

ANOTHER ROUND OF GLOBALIZATION IN SAN FRANCISCO

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Abstract: San Francisco has a long experience with global markets, conquest, migration, and competition. Hurtled onto the world stage by the Gold Rush, the city rode high before being squeezed by the development of laggard regions around the Pacific Basin. The first opening produced San Francisco's leap forward and initial industrialization, but limits to imperial ambitions forced local capital to intensify the development of California. This turned out well, as the region built up a stronger base of production before being propelled again to the global forefront by wars in the Pacific. After another long ride on the roller coaster of globalization, the Bay Area finds itself facing new and severe challenges. This has led to a turning inward once more, but always with an eye on outside markets and investments and a hand out to welcome global labor, capital, and tourists to California.

The current obsession with globalization runs the risk of erasing geography, setting back the clock to the days of featureless plains in location theory. In seizing upon fashion, we ought not lose sight of the dialectics of the local and the global and of the importance of place. Local studies still have much to teach us.¹ Recognition of significant ways in which globalization has increased in the late 20th century does not leave us any nearer to an answer to the four great and enduring puzzles of the study of capitalism, development, and world systems. In the following tour of San Francisco's dealings with the world economy, we shall find some old conundrums reappearing in the guise of one city's historical geography.²

The first puzzle is historical comparison. On what basis do we say that recent years have been more global than the distant past? California has been part of the European world system since the 18th century, and at no time since has it been an entity unto itself. Swept up in the throes of Spanish colonialism, Yankee conquest, or war in the Pacific, it has undergone repeated transformations of its external relations and internal economy. No doubt the intensity of its global reach has deepened in significant ways, but it also has slackened at times and previously dominant activities have dropped away altogether, as with silver or the wheat trade. One cannot trace a simple rising line of globalization from regional to national to international economic integration. Thus, despite a century of debate over national integration, imperialism, and world systems, the way California (or any other place) fits into capitalism's global march remains an open question. Better to speak of "another round" of globalization.³

The second puzzle is how to disaggregate and differentiate the notion of global economy into its constituent parts. Here we can call on industrial and urban geographers' ideas of linkages, city systems, and networks. External trade is the barest measure, to which one must append financial flows, migration, and production linkages. To this should be added ties of ownership, corporate organization, coopera-

tive relations, and competition. Then, too, one must account for technological connections, as when California exported not only gold but mining engineers around the world.⁴ Today, San Francisco hangs suspended from a global web made up of European food and computer markets, British and Japanese investors, Asian and Latin immigrants, Arab and Venezuelan oil wells, and universalized technologies in nuclear power, microchips, and concrete dams. Teasing out the various strands of globalization is a daunting task, and this essay can only be suggestive of the complexities of the term “globalization.”

Puzzle number three is growth and dependency, or simply what makes it possible for a place to develop within a global economy. Does growth rest on agriculture or industry, export or the home market, local firms or branch plants? Is it necessary to innovate locally or to import technology, to attract foreign capital or mobilize local savings, to bring in skilled labor or learn by doing? The local economy may prosper from the opportunities created by global demand, foreign investors, or rapidly universalizing technologies or it may suffer from indebtedness, declining terms of trade, profit repatriation, and technical lag, among other things. California was a classic resource semi-periphery that turned gold and furs into capital, adventurers and plunderers into industrialists and laborers with a remarkable degree of creativity, and distance from the global centers of capitalism into room to maneuver. Behind this lies a big measure of freedom resulting from race, resources, and federalism—that is, a white settler region with access to abundant land and natural wealth, with an imperial and redistributive state at its back. California comes into modern history shining with promise and dripping with blood. Global opportunities and challenges are thus necessary but insufficient to explain growth and decline; internal social relations and production conditions are the crucibles of growth.⁵

The fourth and last puzzle is how localities swept up by capitalist expansion may alter the whole, rather than falling victim to global processes. The prevailing view in most theories of world systems, city systems, imperialism, and national integration is that expansion into new territory merely adds modal units to the larger geographic realm without shaking up the established hierarchy of places and powers, and usually without injecting anything particularly new into the system. Tokyo becomes a “global city” but this does not alter or destabilize the global market in any major way.⁶ Even geographers attuned to the geographic fabric of “nodes and networks” and the implantation of the global in places depict this process in terms of globalization taking root in the local rather than local seeds sending out shoots into the global economy, much less taking it over root and branch.⁷ The latter is, to borrow a phrase from Marx, the truly revolutionary path of global-local dialectics, which is illustrated several times over in the history of California, from quicksilver to micro-circuitry.⁸

THE GOLDEN GLOBE

Alta California entered the European world system as a far outpost of the Spanish empire. Spain moved its colonial apparatus northward in the late 18th century to secure its claims against the advancing fur traders of Russia and Britain—with whom it began trading. Trade quickened after the Mexican revolution of 1821, which transferred mission lands to a class of cattle ranchers selling hides and tallow. British, American, and other adventurers trickled in with the rivulets of commerce (often via

Latin America), marrying Mexicans, setting up trading posts, and shipping out beaver pelts.⁹ The Hudson's Bay Company set up office in San Francisco, and Boston merchants made it a regular port of call. Quicksilver was soon added to California's exports, after the discovery of the New Almaden mine near San Jose. "Sleepy" Alta California was awake long before the arrival of the 49ers.

