



FOOD SUPPLY REGIONS FOR THE CALIFORNIA GOLD RUSH

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Prior to January 24, 1848, California was a distant, pastoral territory of the United States. On that date, the foreman of a sawmill construction crew discovered gold on the banks of the American River, and the non-Indian population of approximately 10,000 exploded to more than 200,000 by the end of 1850. At least 100,000 more were added by 1855. The new immigrants came by land over the California and Santa Fe Trails, across Mexico, and from Canada. They came by sea around the horn and by way of Panama and Nicaragua. Virtually all came for the single purpose of mining gold. From Europe, Asia, North America, and South America they poured into the sleepy territory, bringing enough supplies for only a few weeks or a few months worth of mining. Almost all planned to return home in a short time with enough gold to ease the labors of their remaining lives.

Settling throughout the foothills of the Sierra Nevada and other California mountain ranges, this vast army of miners created a huge demand for food supplies which immediately outstripped California's small agricultural output. Contemporary observers deplored the paucity and monotony of available foods. Frenzied scenes greeted each arriving pack train or cattle drive as hungry miners competed for meager

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supplies. Prices for all products soared to previously unimagined heights, such as one dollar for a single egg.¹

These grossly inflated prices, along with perception of the California market as a long-term one and prompt payment in gold, created a commercial atmosphere that electrified the countries and territories of the Pacific Basin and western North America. The Royal Hawaiian Agricultural Society reported happily in 1850:

The extension of the territory and government of the United States to the borders of the Pacific, the wonderful discoveries in California, and the consequent almost instantaneous creation of a mighty state on the western front of the American Union, has, as it were, with the wand of a magician, drawn this little group (Hawaii) into the very focus of civilization and prosperity.²

Virtually overnight, areas only recently settled by advancing European and American frontiers were drawn into an international, commercial network of remarkable growth and proportions.

From the beginning, this difficult but potentially lucrative trade in foodstuffs magnified geographical relationships which, in turn, fostered spatially unequal economic development over the Euro-American frontier of the Pacific Basin and adjacent coastal Americas. The intent of this paper is to define the major regional patterns of this food system and also to identify the logistical factors behind geographic inequality of trade participation and economic development that occurred as a by-product of that trade.

Spatial Patterns in the Supply Trade

In the five years between the discovery of gold in 1848 and the establishment in 1853 of sufficient California agriculture to feed the state's population, two principal spatial patterns developed in the supply system. First, there was a segregation of supply regions into a pair of rings around the market, deter-

