

Acknowledgments ix

Introduction: California: The Quicksilver State 1

1. Imperialism and California's Quicksilver 21

2. Money and Power in the California
Mercury Landscape 57

3. A Geography of Mercury Mining in California 93

4. Race, Space, and Power at New Almaden 137

5. Race, Technology, and Work 193

6. Race, Family, and Camp Life 215

7. Conclusion: The Legacy of the Quicksilver
Landscapes of California 245

Bibliography 261

Index 277

California is the Golden State, and has been linked with gold ever since the rush started in 1848. Gold colors our understanding of California and its history; there are elaborate myths of the gold rush emphasizing rugged individualism, democracy, manifest destiny, and cycles of boom and bust. This is the history of the California Dream, a history that excels at stories of innovation, change, dynamism, and reinvention. As a metaphor for California, gold conveys the image of prosperity, youth, and vigor. Being golden also implies opportunity and success, and California has provided opportunity for millions, as well as exploitable resources for tremendous financial success for a few. Writer Carey McWilliams, in his 1949 classic *California: The Great Exception*, argues that the “magic equation” for understanding the exceptionalism of California’s development, in relation to the development of the rest of the United States, is “gold-equals-energy.” For McWilliams the gold rush and the energizing effect of gold as a catalyst and as an economic pump-primer for the state established the “chain-reaction, explosive, self-generating pattern of development” that has characterized California.¹ McWilliams’s insightful ideas guide our historical understandings of the state. However, although gold in many ways is an excellent metaphor for the state, in still other ways it obscures and misrepresents other histories in its blinding glare.

Not all of California history matches the mythical ideals of the gold rush. This book asks what we can learn of the history of California if we move our focus, our metaphor, for California from gold to quicksilver. What if, instead of the Golden State, California were the Quicksilver State? Before the discovery of gold, quicksilver was mined in California—the state was the largest producer of the element in the Western Hemisphere, and the single richest mine of any type in the state was a quicksilver mine. For California, the cultural associations of mercury can be just as fitting as those of gold. Although mercury is associated with abundance and commercial success, it is also associated with eloquence, ingenuity, and thievishness,

Introduction

California: The Quicksilver State

It was, of course, the discovery of gold that got California off to a flying start, and set in motion its chain-reaction, explosive, self-generating pattern of development.

—Carey McWilliams, *California: The Great Exception*, 25

qualities that are often applied to the accumulation of wealth. A mercurial nature implies that one is erratic, volatile, and unstable—all acknowledged characteristics of California's development. Following Carey McWilliams, if we were to invent an equation involving quicksilver for understanding the development of California, it would be *mercury>equals-power*. For although gold was the catalyst and economic pump-primer for California's explosive development, the control of the production, trade, and use of quicksilver was the tool that a handful of elites used to secure their wealth and position as heads of vertical monopolies and to shape a pattern of development serving a wealthy elite. If gold, at least the gold of the California Dream, represents the rugged individualist succeeding by his or her own energy and industry, then quicksilver represents the elite and the self-reproducing power of global capital and concentrated wealth.

Unlike gold, which was valuable because it was money, mercury was valuable for its ability to form an amalgam for gold and silver recovery; without mercury gold and silver were much more difficult to extract. This property made the control of the production, trade, and use of mercury a powerful tool for the British merchant capitalists, their partners, and their successors who established the mercury industry in California. Mercury mining in California predates the discovery of gold by a few years. The first mercury mine, and the first commercial mine of any sort in the state, New Almaden, was just south of San Jose and by 1851 accounted for half of annual global production, disrupting the Rothschild cartel's control of the world quicksilver markets. That California was producing, by 1851, half the world's supply of a commodity as valuable as mercury is evidence of the great power and wealth to be gained through its control. However, unlike the everyman's spectacle of the gold rush, mercury production and trade in early California were controlled by a few very rich and powerful figures who conducted their business of mercury production and trade largely behind the scenes.

The Forgotten History of Mercury Mining

The story of quicksilver mining in California is relatively unknown. Even the knowledge that quicksilver was a major industry in nineteenth-century California—let alone the number-two industry in the value of production through 1890 behind gold mining—escapes most historians, as do the facts that mercury mining was the first mining in California and that the New Almaden Mine was the richest single mine in the history of the state.² One of the greatest questions surrounding mercury mining is why the industry is largely forgotten.

Today, mercury is most often mentioned in relation to mercury pollution, a serious and important environmental issue. Few wax nostalgic over the good old days of

mercury mining, or celebrate the quicksilver rush of the 1870s. The mythology of the California gold rush, and the phenomenal series of gold and silver booms that followed, dominates the history of mining in California and the West. Although gold and silver are understandable and knowable, most people don't know where mercury comes from or how it is used. Mercury is mysterious and unknowable, and its value comes only from its use. One northern California resort, located in an old mercury mining district, proudly recalls in their promotional literature the "silver" mining that took place there, masking that it was really quicksilver mining that first led to the development of the area, and it was quicksilver mining that created the need for the Superfund site just down the road from the resort.