California next became a prime target of U.S. expansion, as this upstart nation-state consolidated its grip on the North American continent. Mexico was invaded in 1846 and forced to cede one-third of its territory. Sabre-rattling President Polk started the war in order to annex Texas, gain access to Pacific ports at San Francisco and San Diego, and seize the mineral riches of California (Barrera, 1979). NAFTA has a long pedigree.

With the Gold Rush of 1848-1855, California leapt into the global spotlight, exciting economic activity and personal ambition from Europe to Asia. Miners poured in from all corners of the world—including Chinese, Chileans, and Mexicans, as well as Europeans, Yankees, and Southerners—and San Francisco joined the ranks of the top ten cities in the United States. Men rubbed shoulders in a rough kind of equality in the streambeds of the Mother Lode or at the gambling tables of San Francisco. California was, in a sense, the only successful revolution of 1848, a moment of liberation that freed tens of thousands of young men to pursue their fortune (Lotchin, 1974; Barth, 1975).

The Gold Rush was equally a moment of European conquest. White miners and militias killed off the remaining 50,000 indigenous Californians, while expropriating the property of the Mexican bourgeoisie (Pitt, 1966; Forbes, 1982).¹⁰ The Mexicans, Chileans, and Chinese who taught the Anglos how to placer mine were driven out of the goldfields by violence and a Foreign Miners' Tax (Camarillo, 1984). The centuries-old Anglo-Irish war was transplanted to San Francisco, where the first freely elected Irish government was overthrown by Anglo-Yankee merchants, making the word "vigilante" notorious round the world (Senkawicz, 1985).

Gold flowed in quantities not seen since the Spanish pillage of Mexico and the Andes—\$128 million in the first 5 years, \$1 billion in the first 20.¹¹ The U.S. economy, suffering from lack of specie for currency and bank reserves (coins of all nationalities were freely circulating before 1850), suddenly found the liquidity it had lacked (Studenski and Krooss, 1963, p. 124).¹² Exported to grease the wheels of U.S. trade, California gold lubricated the wheels of Victorian world commerce for the rest of the century. Later, Nevada silver flooded the world, and especially was sought after in China and Japan (Willis, 1937). Quicksilver was California's leading export after gold through the 1850s, and had a dramatic effect on the world market for mercury and global production of precious metals through the end of the century. Exported in quantity to Mexico, Peru, and China, California quicksilver comprised well over half the world's production from 1850 to 1880 and broke the Rothschild cartel (based on the two great mines of the previous 300 years, Almaden and Idria) (Goldwater, 1972; St. Clair, 1994/1995).¹³ The New Almaden mine was developed by a Mexican, owned by an Anglo-Mexican company from 1850-1864, and then taken over by Boston capitalists.

As riverine gold ran out, mining went deep, requiring huge capital investments. This and the discovery of the Comstock Silver Lode in Nevada in 1859 changed the character of San Francisco dramatically, from a libertarian field of dreams to a

gaming house for big capital (Decker, 1978). Giant fortunes consolidated in the hands of the Silver Kings (who, ironically, were Irish), followed by the Central Pacific Railroad's Big Four and the Wheat Barons of the interior (Shinn, 1901; Lewis, 1947, 1951; Peterson, 1991). San Francisco became a new pole of accumulation, its coffers filling rapidly with gold and silver (Hittell, 1878; Cross, 1927).¹⁴ The Bank of California under Billy Ralston, the Bank of Nevada begun by the Silver Kings, and Wells Fargo Bank under Lloyd Tevis (partner of George Hearst) all were based on Comstock silver, whereas the fourth big bank was begun by Charles Crocker of the Big Four. In commercial banking, San Francisco and the West would remain the most independent region of the country into the next century (Willis, 1937, p. 18). San Francisco's mint turned out the West's hard money supply up to 1933.¹⁵

The San Francisco Mining Exchange (originally the Stock and Exchange Board) was the second stock exchange in the United States (1862) and briefly surpassed New York's exchange in the 1870s as the largest stock market in the world (King, 1910; Carlson, 1942).¹⁶ Orders came from around the U.S. and Europe. Like Chicago, San Francisco was able to outflank New York (although eastern exchanges soon followed suit) (cf. Cronon, 1991). Ironically, the wide-open gambling houses closed by the vigilantes resurfaced as the "Change," and San Francisco maintained its reputation as the biggest gambling center on the continent before the Comstock Lode petered out in the 1880s (Findlay, 1986). Despite outside investment, most of the fortunes were won and lost in San Francisco itself (Hittell, 1878; Carlson, 1942).¹⁷

San Francisco became a regional center in the 19th-century global financial network centered in London (Reed, 1981).¹⁸ Although American banks were minor players in world commerce at this time, almost all foreign trade on the Pacific Coast was financed through San Francisco merchants and banks, which had correspondent relations in London, Paris, Berlin, Tokyo, and Hong Kong. Only one local bank, Wells Fargo, had a foreign branch (in London), but several foreign banks from London, Paris, Montreal, Bombay, and Vancouver established branches in the 1860s. The Rothschilds were represented by B. Davidson and Co. (from 1849), and were allied with Anglo-California Bank. Chinese and Japanese banks, including Sumitomo and Bank of Canton (still major California players) entered at the turn of the century. San Francisco had an independent currency market (in sterling, yen, Hong Kong dollars, rupees, etc.) of limited scope for foreign transactions (Willis, 1937; Doti and Schweikart, 1991).