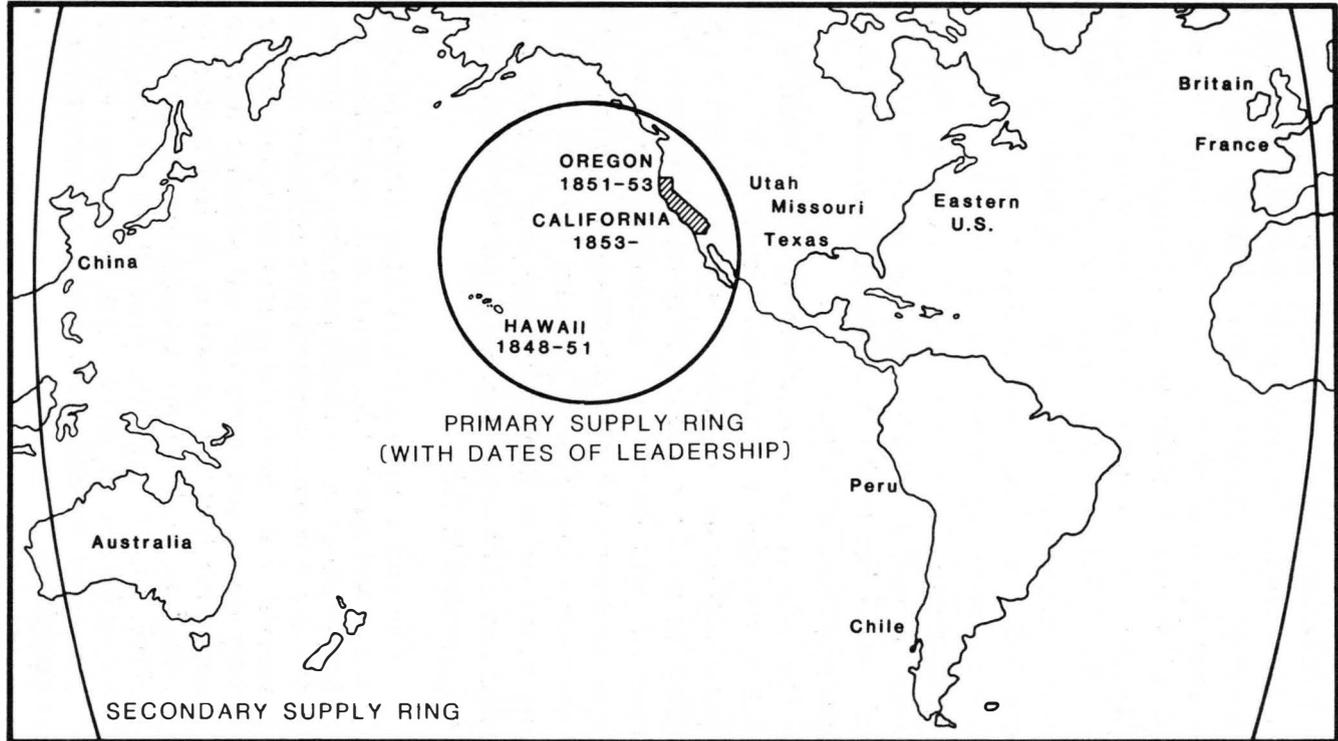
mined by distance (see Map 1). The outer ring included a group of secondary supply regions which faced transport journeys of more than two months each way. Typical one-way journeys for this geographical group required 64 to 79 days from Chile, 66 to 80 from China, 84 to 93 from Australia, and 165 to 200 from either New York or Britain³. Because of great distance and high transport costs, these suppliers each provided a relatively small variety of products which could withstand the long trip and for which there was a particularly high demand. Thus, Australia sent wheat and flour.⁴ Chile and Peru sent wheat, flour, and potatoes.⁵ Texans, Mormons from Utah, and even enterprising traders from Missouri and Arkansas drove cattle and hogs to the mines.⁶ The eastern United States sent dried fish, liquor, and other processed products.⁷ Distant China supplied rice, fish, and tea, as well as particular dietary products demanded by the growing population of Chinese miners in California.⁸

Inside this group was a closer ring of primary supply regions. The principal components of this ring were the kingdom of Hawaii, the territory of Oregon, and California itself. Due to their relative proximity, these regions supplied both a greater proportion and a greater diversity of the foodstuffs.⁹ A second geographical pattern emerged within this group as each of these three regions successively held the role of principal supplier to the gold fields. Immediately after the discovery in 1848, Hawaii dominated the trade, only to be replaced by Oregon around 1851, and California in 1853. With each shift, the former supply leader faced a trade loss of potentially serious economic consequence.

Hawaii as Principal Supplier

Hawaii in 1848 was an outpost of New England. The arrival of Boston merchants and missionaries nearly three decades earlier had erased the fledgling British presence and supplanted it with Yankee influence. The New Englanders had quickly seized the ample, economic opportunities presented by the

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rich, plantation resources of land, labor, appropriate crops, and a lucrative market based principally on New England and European whalers. As late as 1851, although decline had set in, more than 400 whaling ships per year visited the islands for supplies.¹⁰ Hawaii had become an important way station and distribution center for products moving to and throughout the Pacific Basin. Subsistence agriculture continued to feed most of the native population, but a base of commercial agriculture, concentrating on sugar, fruit, and potatoes, with appropriate marketing and transport systems, had evolved. Food produced for trade moved through the major ports of Honolulu and Lahaina, as well as smaller regional ports such as Waimea, Hanalei and Koloa on Kauai, Hilo and Kealahou on Hawaii, and the tiny island of Niihau.¹¹

At the time of the gold discovery, both whaling and the market it provided had peaked. Depletion of much of the whale population and widespread use of competitive products curtailed the need for whaling ships and threatened Hawaiian commercial agriculture with economic depression. Hence, when news of the California discovery arrived, agriculturalists and merchants were free to embrace the new market. Local traders shook off economic lethargy and scrambled to meet new demands. The newly-formed Royal Hawaiian Agricultural Society reported in 1850:

Our coffee and sugar no longer remain piled in our warehouses. Our fruits and vegetables no longer decay in the spot where they were grown. We are not even compelled to seek for them a market, but clamorous purchasers come to our very doors and carry off our supplies with an eagerness that has caused us to feel a scarcity ourselves, and we are assured for not only all these, but for any other products of the soil that we will raise, a steady and increasing demand that may be relied on from our enterprising neighbors.¹²

