in Pueblo II times.

In October, 1776, a Spanish expedition penetrated into the lands of the Paiutes of Utah. Fray Silvestre Vélez de Escalante, diarist of the party, failed to note the practice of horticulture between Utah Lake and Ash Creek (a fork of the Virgin River); however, on the lower part of Ash Creek he found

... a well made mat with a large supply of ears and husks of green corn.
... Near it, in the small plain and on the bank of the river, there were three small corn patches with their very well made irrigation ditches. The stalks of maize which they had already harvested were still untouched.

Subsequently he noted that "from here downstream and on the mesas on either side for a long distance, according to what we learned, live Indians who sustain themselves by planting maize and calabashes." The Paiutes who lived south of the Virgin also were horticulturalists except for the Yubuincariris of the Kanab Plateau who stated that they did not plant maize.¹

In 1776 Fray Francisco Garcés met a group of Chemehuevi Paiutes a few miles to the west of the Blythe region. Garcés records that "the Chemebets say that their nation extends to another river (the Virgin or Sevier?), north of the Colorado, and that there they sow."² These Chemehuevi were apparently a branch of the Las Vegas band of Paiutes.³ In 1826 and 1827 a group of trappers led by Jedidiah Strong Smith reached the Santa Clara Fork of the Virgin River which, on both occasions, he called Corn Creek. In 1827 he said:

... passing down this river some distance, I fell in with a nation of Indians who call themselves Pa-Ulches ... who raise some little corn and pumpkins.

A Paiute farmer was also met residing at the junction of the Virgin and Colorado.⁴

A report on the expedition of Antonio Armijo from New Mexico to Los Angeles in 1829 by way of southern Utah and Las Vegas notes that beyond the Payuches, Narices, Agujerados, and Garroteras were the Ayatas "dressed in buckskin, they cultivate fields." The itinerary of the expedition records corn fields or milpas among the Paiutes at several points: about half-way between Chelli and the Crossing of the Fathers; and on a branch of the Virgin River (called Milpas River).⁵ Prior to 1848 a trapper named Choteau saw cornfields on the Santa Clara Fork of the Virgin and, in 1848, Orville C. Pratt mentioned a number of horticultural sites. Thirty miles south of Mountain Meadows on October 6 he reached "the Piute cornfields on the Santa Clara River" and purchased

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some corn. On October 7 he said: "their cornfields we frequently saw today on the river as we came along." On October 10, Pratt purchased corn and beans from the Paiutes on the "Muddy" near Riverside. Two days later at Las Vegas he saw lots of "Pah Eutaws" and plenty of water but does not mention crops.⁶

The ill-fated wagon train of which William Manly was a member found Paiutes growing crops from Southern Utah across Nevada to Death Valley in 1849. The crops seen were at three locations, Santa Clara River, Meadow Valley Wash and near Death Valley. Alexander Erkson stated that he saw where the Indians had raised corn and melons on the first-named stream.⁷ Manly records that

. . . we now crossed a low range and a small Creek [Meadow Valley Wash?] running south, and here were also some springs. Some corn had been grown here by the Indians . . . Saw piles of grass gathered by Indians.

Much farther to the west, and immediately adjacent to the eastern edge of Death Valley, Manly came upon a brush hut and an Indian family. The Indian man

. . . went into the hut and brought out a handful of corn for us to eat. By the aid of a warm spring near by they had raised some corn here, and the dry stalks were standing around. . . . The warm spring was quite large and ran a hundred yards or more before the water sank. . . . The dry cornstalks of last year's crop . . . suited our animals.

Other members of the caravan found "a pile of squashes, probably raised upon that place, and sufficient in number so that every person could have one."⁸

Thus it seems fairly evident that the Paiutes and possibly other Great Basin Shoshoneans were practitioners of occasional horticulture, growing maize, pumpkins, squash and beans.