But despite the many reasons to want to forget quicksilver, not least among these the environmental legacy, there are many reasons to remember it, for it was important in shaping early California following statehood. Mercury was not only the first metal mined on an industrial scale in the West; it was crucial to the industrial-scale refining of the gold and silver mined in the West after the initial placer mining days. That both mercury and bullion were abundant in California is an accident of geology of enormous benefit to California and the American West. Alone, mercury would have been a valuable trade item and given those who controlled its supply some measure of power to control gold and silver supplies elsewhere in the world. In combination with the gold and silver mines of California and the West, the state's mercury was even more valuable and a tool to great power. However, without the presence of mercury, the story of the development of California and the West would have been quite different. If quicksilver had not been mined in California and instead only available from the European mines of Almadén and Idrija, the gold and silver mines of the American West would have been subject, to a significant degree, to the dominance of the European powers who controlled the global quicksilver market. Large quantities of mercury were, however, present in California. The story of mercury in the second half of the nineteenth century, therefore, is the story of prominent and powerful people in the West who fought over the control of mercury, and through it became significant players in gold and silver production, and the development of the West.

Despite being largely forgotten today, quicksilver was recognized as extremely important in gold rush California. The tremendous wealth of the New Almaden Mine was not lost on contemporaries. This 1848 map (Figure 0.1a and detail 0.1b), published in the year of the discovery of gold in California, gives significant weight to the presence of quicksilver in California, and by association marks the importance of one metal to the other. The hills for many miles around what became New Almaden, south of San Jose, are labeled "Quicksilver district," with the description reading "the



FIGURE 0.1a (facing page) Topographical Sketch of the Gold and Quicksilver District of California, July 25, 1848

This map of the gold and quicksilver district of California was printed in Philadelphia, and for the period viewer shouts of the riches of California. It is a finely etched map that on close reading points out where gold is to be found, mostly in the foothills of the Sierra Mountains. The bottom left corner of the map, below San Francisco Bay, shows the Quicksilver District. “Forbes Quicksilver Mine,” later called New Almaden, is labeled with another quicksilver prospect and a silver mine. (Courtesy of the Library of Congress, Ord, *Topographical Sketch of the Gold and Quicksilver District of California.*)

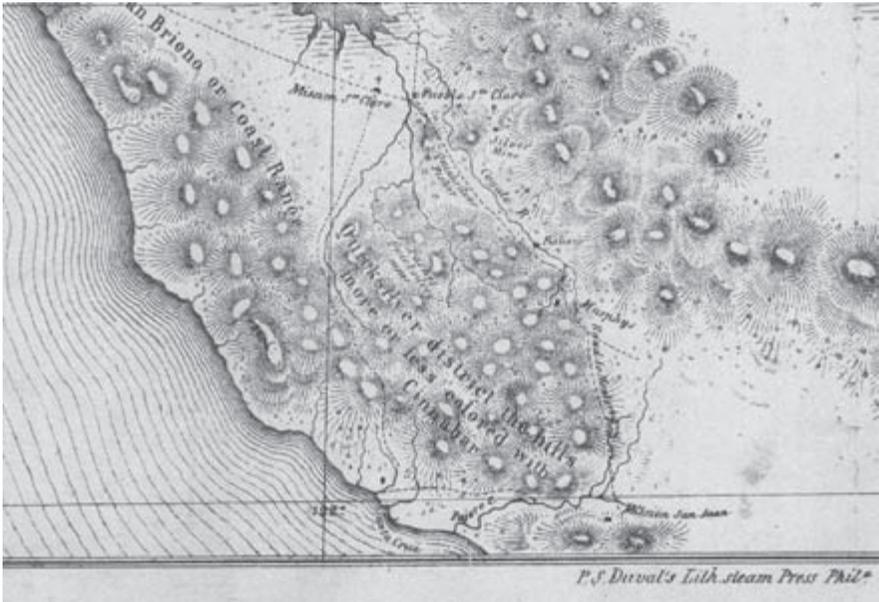


FIGURE 0.1b Topographical Sketch of the Gold and Quicksilver District of California, 1848 (Detail)

This detail shows the Quicksilver District of California centered on Forbes Quicksilver Mine, roughly twenty miles south of San Francisco Bay. The bay is visible at top, just left of center. The hills between Mission San Jose and Mission San Juan are labeled “the hills more or less colored with Cinnabar.” (Courtesy of the Library of Congress, Ord, *Topographical Sketch of the Gold and Quicksilver District of California.*)

hills more or less colored with Cinnabar.”³ For the California immigrants this map was meant to attract, a supply of quicksilver bode well for successful gold mining, and was an example of other riches to be had in California.