With journeys to California taking only 21 to 36 days, visits by merchant ships rose from 90 in 1848 to 180 in 1849, 469 in 1850 and 446 in 1851.¹³ Production was diversified and rapidly increased, while a brisk trade in Irish potatoes, sweet potatoes, and other vegetables, plus coffee, sugar, wheat, poultry, and fruit developed.¹⁴ Despite emigration to California, by foreign and Hawaiian labor, the number of farms and farm acreage in Hawaii quickly expanded, as oldtimers and newcomers rushed to cash in on the bonanza. Former whalers, seamen, missionaries, and miners became farmers overnight, some in the infant sugar trade, despite a complete absence of any experience with the crop.¹⁵ Serious repercussions resulted, including skyrocketing land values. By 1850 land formerly worth one dollar an acre was selling for five, and vigorous political pressure resulted in the repeal of laws prohibiting land ownership by non-naturalized foreign born. Particularly favored in this expansion was Maui, where the cool slopes of Haleakala produced hundreds of tons of potatoes for export. Between July 1850 and June 1851, at the height of supply by the Hawaiian Islands, the port of Lahaina accounted for 20 percent of the sugar, 80 percent of the syrup, 47 percent of the sweet potatoes, 68 percent of the onions, 96 percent of the Irish potatoes, more than two-thirds of the tropical and citrus fruits, and all of the butter exported by the kingdom.¹⁶ Hawaii forged toward a goal of production sufficient to supply itself and the mainland mines (Table 1.).

Table 1⁷
Agricultural exports from the Hawaiian Islands

	1848	1849	1850	1851
Sugar, lbs.	449,533	653,820	750,238	21,030
Coffee, lbs.	58,065	28,231	208,428	27,190
Irish Potatoes, bbls.	147	858	51,957	43,923
Molasses, gals.	28,978	41,235	53,855	13,631
Salt, bbls.	4,570	2,866	6,000	3,719
Value of Exports	\$66,819	\$89,744	\$380,323	\$197,889

Even as Hawaii recorded its highest annual shipping totals for the nineteenth century in 1850 and 1851, the promising, mainland trade collapsed, almost as quickly as it began. Labor costs continued their burdensome increase as remaining workers used the threat of emigration to inflate wages. Far more serious, however, was the rise of competition from Oregon. Wheat and potatoes from California's closer neighbor flooded the San Francisco market, depressing prices and underselling Hawaiian products. Island grown potatoes, the mainstay of the trade for several years, were especially hard hit. During the 1849 and 1850 seasons, eager merchants and planters had shipped substandard potatoes and even seeding stock in their frenzy to make a financial killing. This episode fostered a bad reputation for Hawaiian potatoes. For a while merchants overcame the problem by fraud. The Agricultural Society reported unabashedly, "many an island red Irish potato has graced the tables of California as 'fresh from Oregon...'" Hence, when Oregon did begin to provide its own potatoes in sufficient numbers and quality, no hope remained for Hawaii's growers.¹⁸

For the Islands, the effect of a basic shift in food-supply zones was catastrophic. Unrealistic land speculation and immense over production, coupled with inflated wages ruined many entrepreneurs. The same men who, in early 1850, had boasted of a "steady and increasing demand," now lamented:

California, the great market of the Island, is now paralyzed; and the immense importation of sugar and other products...has reduced the prices of most articles of our produce below their prime cost.¹⁹

Scores of planters and merchants went bankrupt, and much of the newly planted land reverted either to native agriculture or to forest. From the century's high of 469 in 1850, the number of merchant ships visiting Hawaii plummeted to only 125 three years later.²⁰ Ultimately, Hawaiian agriculture stabilized around production and trade of tropical products, especially sugar. In the process, however, many learned a hard lesson

relating to the inconsistency of supply and demand in a gold rush economy (see Table 1).