II. VANYUME

The Vanyume inhabited the Mohave River from the San Bernardino Range to east of the Mohave Sink prior to being missionized at San Gabriel Mission and San Bernardino. They had frequent contacts with Spaniards after 1776, and they were in continual contact with Mohave travelers and Paiutes throughout the contact and pre-contact periods. In 1844, along the Mohave River, John C. Frémont met a group of five Mohaves and an ex-mission neophyte who had returned to the "mountains" after secularization (1830's). This ex-neophyte said that

. . . they lived upon a large river in the Southeast, which the "soldiers called the Rio Colorado"; but that formerly, a portion of them lived upon this river [Mohave River], and among the mountains which had bounded the river valley to the northward during the day [Calico Mountains?], and that here along the river they had raised various kinds of melons.⁹

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The Mohave River would indeed have been a good stream for horticulture under pre-contact conditions; and when one considers the constant Mohave-Vanyume intercourse it seems quite possible that this melon growing was derived from Mohave rather than Spanish inspiration.

III. CAHUILLA

To the south of the Vanyume and Chemehuevi lived the Cahuilla Indians. The Cahuilla had numerous contacts with the Colorado River tribes and were intimate friends of the Halchidhoma in particular. The Cahuilla informed William Duncan Strong that within their memory . . . both corn and wheat were raised . . . and doubtless other vegetables, such as melons, beans and squash.

One tradition voiced was that even prior to the coming of the "Mexicans" the Cahuilla had had corn, acquired from the Quechan (Yuma). The Palm Springs Cahuilla creation myth has the people receiving such crops as corn, squash, beans, watermelons and wheat from the body of the dead creator.¹⁰

Of course wheat would seem to be an intrusive element in the Cahuilla creation myth; however, it is worth noting that wheat was grown by the Quechan as early as the mid-1700's (in part, at least, thanks to Father Eusebio Kino) and a "wild wheat" grew on the Santa Clara Fork of the Virgin. In 1853 Lt. E. F. Beale reported that

. . . it is from this stock [Santa Clara wild wheat] that the New Mexicans have obtained the seed which they call Payute wheat, and the Mormons, Taos wheat. It has been much improved by cultivation, and is considered the best in Utah and New Mexico.

In another place Beale states that "the Taos wheat, originally obtained from the wild wheat growing spontaneously on the Santa Clara and the Río de la Virgin, has obtained a wide reputation." As early as 1776 the Mohave Indians were said to have fields of wheat.¹¹

The first recorded Spanish expedition which ventured into the homeland of the Desert Cahuilla was that of José María Estudillo and José Romero in 1823-1824. By that date the Cahuilla had been in contact with Spaniards at San Gabriel for a half-century and mission ranchos (branches) had been established at Yucaipa and San Gorgonio (Piatopa). In 1823 livestock was being raised at the latter place and a *casita de yndios* was nearby. From Piatopa the Spaniards marched to Agua Caliente (Palm Springs), meeting a "Cahahahuilla" man, woman and child who were on their way to San Gabriel. Thus, by 1823, the Cahuillas were under Spanish influence to some degree. In the Coachella Valley to the south of Mecca, the Spaniards came upon a village where the Indians had "algunas matas de maiz, calabazas, melons y zandias."¹²

By the 1820's then the Cahuilla were horticultural at least to some extent. After the 1830's they became farmers and *vaqueros* for the Mexicans in the Los Angeles Basin and horticulture remained as an element of their way of life. In all probability the Cahuilla of the Coachella Valley were horticultural prior to the Spanish contact since their relations with the Halchidhoma and other Colorado River tribes pre-dated any opportunity for acquiring crops from Europeans. As of 1823 they had at least 300 years' opportunity for acquiring horticulture through the medium of the River Yumans. Furthermore, the absence of wheat and the raising of calabashes, melons and watermelons suggests a Colorado River-derived complex.