Mercury mining was an industry of greater importance in the history of California and the West than even its formidable production totals tell—28,000 flasks of about 50,000 flasks produced worldwide in 1851, the first year of reliable production statistics.⁴ For the next four decades the California mercury mines produced roughly half of the global supply. The mercury produced in California had a high trade value, and it was successfully sold throughout the Pacific Basin and the world. In fact, half of all California mercury produced in the nineteenth century was exported.⁵ But although the sale value of mercury could be lucrative, this value paled in comparison with the wealth and power to be had by controlling the mercury supply. This intimate connection of quicksilver and bullion ended, however, in about 1890, when mercury was supplanted by cyanide as the key to refining gold and silver. In a few short years the western bullion mining landscapes were transformed, as every refining mill was converted from a process of mercury amalgamation to a process of cyanidation.

Gold, silver, and mercury mining were contemporary industries. We know of the mother lode and the other great silver and gold mining districts, but few people know of New Almaden or the other great quicksilver mines of New Idria and Oat Hill, the major quicksilver mining districts throughout the Coast Ranges, or the quicksilver boom of the mid-1870s. The histories of gold, silver, and mercury are intimately tied together, but the ties are not told in the histories of gold and silver—mercury mining has fallen prey to selective memory. The story of quicksilver mining in California and the West has been lost in the all-encompassing fog of the western romance with gold and silver mining.

Gold Mining versus Quicksilver Mining

“The traveller in San Francisco, asking the question Englishmen invariably ask, What’s to be seen? would be thus answered. The Big Trees, Eusamity Valley, Napa, and the Quicksilver Mines.”

—Charles Dickens, *All the Year Round*, 424–28

In the late 1850s and 1860s the New Almaden Mine was one of the most popular excursions in California for people who could command letters of introduction to the mine. While the gold diggings in the foothills of the Sierra dominated images of mining in popular imagination, New Almaden was the mine people visited, being only a comparatively modest excursion from San Francisco. But more than its physical proximity to the city, the New Almaden Mine offered visitors the experience of the mine of ancient myth, popularly expounded upon by Victorian authors as a labyrinthine world of tunnels and shafts in an underground Hades, populated by mysterious and frightening troglodytes digging fabulously rich ore (Figure 0.2).

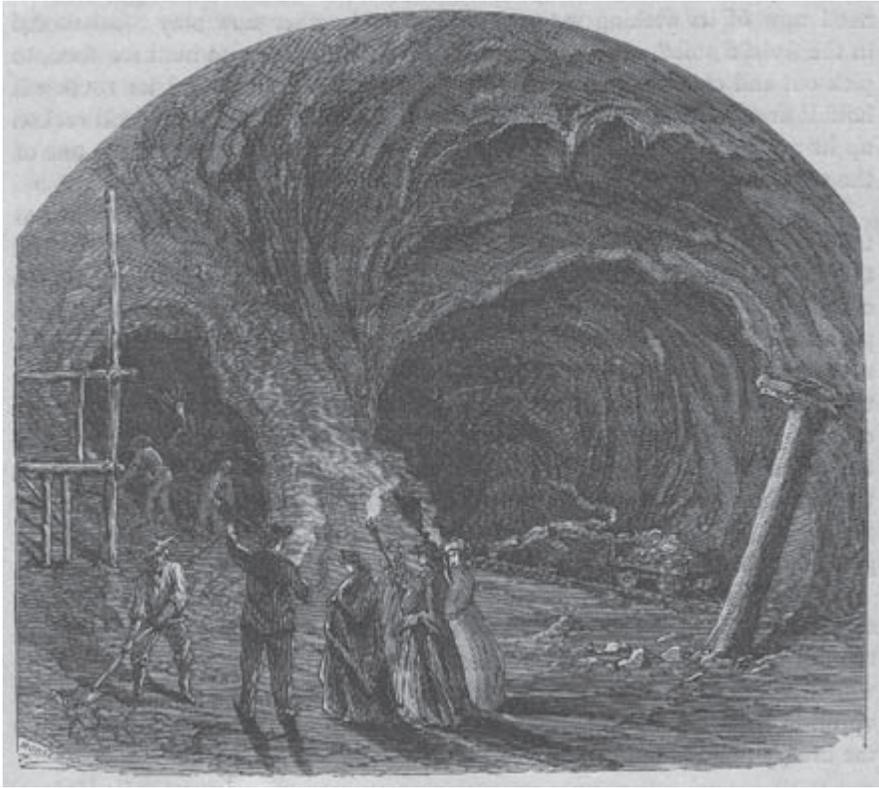


FIGURE 0.2 Visitors to the New Almaden Mine, early 1860s

This etching illustrates a story of mine engineer Sherman Day escorting young women (one being his daughter) and their teacher through the mine. Note the pillar of ore left as a support, a mining technique referred to as the “Mexican Method.” Note also the large volume of space, presumably the form left after removing the ore. These spaces were called *laborés* at New Almaden. (The etching is by Harry Fenn, a nineteenth-century landscape illustrator and watercolorist. Lucy St. John, “The Quicksilver Mine of New Almaden,” 590.)