Oregon as Principal Supplier

Oregon's permanent Euro-American settlement began with the arrival of Yankee pioneers in the 1830's, although a fur-trading post had been established two decades earlier. The early settlers consisted primarily of missionaries and farmers. With the tacit support of Dr. McLoughlin of the Hudson's Bay Company, the Americans built a network of tiny settlements along the Willamette, Umpqua, Rogue, and Cowlitz rivers. Each area contained a scattering of people with "simple wants, few goods, arduous toil, and the realization that they dwelt on the edge of the world."²¹

The Oregon settlements learned of the California gold discovery from the captain of a visiting ship in the summer of 1848, and they immediately fell prey to emigration. The first wagon train, carrying 150 prospective miners, departed overland for California only a few weeks later. Ultimately, at least two-thirds of Oregon's able-bodied men deserted their farms and families to join the mining rush.²² Even before this emigration, Oregon's agricultural system was poorly suited to the new economic situation. The British fur trade had declined, and Oregon settlers operated a frontier agricultural economy based on local subsistence farming. Thus, initially, Oregon was able to supply only a small portion of the demand for food. Although traders delivered a few staples like wheat and potatoes by ship and drove cattle to the northern California mines during the period 1848 to 1850, Oregon posed little threat to Hawaiian trade dominance.

By summer of 1851 the situation had changed. Indeed, change was foreshadowed as early as spring of 1849 when, only months after their departure, an estimated 1500 Oregonians had returned from California mining districts, bringing with them more than \$2,250,000, or some \$1,500 apiece, in gold. Drawn home by families and temporarily abandoned

farms, they returned not only with adequate funds for farm-improvements, but also with a keen, first-hand appreciation for the potential money to be made in food supply. The remainder of 1849 and much of 1850 were spent using their hard-won money and knowledge to extend improved farmland, plant more crops, and increase participation in the California food trade. In Oregon prices were high—ten dollars for a bushel of apples—but in California apple prices in 1849 occasionally reached \$125 per bushel and remained inflated for several more years.²³

Returning miners were supplemented by new settlers. Some had come from California or the eastern United States to search for gold in Oregon's newly discovered Rouge River fields, and turned to farming thereafter. Others had come deliberately to pursue agriculture. During the first two years of the gold rush, Oregon continued to attract a trickle of settlers who preferred its farmlands to California's alluring but unstable mining economy. The passage of the Land Donation Act of September, 1850, increased this trickle to a steady flow. This liberal act granted 320 acres to all male settlers above the age of eighteen who were citizens, or who declared their intention of becoming such by December 1, 1850. In addition, if a settler was married or chose to marry before December 1, 1851, his wife also received 320 acres. New settlers arriving between December, 1850, and December, 1853, received 160 acres if single or 320 acres if married.²⁴ Most farmers—new, returning, or stay-behinds—quickly adapted to the new supply trade.

Apples, vegetables, beef, and especially potatoes and flour, all staples of Oregon's subsistence agricultural economy, were also items much sought after by a California mining population dominated by Americans and western Europeans. Hence, production of these already familiar commodities allowed a relatively easy transition to an expanded, commercial production system and the establishment of a marketing network which saw Oregon products move to California along three routes. Ships carried foodstuffs from the Willamette and Col-

umbia Rivers to San Francisco, taking less than half the time a voyage from Hawaii did. During the period 1846 to 1850, the number of annual visits by trading ships rose from eight to fifty. In the process, the focus of settlement shifted from inland Oregon City to Portland.²⁵ A second route, also by sea, took ships to Humboldt Bay, from whence mule trains carried food, lumber, and tools to the northern mines.²⁶ The third route was a laboriously carved wagon trail, completed by the spring of 1849, which followed the Rouge River to Klamath Lake and then turned south into California. Despite periodic attacks by local Indians, scores of wagon and pack trains plied this route every month, bringing products from Oregon's revitalized agricultural communities to California markets.

As in the case of Hawaii, Oregon's role as the dominant supplier to California exercised their logistical advantage to the detriment of Oregon trade. However, Oregon did not suffer the same fate as Hawaii for two reasons. First, mining had expanded into the Pacific Northwest reaching southern Oregon by 1851. Later in the decade, miners penetrated British Columbia, Idaho, and Montana. Oregon farmers and the city of Portland served those regions as well as the teamsters and sailors bringing California materials to the north. Second, the population of Oregon and adjacent territories continued to grow rapidly, jumping from 13,087 to more than 63,000 during the 1850's. This rapid expansion into the Northwest, for both mining and agricultural purposes, prevented the catastrophic depression that plagued Hawaii. Although Oregon certainly missed the California trade, the Northwest became an important settlement region itself and the Willamette and adjacent valleys its major suppliers.