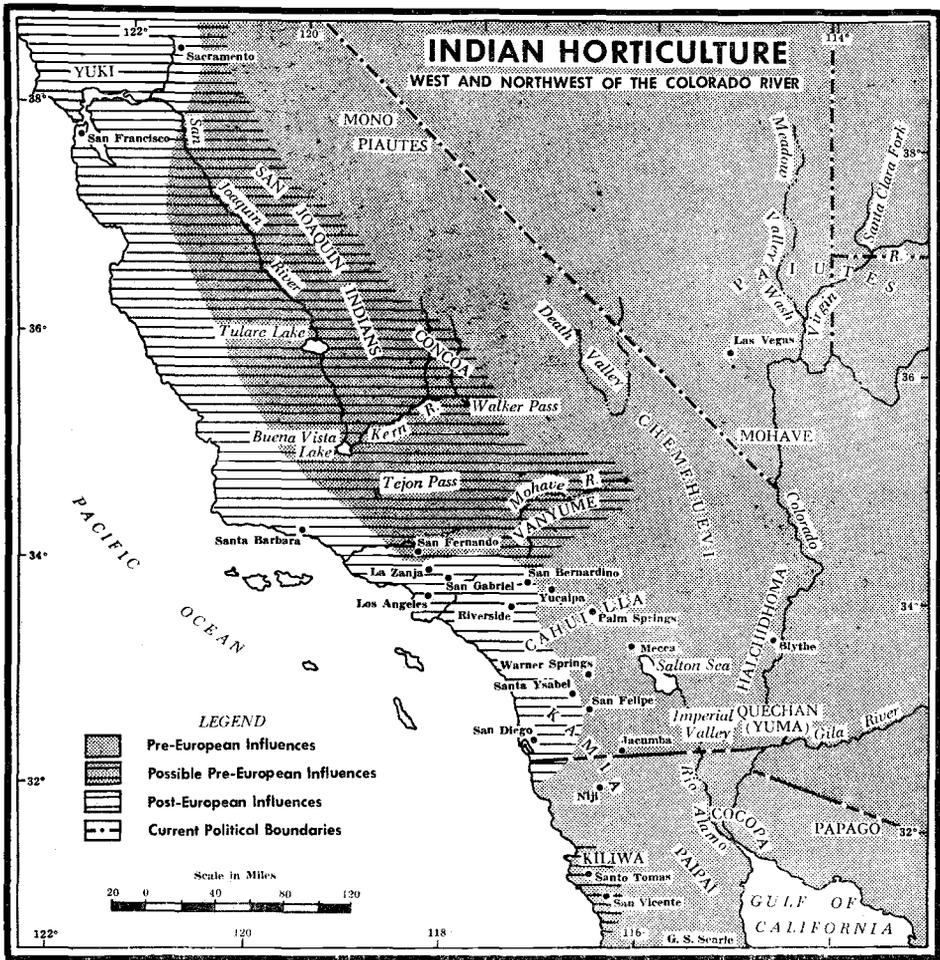
IV. KAMIA

It is a well-established fact that the eastern Kamia farmed in the area of Imperial Valley (in the Holtville-Brawley area, at Indian Wells, and along the Río Alamo) and that their horticulture was a well-integrated Colorado River type trait. Unfortunately, documentary evidence is lacking to show whether the eastern Kamia were agricultural at an early date or not. However, since their culture was predominantly River Yuman in character and since they were met by Spaniards on the river as early as the 1770's and perhaps as early as 1540 it seems likely that their horticulture was not a new trait in the 1840's, when first definitely recorded.¹³

The Imperial Valley Kamia origin tale states that they received agriculture at the time of the creation but that the Kamia who moved into San Diego County and who came to be called the Diegueño did not. When the latter went up into the mountains "they had no seeds to plant." Thus it would appear that the Kamia (I include the Diegueño, Migueleño, Guadalupeño, and all other closely related Yuman groups under this name) were divided in early times into two divisions, one horticultural and the other not. Nevertheless, it would appear that farming was not confined to the Imperial Valley alone. Gifford states that the Kamia of Jacumba (in the mountains) were horticultural. Four Imperial Valley Kamia lineages lived at Jacumba along with two "Diegueño" lineages. "All planted there, though the Kwitark lineage . . . never planted in Imperial Valley." At Jacumba ditches were built to carry water from the springs to the watermelons, pumpkins, maize, tepary beans and "cowpeas" that were grown. This sounds as if Spanish influence was present, however, it is to be noted that (1) the Indians of Jacumba were never missionized except perhaps for a few individuals; (2) the Kamia of Imperial Valley built dams to divert water on the Río Alamo, and (3) the Papago of Sonoitac who were in contact with the Kamia by way of the Quechan used artificial irrigation techniques.