Probably the most vivid of the traveler’s tales is also one of the earliest, that of Mrs. S. A. Downer in 1854. Mrs. Downer wrote in *The Pioneer; or, California Monthly Magazine*, of her trip to New Almaden and descent into the mine. Describing a group of workers she encountered as part of her journey underground, she wrote:

Another turn brings us upon some men at work. One stands upon a single plank placed high above us in an arch, and he is drilling into the rock above him for the purpose

of placing a charge of powder. It appears very dangerous, yet we are told that no lives have ever been lost, and no more serious accidents have occurred than the bruising of a hand or limb, from carelessness in blasting. How he can maintain his equilibrium is a mystery to us, while with every thrust of the drill his strong chest heaves, and he gives utterance to a sound, something between a grunt and a groan, which is supposed by them to facilitate their labor. Some six or eight men working in one spot, each keeping up this agonizing sound, awakens a keen sympathy. Were it only a cheerful sing-song, one could stand it; but in that dismal place, their wizard-like forms and appearance, relieved but by the light of a single tallow candle stuck in the side of the rock, just sufficing to make "darkness visible," is like opening to us the shades of Tartarus; and the throes elicited from over-wrought human bone and muscle, sound like the anguish wrung from infernal spirits, who hope for no escape.⁶

Mrs. Downer invoked for her educated readers the Greek myth of Tartarus, comparing the New Almaden Mine to the lowest regions of the world; in myth Tartarus is as far below Earth as Earth is below heaven. Tartarus is both a prison for defeated gods (the Titans were condemned here after their defeat by the Olympians) and a place of punishment for sinners. As the visitor perceiving the torment of the miners, Downer placed herself in the role of the hero Aeneas, who in visiting the underworld saw the torments inflicted on those imprisoned there.

As compared with Downer's experience of New Almaden, gold mining in the Sierras, with a preponderance of gravel washing and hydraulicking, offered little satisfaction in fulfilling this ancient myth of the mine and the underworld. The Forty-Niner of popular myth, at the time of the rush, was a white man with little or no training in mining, panning for gold by the side of a stream. The mercury miner, however, was a Mexican or Chilean skilled in the trade who labored hundreds of feet underground in a bewildering maze of tunnels. While the Forty-Niner planned to make a fortune in California and quickly go home, the mercury miner was destined for a short, hard life lived in the mines. The Forty-Niner had a life and a family elsewhere, whereas the Mexican and Chilean miners at New Almaden were part of a community of families who had mined for generations. For travelers of the 1850s and 1860s searching for the mine of myth, the trip to New Almaden often exceeded their expectations, fulfilling their desire to step, for a moment, into a thrilling world unlike their own. But, in addition to the myths writers such as Downer dramatized, the New Almaden visitor encountered physical truths, including the fact that New Almaden was the most developed mine in California, with the most extensive infrastructure and the largest workforce of any single mine in the state. By the early 1850s New Almaden was a fully developed industrial center of global importance, a British/Mexican-controlled corporate island in the midst of the California gold rush frontier.