The Rise of California Agriculture

Of course, the effect of the gold rush was nowhere greater than in California, where a simple agricultural economy with a variety of crops for local consumption, but only hides and tallow from cattle as a significant export, all but disappeared

under the onslaught of tens of thousands of eager miners. Logically, the creation of such a huge demand would suggest that rapid growth and tremendous financial returns should occur in cattle raising and agriculture. For several reasons, however, the livestock industry proved wholly inadequate to the demand. First, according to Thomas Larkin and other gold rush observers, Californians hastily abandoned not only cities and farms, but also military installations, coastal shipping, and the old ranchos throughout much of the future state.²⁷ Additionally, the largest cattle herds were located in southern California, a full month's trail drive from Sierra mining districts. This meant that, in terms of transport time, the main cattle rearing areas of California were more distant than either Hawaii or Oregon. Finally, the California cattle trade was hurt by the practice of selling off breeding stock, in an effort to maximize profits while prices were inflated during the first eighteen months of the rush. The net result of this practice was a decline in the cattle population averaging more than 15,000 head per year for several years thereafter.²⁸

As the boom years wore on, many miners tired of the deprivation and disappointments of mining and sought alternate economic pursuits. By 1850, agriculture had reappeared in many of the coastal valleys and in the delta region of the Sacramento and San Joaquin rivers. Areal expansion into the Central Valley and substantial production increases followed.²⁹ By 1853, California clearly dominated the supply trade to its own mining regions. A year later, the new state's governor could report to the legislature that "the products of the year 1854 are generally believed to be amply sufficient for the supply of the home market."³⁰ From that time onward, California has not only supplied itself, but also become the nation's largest agricultural exporter.

Conclusion

These two geographical patterns—the division of suppliers into primary and secondary rings, and the succession of prin-

cial suppliers—illustrate the uneven impact that the California gold rush exerted on the rest of the Euro-American frontier. Factors responsible for these patterns can be divided into two sets: (1) The relative proximity of each supply region to the California market, influenced by distance, mode of transport, and barriers, such as adverse ocean currents, mountains, deserts, or hostile Indians; and (2) the agricultural production and marketing ability of each region, influenced by type and amount of foods produced, amount of local demand for food products, and the scale of commercial marketing facilities available.

Distance, conceived as time necessary for a supply excursion, quickly reduced many areas to secondary roles in the supply trade. Trips from distant supply regions took twice as long or more, requiring these merchants to hire more cattle drovers or send more ships to compete with closer suppliers. This proved impossible as desertion from incoming ships and pack trains decimated the labor ranks.

Among the primary suppliers, initial lack of capacity to produce and transport foodstuff negated the proximity factor. With a firmly established commercial economy, relatively distant Hawaii assumed an early lead. However, once production and marketing recovered and expanded in Oregon and later in California, proximity led to the shift of trade primacy and the eventual ascendancy of California agriculture.

The gap between demand and supply was so vast in the early years of the rush that it encouraged hasty, speculative development wherever possible. Thus, Hawaii paid for its early lead with nearly a decade of economic depression. The slower development of Oregon and a more dispersed network of markets resulted in preservation of the territory's agricultural economy after the supply trade deserted to California.

Food supply is a fascinating subject, and never more so than when it results from a demand as enormous and sudden as that of gold-rush California. Production ability and distance were the major factors in generating the spatial patterns of this

trade. But many questions remain unanswered. What effect did various political powers have on the trade response from their colonies? What role did the ethnicity of the California mining population have in determining the products demanded?

And, ultimately, what role did the rush for California gold—the geographical event and its subsidiary influences—have in the long-term settlement and economic development of the Pacific Basin and western North America?

NOTES

1. Franklin Buck, *A Yankee Trader in the Gold Rush: The Letters of Franklin A. Buck*, compiled by Katherine A. White (Boston: Houghton Mifflin Co., 1930), pp. 46-47; *The Friend* (Honolulu), 6 (1848), p. 83; James R. Garniss, *The Early Days of San Francisco*, Ms. in Bancroft Library, University of California, Berkeley, nd.
2. *Transactions of the Royal Hawaiian Agricultural Society*, 1 (1851), p. 6.
3. "Boats Arriving in San Francisco Bay from March 26, 1849, to December 30, 1849," *Quarterly of the Society of California Pioneers*, 1 (1928), pp. 36-45.
4. Joan Margo, "The Food Supply of the California Gold Mines, 1848-1855" (unpublished Master's thesis, University of California, Berkeley, 1947), pp. 88-101.
5. Jay Monaghan, *Chile, Peru, and the California Gold Rush of 1849* (Berkeley: University of California Press, 1973), pp. 168-174.
6. J. H. Atkinson, "Cattle Drives from Arkansas to California Prior to the Civil War," *Arkansas Historical Quarterly*, 28 (1969), pp. 275-281; James G. Bell, "A Log of the Texas-California Cattle Trail, 1854," *Southwestern Historical Quarterly*, 36 (1932), pp. 47-66; Robert Cleland, *The Cattle on a Thousand Hills* (San Marino: The Huntington Library, 1941), p. 144.
7. Margo, op. cit., pp. 88-101.