Significantly, in 1939 and 1943 Adan E. Treganza found two caches

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of maize cobs and a caché of seeds of nine species of domesticated plants in ceramic containers near Jacumba. The seeds, apparently preserved for planting, were wrapped in European-made textiles (thus indicating a post-1769 date) but the species were “identical to those which composed the basic agricultural complexes of the Pima-Papago groups and the Lower Colorado River Yumans in the early historic period.” This would seem to indicate an Indian-derived horticultural complex for the Kamia of Jacumba, which agrees with Gifford’s ethnological data.¹⁴

The western Kamia perhaps had a sufficient supply of acorns, pine-nuts and seafood to discourage their acceptance of horticulture in pre-contact times but it appears that they made journeys to the east to purchase products of their kinsmen.¹⁵ In 1769 San Diego Mission was established and in subsequent years horticulture was reported among some of the western Kamia. A Spanish expedition to Santa Ysabel in 1821

found that "at a distance of about a league there is a spring where the natives have their cornfields. Here also is their rancheria . . ." South of the border in Baja California the Indians became horticultural (if they had not already been so). The Kamia of Néji in the 1830's while still *gentiles* (and living in the interior, southwest of Jacumba) were working seasonally in the fields at Guadalupe Mission and growing crops themselves.¹⁶

After the secularization of the missions in the 1830's the Indians of outlying regions (many of whom had never been neophytes) continued horticulture as an integral part of their culture. In late November, 1846, the Kearny expedition reached Vallecitos (at the western edge of Imperial Valley) and saw "old cornfields about, cultivated by the Indians." On December 1, they reached San Felipe (just east of Warner's Hot Springs) and noted "the remains of cornfields and pea patches."¹⁷ On August 17, 1849, an Anglo-American party reached San Felipe and found that there were "unfenced corn patches" there. The Indians were raising "a little corn, a few melons, etc." The following day they acquired a few unripe peaches at some Indian huts. Later on the same day the party reached Agua Caliente (Warner's) and found "corn, melons, etc." under cultivation. In September, 1849, another traveler remarked that the natives of San Felipe were very poor, "many of them having no corn and no wheat." Between San Felipe and Warner's Hot Springs the party came to "another Indian rancho, with some corn, peaches, and delicious grapes." Two hours away at the Hot Springs the Anglo-Americans purchased "corn in the stalk, roasting ears, and meal—also grapes of a very good kind."¹⁸ It should be obvious that the Kamia of San Felipe and Cupeño of Warner's Hot Springs (a mixed Cahuilla-Kamia group) were thoroughly horticultural by the 1840's. Furthermore, it is quite obvious that maize and melons could be raised in the San Diego County region.

V. NORTHERN BAJA CALIFORNIA

The Indians of the Colorado Delta region of Baja California were horticultural by 1540 (Cocopas, Kohuanas, Halyikwamais and, perhaps, Kamias) and it would appear that the mountain Kamia of the Néji-Jacumba region were farmers at least at one stage of their history. The other groups of northern Baja California, including the partially non-missionized Paipai and Kiliwa, were horticultural in the nineteenth century also. Arthur W. North visited the region in the early 1900's and found that "all these six northern tribes [Kiliwas, Paipais, Gimiels, Catarinas, Kamias, and Cocopas] engaged more or less in agriculture." The Kamias, Paipais and "Catarina Yumas" (Kwatl Kamia) used irrigation techniques.¹⁹ Meigs expressed the opinion that agriculture among the Kiliwa was European-derived, however, it should be borne in mind that the Paipai and the Kiliwa had very close contacts with the Cocopa

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for some 300 years prior to their Spanish contacts. In 1540 Hernando de Alarcón was told by Naguachato, the chief of a group of delta Indians, that the mountain people to the west lived in a "desert place that produced little maize, [therefore] they came down to the plains to get it in trade."²⁰ This would indicate that the mountaineers (probably Kamias or Paipais) were both maize-using and to some extent maize-growing in 1540. Both the Paipai and the Kiliwa are known to have annually visited the Cocopa in the delta, the former at least to obtain agricultural products; and by the 1820's-1840's Paipai were residing permanently among the latter.²¹ In any case, it is quite clear that the Paipai and Kamia of Baja California made horticulture a part of their way of life, regardless of the source of the trait and regardless of whether it was acquired in pre-1769 or post-1800 times.