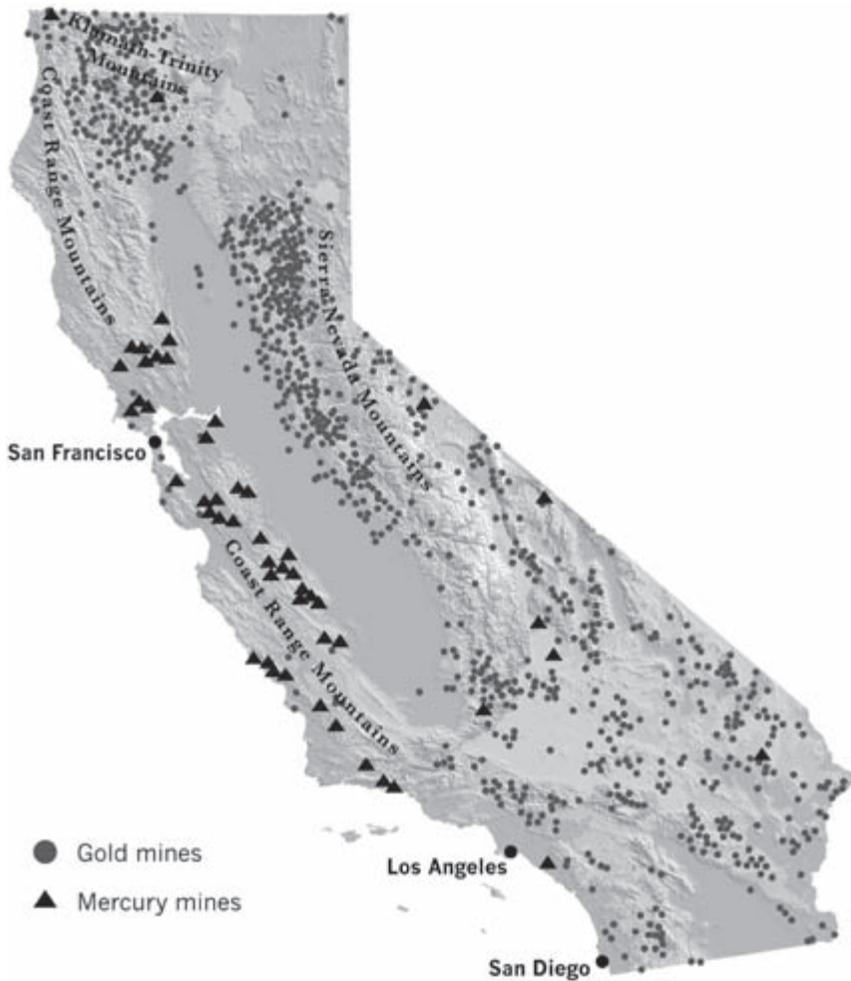


FIGURE 0.3 The Gold Mines and Mercury Mines of California

The gold mines of California were located primarily in the Sierra Nevada Mountains, with later gold mining in the Klamath-Trinity Mountains and throughout Southern California. The mercury mines of California were located in the Coast Ranges, from the Oregon border south to Santa Barbara. (United States Geological Survey; map drawn by Austin Porter.)

The contrast between California's mercury and gold mines, as evidenced by the travelers' tales of the mines, is based in geography and geology. Mercury mining was almost exclusively in the Coast Ranges, from Santa Barbara north to the Oregon

border (Figure 0.3). The two largest mercury mines, New Almaden and New Idria, were south of San Francisco Bay; the greatest concentration of mines was in Sonoma, Napa, and Lake Counties (Figure 0.4). Although New Almaden was the richest mercury mine and operated for decades, the second-most productive mercury mine—and the longest-operating mine in the history of the state—was New Idria, which opened in the mid-1850s and closed in 1971. In addition to these two major mines there were dozens of minor mines and 100 or more small mines and prospects that were discovered and developed.

In contrast, gold mining was in the mother lode, an area of 200 by 40 miles in the Sierra foothills and later in other regions such as the Klamath-Trinity Mountains. Gold was found in alluvial deposits in both active and former water channels throughout the whole area. Gold rush miners searched the 8,000 square miles of the mother lode and worked the sand and gravel deposits that looked promising. Alluvial deposits of gold originated in the erosion of gold-bearing quartz veins. Over long periods of time, water (and a variety of other geologic and environmental forces) released gold from these veins and in flowing downhill deposited and concentrated the gold in placer deposits of great richness along the entire length of the belt. Unlike gold, mercury is rarely found in economically viable quantities in its native form. Some panning for mercury is recorded in the Pine Flat Quicksilver District in Sonoma County, but nearly all of the world's mercury has been reduced from cinnabar (HgS), its primary ore. Cinnabar is deposited in veins in rock fissures by rising waters in volcanically active regions.

The primary difference between gold mining and mercury mining in their first decade was that gold mining was placer mining, whereas mercury mining was hardrock mining. In placer mining, alluvial deposits are mined for minerals, and while this form of mining can involve elaborate mining techniques, including tunneling and sophisticated control of water, for the most part placer mining involved the classic Forty-Niner locating a promising sandbank and panning for gold, or using a rocker box and a shovel to recover bits of pure metal. Hydraulic mining is a form of placer mining practiced in California from 1853 to 1884 that introduced new efficiencies into the industrial recovery of alluvial gold by blasting large areas with powerful streams of water, though at great environmental cost.⁷ Cinnabar mining, in contrast, is a form of hardrock mining in which hard minerals are removed from underground deposits.⁸ Hardrock mining involves elaborate underground infrastructure, including tunnels, shafts, lifting equipment, and skilled mining techniques such as blasting and supporting underground workings. As opposed to placer mining, which can be accomplished very cheaply in its basic form, the elaborate underground workings of hardrock mining demand significant capital outlay and a skilled, specialized workforce.



FIGURE 0.5 Quicksilver Machine, in Mormon Gulch

This machine used mercury, water, and a rocking motion to separate gold from other soil components. Miners added mercury to the machine, and due to its heaviness it sat between cleats along the bottom of the water path through the machine. Gold-bearing soil was then washed through the machine and agitated with a rocking motion. Being heavy, the gold particles sank to the bottom and there amalgamated with the mercury. The mercury and gold were then separated in a furnace. (William Wells, "How We Get Gold in California," 605.)

This difference between gold and mercury mining, of placer versus hardrock mining, was fundamental to the very different forms of the gold and mercury mining industries from the late 1840s to the late 1850s and the subsequent development of California. Whereas gold was a poor man's metal, in theory at least accessible to any able-bodied person, quicksilver was a rich man's metal, requiring large capital outlays for development and an industrial organization of labor.⁹ The placer deposits of alluvial gold meant that anyone with simple tools had a chance of finding gold and making money. And because the gold district was so large, there were plenty of places for the tens of thousands of gold seekers to try their luck. The only capital

required for placer gold mining was on the scale of the individual miner: transportation to the goldfields and money for tools and supplies. The individual miner was an economically viable unit of production. In fact, many miners joined together in small companies of men, but again the amount of capital required for these miners to be productive was quite small. It is notable that the skills required for placer gold mining were basic and could be learned quickly and practiced without much bodily risk (Figure 0.5).