8. Robert F. G. Spier, "Food Habits of Nineteenth-Century California Chinese," *California Historical Society Quarterly*, 37 (1958), No. 1, pp. 79-84; No. 2, pp. 129-136.
9. It appears that Mexico and Central America were never major suppliers, despite their relative proximity. There were several reasons for this. First, the areas of Mexico nearest to California were agriculturally unproductive. Tropical areas further south faced the adverse California current, and journeys to San Francisco from Mazatlan took four to six weeks ("Boats Arriving in San Francisco Bay," op. cit., pp. 36-45). Second, agricultural surpluses in Mexico and Central America were quite small, and much was consumed by the Argonauts crossing at Tehautepec or stopping along the coast on their way from Panama to California.
10. *Transactions of the Royal Hawaiian Agricultural Society*, 1 (1851), pp. 86-87; 2 (1852), p. 140.
11. Ibid.
12. Ibid., 1 (1851), p. 77.
13. Joseph T. Morgan, *Hawaii, A Century of Economic Change, 1778-1876* (Cambridge, Mass.: Harvard University Press, 1948), pp. 154-155.
14. *Transactions of the Royal Hawaiian Agricultural Society*, 1 (1851), p. 77.
15. Sylvester K. Stevens, *American Expansion in Hawaii, 1842-1898* (New York: Russell and Russell, 1945), pp. 31-35.
16. *Transactions of the Royal Hawaiian Agricultural Society*, 1 (1851), pp. 86-87.
17. Ibid., p. 90. Although total exports are listed in this table, the variance was provided by the California demand.
18. Ibid., 2 (1852), p. 140.
19. Ibid., 1 (1851), p. 9.
20. Morgan, op. cit., p. 154-155.
21. Leslie M. Scott, "The Pioneer Stimulus of Gold," *The*

- Quarterly of the Oregon Historical Society*, 18 (1917), p. 149.
22. Anna L. Guest, "The Historical Development of Southern Oregon, 1825-1852" (unpublished Master's thesis, University of California, Berkeley, 1929), pp. 61-68; Charles H. Carey, *A General History of Oregon Prior to 1861* (Portland, Oregon: Metropolitan Press, 1935), p. 479.
 23. Guest, op. cit., pp. 67-68; H. O. Lang, *History of the Willamette Valley* (Portland, Oregon: A. H. Himes, 1885), p. 330.
 24. Carey, op. cit., pp. 481-482.
 25. Guest, op. cit., pp. 61-71.
 26. Oscar O. Winther, "Pack Animals for Transportation in the Pacific Northwest," *The Pacific Northwest Quarterly*, 34 (1943), p. 131.
 27. Thomas O. Larkin, "Letter to James Buchanan, July 28, 1848," printed in *House Executive Document 1*, 30th Congress, Second Session, 1848-1849, pp. 53-56.
 28. Cleland, op. cit., pp. 144-146.
 29. For background on early California agriculture see: Jan O. M. Broek, *The Santa Clara Valley, California: A Study in Landscape Changes* (Ph.D. dissertation, University of Utrecht, 1932); Cleland, op. cit.; Margo, op. cit.; Effie Martin, "The Development of Wheat Culture in the San Joaquin, 1846-1900" (unpublished Master's thesis, University of California, Berkeley, 1924); Agnes O'Connell, "The Historical Development of the Sacramento Valley before 1848" (unpublished Master's thesis, University of California, Berkeley, 1930); Wallace Smith, "The Development of the San Joaquin Valley, 1772-1882" (unpublished Ph.D. dissertation, University of California, Berkeley, 1932).
 30. *Governor's Annual Message to the Legislature of the State of California, Assembled at Sacramento, January 1, 1855* (Sacramento: B. B. Redding, State Printer, 1855), p. 25.