It is clear from documentary evidence that horticulture of non-Spanish derivation spread from the Colorado River to the very coast of northern Baja California in the eighteenth century. In May of 1788 it was reported from San Vicente that

... noticia un Indio cristiano de esta mision que en la tierra de esta parte han sembrado los indios gentiles, maiz, frijol, calabazas, melones y sandias, y que estas semillas las han traído del Colorado, y que estos van cada instante allá, y los del Colorado vienen a dicha rancheria donde está la siembra.*

Thus it would seem that the Kamias of the San Vicente region, in constant communication with the Colorado River Yumans as they were, had obtained seeds and were regularly growing crops in at least one village.

VI. LOS ANGELES BASIN

In 1771, the mission of San Gabriel was established and Indians began to be used as farm laborers. In 1781 the Pueblo of Los Angeles was founded and in a similar manner the Spanish-speaking people of that community used Indian labor for farming. Evidently horticulture spread rapidly among the *gentiles* (non-missionized Indians) for in August, 1795, Fray Vicente Santa María found that the natives of the San Fernando Valley were raising crops. Near the site of San Fernando Mission, (founded two years later), Santa María came upon

... a rancheria next to the little houses of said Reyes [the Alcalde of Los Angeles, Francisco Reyes, had a grant to utilize a portion of the San Fernando Valley; however he resided in Los Angeles] with enough people and they are the ones who care for the milpa of maize, beans, and water-melons that said Reyes has.

The *gentiles* were taking good care of the fields and were the "vaqueros, gayanes, regadores, ordeñadores y pescadores" at that place.

* C-A 4, Bancroft Library, p 215.

Santa María then traveled to La Zanja (in Glendale), the rancho of Corporal Verdugo (the military supervisor of the pueblo of Los Angeles). There were no *gente de razón* (Hispanized people) there, however, he saw watermelons, melons and beans "and a milpa of maize of a *gentil* named Requi, and others that belonged to other gentiles which were next to the milpas of the Verdugos."²² Thus, by 1795, the *gentiles* of the San Fernando Valley were raising corn for two of the leading settlers of Los Angeles and were also growing things for themselves, all without any immediate supervision.

After leaving the San Fernando Valley, Santa María passed on to the headwaters of the Santa Clara River (near Newhall). In that region he came upon "a rancheria next to a zanja of water which was quite copious . . . and which came a half a league from its origin place, and here is where the Río de Santa Clara has its origin." This may be of no significance but *zanja* usually refers to an artificial irrigation ditch rather than to a natural stream.²³

Regardless of the manner in which they became horticultural the Indians of the Los Angeles Basin (and of the balance of coastal California) became, in fact, the only real farmers of the region. The Spanish-speaking settlers were a pastoral people and by and large they disdained the use of the hoe and plow. The historian, H. H. Bancroft, referring to the period of ca. 1800 stated that "most of the labor [at Los Angeles and San José] was done by natives not attached to the missions."²⁴ As the native Indians of the Los Angeles region died or were absorbed into the *gente de razón*, Indians from outlying regions were brought in to serve as agricultural laborers and *vaqueros*. As early as 1839 the Rancho of Jurupa (Riverside) had a rancheria of Cahuillas nearby who were serving as laborers.²⁵ In 1845 Henry Dalton's Rancho Asussen (Azusa) was using Cahuilla Indians and, on April 3, Dalton stated that "the Cahuillas presented themselves to ask leave to go three days to hunt mescal." In 1852, B. D. Wilson stated that Luiseños and Diegueños (Kamias)