While the individual miner and his small amount of capital, repeated tens of thousands of times, was the basic economic unit of the gold rush, one very powerful and well-capitalized British merchant house, Barron, Forbes & Co., dominated the mercury industry. Barron, Forbes & Co. first leased, then bought, the New Almaden Mine along with a few partners, including other merchant houses and well-placed powerful figures in early California.¹⁰ This group was called the New Almaden Company, with Barron, Forbes & Co. as the majority partner. The rich cinnabar deposits of New Almaden were concentrated on one hill just south of San Francisco Bay. Extracting the cinnabar required hardrock mining, and the New Almaden Company brought skilled miners from Mexico and Chile to work as wage labor (or perhaps in bondage or peonage) in the development of the mine. So, whereas gold mining in California began as a mad rush of tens of thousands of individuals, all working for themselves or in small groups and using simple hand tools, quicksilver mining in California was controlled for the first twenty years by a single major British trading house employing wage labor and using industrialized mining techniques, exploiting a fabulously rich mine with ore averaging over 30 percent mercury during the decade of the 1850s.¹¹

Quicksilver was harder to mine and process than was gold, which required no processing. Quicksilver required capital to construct a mine and a processing plant in order to produce a marketable product. Mining at New Almaden, however, was relatively easy at first, with rich ore near the surface. Furthermore, cinnabar was the easiest metal ore to process, requiring only heating and cooling to vaporize and then condense the mercury. New Almaden dominated the California mercury industry, and until the time of the American Civil War the industry in California was almost entirely synonymous with the largely non-American-owned New Almaden Company.

The different geology of gold and mercury led to each having different structures of the use and ownership of land. Placer mining claims were relatively simple: a claim was defined by a number of running feet—often along a stream or waterway—and once a claim was made, the claimant worked the soils within its boundaries to extract the gold. Tens of thousands of these small claims were made by miners in the goldfields.

The rule adopted in California's gold camps was "one miner, one claim," and rights to that land were not based on ownership, but on discovery and use. In fact, these small-time miners resisted attempts to convey ownership on mining claims. Beyond this basic right to claim mineral wealth on public lands in California, the miners in each mining district formed a miners' convention to establish localized rules for laying claim to a mine (where the claim had to be filed, size of claim, etc.) and for holding that claim. A set of basic miners' conventions came to be commonly accepted throughout the state.¹²

Quicksilver, however, was found in veins and ore bodies embedded in rock underground. Claims for this type of ore were much more complicated to define by boundaries, since U.S. mining law held that the original claimant of an ore outcropping could follow the vein wherever it led, a potential nightmare given the complicated geologic structure of cinnabar. Some quicksilver mining districts were organized as "claims" on a gold mining model, such as the Pine Flat District. These claims were made during the quicksilver rushes and few if any ever amounted to much. Most claims, however, were based on ownership, and in many cases this ownership was based on Mexican land grants made when California was part of Mexico. Reconciling these claims with American law was highly contentious. For example, in the late 1840s the New Almaden Company established itself as the only quicksilver power in the state, with a Mexican land grant encompassing a large tract around the mine. The people involved with the New Almaden Company successfully suppressed quicksilver prospecting in the state by buying other prospects. If a competitor did not sell out and actually produced marketable quicksilver, they may have had a difficult time selling it due to Barron, Forbes & Co.'s control of mercury markets. In this situation would-be mercury prospectors had almost no chance at success.

The great differences between gold mining and quicksilver mining extended, not surprisingly, to the people involved in the industries. Gold miners were largely adventurers from around the world learning the simplest of mining methods on the job and with no history of solidarity with other miners. They rushed to California to get rich and quickly returned home. In contrast, the workers at New Almaden—at first Mexicans and Chileans—were experienced miners from silver mines in Mexico and Chile, with developed mining skills and a long history as a mining class. Unlike gold mining, quicksilver mining in California had a labor force with a multigenerational history of mining under the Spanish Empire.

In 1850 the Foreign Miners' Tax, which charged "foreign" miners in California twenty dollars a month for the right to mine, made placer mining an increasingly difficult livelihood for Hispanics and nonwhites. Recommended by the California Senate Finance Committee, this tax was enforced largely along racial and ethnic

lines, with Chinese, Mexicans, and Central and South Americans bearing the brunt of the tax. This tax aided the New Almaden Company in keeping their Mexican and Chilean workforce. New Almaden became an island of acceptance for these men and their families in a state that was growing increasingly hostile to them. Unlike the single male gold seekers, the miners recruited to New Almaden came with their families with plans to make their lives there. Undoubtedly the New Almaden Company benefited from the increasing institutionalization of racism in the state, which provided them a stable and skilled workforce that had few options for improved conditions elsewhere in the state.

This stable workforce of the New Almaden Company lived and worked in the New Almaden hacienda, the Spanish Empire plantation-like system at the mine. The mine was developed on it, and it, in turn, organized the mine. This is in contrast to the gold rush settlements that ran the gamut from tent “cities” to speculative towns. Mining camps in the goldfields were as permanent or as temporary as the supply of ore. Most camps were composed of tents that people set up near their claims. Such camps lent themselves to the average gold rush miner’s state of “permanent impermanence.” Within the mother lode, there were also prospective towns laid out by optimistic speculators. People could buy lots in these towns and build on them as they saw fit. A handful of these towns flourished, with temporary structures giving way to more permanent structures as economics improved. Most of these towns, however, failed as miners moved on to the next gold strike.

In contrast, the quicksilver camps in early California were built as permanent or at least semipermanent planned communities on the hacienda model. At New Almaden from the earliest days there were two distinct settlements: a formal village built near the reduction works in a valley below the mine, and “Spanishtown,” the miners’ camp, built near the summit of Mine Hill near the main entrance to the mine. These settlements were both on company property, and wages from the mine supported the whole community. Spanishtown was mostly built by the miners in piecemeal fashion, and consisted of houses and a few stores, saloons, and other services organized by a wide street functioning as a plaza. The formal town, however, was a showpiece for the mine, featuring by the mid-1850s one of the largest manor houses in the state, the Casa Grande, and a picturesque row of managers’ cottages along a tree-lined street with a diverted stream running along it. At the end of this alley were company offices, a store, a hotel, and the reduction plant, which for most of the 1850s was the most advanced mineral-processing facility in the state. When miners in the goldfields were living in tents and speculative boomtowns, the miners at New Almaden were living in an expansive industrialized settlement that stood out in early California because of its size, permanence, and control by one company.

Quicksilver and California

This book explores how focusing on mercury changes our understanding of the development of California and the West by examining the mercury industry and its landscapes in detail. *Mercury and the Making of California* explores the mercury mining industry and its role in the development of the state. The thread of the mercury mining industry in the tapestry of California history provides us a theme for study, and a transect for research and understanding across five decades, from the 1840s to the 1890s. Mercury itself—and its production, trade, and use—comprises a “mercury system” with intermeshed physical and social components. By looking closely at the resource (mercury), we can see power relations and how they functioned.

The first part of the book—chapters 1, 2, and 3—focuses on the mercury industry in California, including its geography, how it was embedded in world systems, and its centrality to systems of power and wealth. These chapters explore the idea of transformation—how a Spanish and British imperial system of mercury production, trade, and use that supported state powers from the sixteenth to the nineteenth century was transformed in rapidly Americanizing California into a racialized, American capitalist system of the production, trade, and use of mercury, leading to great wealth and power for a few. The second part of the book—chapters 4, 5, and 6—looks at the changing landscapes of the mines and camps of the mercury industry, focusing on issues of work and family life, and the importance of race and racial hierarchy in the social and physical construction of these landscapes. Together, the six chapters tell a multidimensional story of California quicksilver.

The story of mercury mining in the American West begins with a story of British imperial expansion, in the guise of British merchant houses, expanding up the South American and Central American Pacific Coast into California. These merchant houses, building on growing global British economic dominance while feeding on the decaying remnants of the Spanish Empire, brought with them systems for extracting wealth from the production, trade, and use of California’s mercury, establishing the industry in California while it was still part of Mexico. Chapter 1 argues that mercury mining in California was a hybrid of Spanish and British colonial structures of mercury production, trade, and use on the California frontier. With the opening of the New Almaden Mine in the 1840s, California quicksilver became the latest chapter in a long, global drama of interrelations between mercury and humankind. California, however, was undergoing rapid transition, and the state’s burgeoning mercury industry—developed in the legacy of the Spanish and British Empires—met with the rapid Americanization of the state and underwent transformation. How the new Californians creating the mercury industry in the state combine the Spanish and British imperial legacy with the rapid Americanization of the state to

use mercury as a tool for acquiring phenomenal wealth is an important and untold story in the development of the American West, a very different story from the story of gold and silver mining.

During the American Civil War the ownership of the New Almaden Mine was wrested from the British merchant house by American interests, largely from the East Coast. Despite losing this fabulously rich mine, the business descendants of the merchant house—themselves now Californians—used their connections and knowledge of the industry to form a range of partnerships to control the production, trade, and use of California's mercury, and to become immensely rich in the process. Chapter 2 tells this story of the money and power in the industry, arguing that the mercury mining industry—begun as an industrial tool of empire—was transformed into a tool of state building by powerful Californians scheming for the control of mercury resources and the wealth possible through this control.

Although mercury was a powerful tool manipulated by elites to gain wealth and power, it also figured large in the lives of many others in the state, particularly those who worked in the industry, and their families. Understanding the impact of quicksilver in the development of California involves exploring the everyday world of the mines and camps of the mercury industry, for it was in these landscapes that struggles between groups of people took place. Interpreting the everyday landscapes of the industry involves looking in a combination of ways at both as mercury as a resource, and how groups of people struggled to exploit the resource.