. . . are a large majority of the laborers, mechanics, and servants of San Diego and Los Angeles Counties. . . . Nearly all speak the Spanish language, and some of the chiefs read and write it.²⁶

That the Indian served as the principal agricultural laborer in southern California should be made clear from the following evidence: In 1841 Dufлот de Mofras stated: "all labor in el pueblo [de Los Angeles] is done by the Indians recruited from a small rancheria on the banks of the river on the outskirts of the village."²⁷ In 1852, William Manly said of the ranch of John Rowland near Los Angeles: "all his work was done by Indians who lived nearby, and who had been there as long as he . . . The Indians made his wine by tramping the grapes with their feet."²⁸ The Benjamin D. Wilson report of 1852 reinforces the above evidence: "The Indian laborers and servants are 'domesticated'; mix with us daily

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... They are almost the only house or farm servants we have." Furthermore, they were the only horticulturalists, outside of a few Anglo-Americans.

These Indians are the only farmers living here, besides the Americans who have come into the country since the war, and a very few who were here before. The California "Spaniard," (so to speak) loves his fiery steed—not the plough. Many such a *ranchero*, rich in cattle and "goodly acres," by the ten thousand, must go to his Indian neighbor hard by on the rancho, if he would dine today on his maize or frijole!

It is clear that the Indians were growing crops as a part of their own diet by 1852. The Indians living around the old missions (without any supervision) had "patches of crops" and there were some fifty Indian land-owners in the Los Angeles region with their own fields (besides those with fields on ranchos). Horticulture was also practiced by the Indians living in the mountains surrounding the Los Angeles Basin. Wilson states:

... a better crop and more commodious hut — perhaps a table and a chair or two — may distinguish [the Los Angeles Indian farmer] from the denizens of the mountain village. Everything else is quite after the Indian fashion.²⁹

As late as the 1880's Indians still comprised a major part of the agricultural work force of the Los Angeles region, and the natives of San Diego and Riverside Counties traveled about, working on farms and ranches.³⁰

VII. SAN JOAQUIN VALLEY

The Indians of this region were in contact with the agricultural Mohaves as well as with the Paiutes; however, horticulture has never been recorded as a part of the pre-European contact culture. As early as the 1770's though, deserters from the coastal missions and Spanish military forces were settling among them, and by the early 1800's they were growing crops.³¹ Many of the San Joaquin natives were transported bodily to the coastal missions, especially after 1800, and later returned to their original homes.³²

Early travelers in the San Joaquin Valley met many of these ex-mission Indians, some of whom penetrated far into the interior. In 1849, travelers met five hundred Indians at the junction of the two forks of the Kern River (in the Sierra Nevada Mountains). They "had left the mission farther west during the Mexican War and taken to their own village located at the foot of the Sierra Nevada Mountains." At this village the travelers obtained a "Piute" (Mono?) guide who took them over the mountains and into the San Joaquin Valley.³³ In 1852 B. D. Wilson asserted that the Tulareños of the San Joaquin were "formerly attached to the missions . . ."³⁴

In the fall of 1833, the Joseph R. Walker party crossed the San Joaquin Valley from Kern River to San Francisco Bay. It was found that

. . . in some parts the natives raise a small quantity of corn, pumpkins, melons, etc.; the soil being so very strong and mellow, that it requires but little labour to raise good crops.³⁵

In the spring of 1834 the same party made their way back to the Kern River and one day north of that stream, along the base of the Sierra Nevada Range, they met a group of Indians.

. . . after we halted here we found that these people could talk the Spanish language, . . . and on inquiry ascertained that they were a tribe called the Concoas, which tribe some eight or ten years since resided in the Spanish settlement at the missionary station near Santa Barbara, on the coast, where they rebelled . . . when they retreated to the spot where we found them. . . . They follow agricultural pursuits to some extent, raising very good crops of corn, pumpkins, melons, etc. All the outdoor labor is done by the females.³⁶

Concoa guides then escorted the Walker party over Walker's Pass to the edge of the Mohave Desert.

It would seem that these Indians were rebels who fled from Santa Barbara during the revolt of 1824-1825 as it is known that the Spanish campaigns failed to bring back all the neophytes. But what is really interesting is that they had maintained agricultural pursuits for some ten years on their own and had established a sexual division of labor at variance with that practiced in the missions. This latter is somewhat surprising and might suggest that their horticulture was not entirely of Spanish derivation.

The natives in the Sacramento region also became horticultural, perhaps due to the fact that John Sutter employed Indians as farmers after 1842. Likewise there were many ex-neophytes in the region. In March, 1844, Frémont found that there were fields of wheat growing on the Río de los Cosumnes, (between fifteen and twenty miles from Sutter's fort) grown, apparently, by the local Indians. He remarked that the wheat was turning yellow from want of rain, thus indicating the use of a dry-farming technique.³⁷ In October, 1846, travelers came upon an Indian rancheria on the banks of the Sacramento River, a day and a half below Sutter's fort.

Surrounding the rancheria were two or three acres of ground, planted with maize, beans, and melons.³⁸

At the southern end of the San Joaquin Valley the Indians of Tejon Pass and the Cañada de las Uvas (Grapevine Canyon) practiced horticulture, perhaps due to the fact that many were ex-neophytes. In September, 1849, the Duval party went down the Cañada de las Uvas and "near its mouth, we came to a spot being prepared by the Indians for

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cultivation." The leader of the Uvas Indians was an ex-neophyte named Zapatero. In 1855, the same writer visited Zapatero again and found that he had "a good garden."³⁹ Other sources indicate that in 1851 and 1852, prior to the establishment of the Tejon Indian Reservation, the Tejon Indians were raising fields of corn and wheat. Some of them spoke Spanish, were ex-neophytes and reputedly had learned agriculture in the missions.⁴⁰ Another source indicates that prior to 1852 the Tejon area Indians "had raised small crops of corn and melons, by stirring up the earth, and dropping the seed to take care of itself." This is hardly a Spanish agricultural technique and indicates that, whatever the source, the Tejon Indians had altered the horticultural complex to suit their own needs.⁴¹ The Tejon Indians continued to be horticultural long after the short-lived reservation experience and were growing crops in 1872.⁴²

VIII. THE YUKI

Indians north of San Francisco Bay also became agricultural. In 1877 Powers remarked:

. . . there is an anniversary dance observed by them [the Yuki] called the green-corn dance, though this manifestly dates only from the period when Spaniards taught them to cultivate corn.⁴³

Thus, the Yuki certainly had integrated farming into their way of life.

IX. WILLAMETTE VALLEY

In ca. 1813, an adopted Osage, John D. Hunter, in company with a group of Osage Indians apparently visited Oregon. Their return journey took them up the Willamette Valley and Hunter records that, unlike those of the Columbia, the Willamette Indians

. . . paid some attention to tilling the soil. They raised considerable quantities of a peculiar kind of corn, the ears of which were short, small, and set on stalks near the ground; the grains were also small, flat, and a very deep blue colour. They also raised beans and squashes.⁴⁴

From the above survey of evidence it should be clear that the cultural complexes of many Indian groups west and northwest of the Colorado River came to include horticulture, whether derived from alien Indian influence or European contacts. It seems fairly certain that the Kamia, desert Cahuilla, Paiutes and possibly the Vanyume were under Colorado River, rather than Spanish, influence.

Intensive research is needed to clarify the status of Indian agriculture in the San Joaquin Valley, Southern California and in the Willamette Valley. Likewise, the whole subject of Hispano-Indian interrelationships in California and Baja California needs much study in

spite of the excellent ground work already performed by Sherbourne F. Cook, Peveril Meigs, III, Homer Aschmann and others.

Finally, it seems to this author that horticulture must be treated as an aspect of California Indian culture in the same manner that the use of the horse is regarded as an element of the Plains complex.

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Abbreviations

BAEB—Bureau of American Ethnology Bulletin
 BL—Bancroft Library, Berkeley, California
 HL—Huntington Library, San Marino, California
 NMHR—New Mexico Historical Review
 UCFAAE—University of California Publications in American Archaeology and Ethnology
 UCPG—University of California Publications in Geography

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