As a valuable resource, quicksilver was fought over and contested by various groups of people for their own purposes. Capitalists of various guises; workers of various races and ethnicities; and traders, middlemen, and many others tied into the social webs of quicksilver production, trade, and use employed quicksilver to make the world to their liking. Change in the production, trade, and use of California quicksilver occurred as these groups were more or less successful in using quicksilver to achieve their goals. This book tells the story of these various groups, their interrelations and power struggles, and the meanings of these contests for the development of California.

To this end, chapter 3 presents an integrated geology and a geography of mercury mining in California. Different groups of people involved with the mercury industry—including capitalists and workers—understood that cinnabar could be used to create wealth and power, and each group struggled to secure a piece of the wealth. Mining was the means by which these groups exploited the cinnabar resource to create wealth, and thus the landscapes of the mines are central to this story. The various groups of people involved in the industry imagined the world differently from each other, and the mines—including the landscapes of work and the landscapes of everyday life—

were the physical places where these groups acted out their different worldviews and their struggles. Chapter 3 concludes by presenting a typology for understanding the spaces of the industry. These types are each a culturally negotiated tool for exploiting mercury. Interestingly, during the quicksilver boom of the 1870s, there were four distinct types, or models, for running a mercury mine successfully operating in the state. Each of these types had a powerful racial and ethnic component that in many ways dictated the physical form of the mines and camps, and the way that mining work was done at the mines. This racial component in the everyday landscapes of the mercury industry is essential to understanding quicksilver mining and how it differed from other mining industries in the state. Interestingly for the history of the development of the state, the structure of race in the mercury industry was most akin to structures of race in the state's agricultural and factory production that took form decades later.

As a linked set, the first three chapters of this book explore the industry as embedded in a world system and consider the creation of wealth and power in the state. This first section of the book also introduces the everyday landscapes of the mines and camps, exploring the day-to-day experiences of the thousands of people working in the industry. I argue that understanding questions of race and racial hierarchy are crucial to understanding the quicksilver mining industry and its role in the development of California. Within the industry, race influenced factors such as work and the application of technology in mining and reducing mercury. Moreover, race and ethnicity influenced family life and camp life at the mines. Geographically, across the sites of the California mercury industry, race and ethnicity influenced patterns of development.

Chapters 4, 5, and 6 explore in detail the landscapes of the mercury mines of California, how they were adapted and changed over time, and what the form of the mines and how they changed say about the development of California. These chapters are roughly chronological. Chapter 4 explores how both the underground and aboveground landscapes of work and the landscapes of camp life at New Almaden were shaped by the ethnic and racial hierarchies at the mine, focusing on the period of transition in the 1860s, when the mine was taken over by American owners. Chapters 5 and 6 are a detailed exploration of the mines and camps of the industry during the quicksilver boom of the early 1870s. As mentioned above, during the boom there were four coexisting types or models of mercury mines, and although each type was vastly different in the racial structure of the industry workers and in the physical form of the mines and camps, all four maintained the same racial and ethnic hierarchy prevalent throughout the state. Chapter 5 details how work and the application of technology were shaped by race and ethnicity, and chapter 6 considers the physical

landscapes of the company towns and camps and how they were shaped by race and ethnicity.

The conclusion of the book makes the case that California is the Quicksilver State. Within the particular history of mercury mining in the state are embedded truths about the development of the state that show us a very different California and tell a different story of the development of California than does gold or silver mining. The story of California quicksilver shows California to be not only a place with a wealth of natural resources for exploitation, but also an industrial place with ties to global finances and trade from pre-gold rush days. California quicksilver tells a story of European imperial expansion as well as American nation building, and together these ideas create a uniquely Californian experience. California is the Golden State, and always will be. However, California is also the Quicksilver State.

Notes

1. Carey McWilliams, *California: The Great Exception*, 25.
2. For quicksilver as the number-two industry in value of production, see Andrew Isenberg, *Mining California*, 165. For New Almaden as the richest mine, see Robin W. Winks, *Frederick Billings*, 99.
3. Cinnabar is the primary ore of mercury.
4. Flasks contain seventy-six pounds of mercury, a measure that comes to us from Roman times. For production totals see Walter W. Bradley, *Quicksilver Resources of California Bulletin No. 78*.
5. David J. St. Clair, "New Almaden and California Quicksilver in the Pacific Rim Economy," 278–95.
6. S. A. Downer, "On Her Trip into the New Almaden Mine," 222–23.
7. Hydraulic mining in the state was greatly curtailed by the *Woodruff v. North Bloomfield Gravel Mining Company* court ruling in 1884.
8. Later, following the placer period, gold was mined in various ways, including hardrock mining. Gold typically occurs in quartz veins, and the extraction of gold from its original veins is called quartz mining.
9. See McWilliams for a full discussion of gold as a poor man's metal. McWilliams, *California*, chap. 3.
10. John Mayo, *Commerce and Contraband on Mexico's West Coast in the Era of Barron, Forbes & Co., 1821–1859*, 390–94.
11. By comparison, the New Idria Mine was operated for much of the twentieth century with ore yielding less than 4 percent mercury.
12. Charles Howard Shinn, *Mining Camps*.