Throughout the century, English and Scottish capital flowed into the United States, and was prominent in the development of California and the American West (Hobson, 1914; Jenks, 1938; Jackson, 1968). They established agencies, such as Balfour, Guthrie and Co. (branch of Balfour, Williamson of London), and invested in every type of enterprise: mining, forestry, oranges, drainage, railroads, and mortgages. Bursts of speculative interest hit in the 1850s, 1870s, and 1890s; almost one-half of the mining shares sold in London in the frenzy of 1870-1873, for example, were for companies in the American West, the majority in California and Nevada. While some of the best mines were British-owned, like Sierra Buttes for gold and Iron Mountain for copper, millions of pounds were lost in speculative ventures (Jackson, 1968).¹⁹

QUEEN CITY OF THE WEST

In the late 19th century, San Francisco's gaggle of *nouveaux riches* were kings of all they surveyed, reigning over an extractive empire stretching to Alaska, Mexico, and Hawaii. With 150,000 people by 1870 and 350,000 by the end of the century, the city held about one-fifth of the populace of the entire West Coast and climbed to seventh largest city in the country (including Oakland). San Francisco used its mercantile network, transportation system, and financial clout to bring the western U.S. under its hegemony (Pomeroy, 1965; Issel and Cherny, 1986) and Nevada was reduced to peonage (Ostrander, 1966). Prospectors fanned out across the west and north to Alaska, followed by big investors such as George Hearst, who used his Comstock fortune to buy into Dakota gold, Mexican silver, and Montana copper. Merchants sent agents and established branches from Seattle to Phoenix, while San Francisco became the financial hub of the West, with an overwhelming concentration of depository and correspondence banks, insurance and underwriting companies, stock exchanges, and brokerage houses (Willis, 1937, p. 51; Issel and Cherny, 1986). The Central (Southern) Pacific "Octopus" spread its tentacles throughout California and the Southwest. The city's rapacious Alaska Commercial Company and Alaska Packing Association cleansed the eastern Pacific of whales, fur seals, otters, and salmon. Meanwhile, forests up and down California were stripped for mines and saw timber.²⁰

Hawaii was the linchpin of San Francisco's empire in the Pacific, and its conversion to sugar plantations coincided with the rise of California. The sugar kings of San Francisco, led by Claus Spreckels, Castle and Cooke, and California and Hawaiian, held the islands under their thrall by the 1880s (Adler, 1966). Hawaiian sugar sweetened the taste for power, as well as preserved canned fruit. Great steamship companies grew up to ply the route between the Islands and the Coast—Dollar, Oceanic (Spreckels) and Matson (a Spreckels spinoff); they joined Pacific Mail (Southern Pacific), Occidental and Oriental, and Pacific Coast Steamship in controlling the northern Pacific. The U.S. dominated trade with Japan and northern China, and even coal was imported to California from China before 1900.

As California pushed the mining frontier outward across the American West, the state's own mining fortunes declined; the last great Western gold and silver strikes were in southern Nevada at the turn of the century.²¹ But how does one measure the impact of technology and expertise? California mining technology fanned out across the globe (Vance, 1964). Mining equipment built by Risdon, Aetna, and Union Iron Works and other machine shops was shipped around the world. Explosives fabricated by Cal Cap, Giant, Nitro, and Hercules Powder works in the East Bay were used at mines from Alaska to Spain. The Washoe mercury process was the main gold and silver extraction method from the 1860s to the 1890s. Mining engineers such as John Hammond and Herbert Hoover became major international consultants (Hammond, 1935). After a brief period advising British investors in the Western United States, Hoover became the key mining engineer in the West Australian fields in the 1890s, worked in China, founded the (Rio Tinto) Zinc Corporation, and went on to be the most prominent technical advisor and investor in London mining circles in the decade before World War I, when London was the global hub of mining capital (Nash,

1983).²² Hoover, who took many Stanford friends with him around the world, claimed that California engineers dominated the mining world (*Ibid*, p. 486).²³

As mining declined in the 1880s, the leading edge of the California economy became an immense agroindustrial complex. It took root in the 1860s when San Francisco merchants captured a share of the British wheat trade (Paul, 1973). Wheat was grown in the warm interior valleys, which had been bought up by the city's capitalists in ten-league chunks, creating the greatest bonanza farms of the era.²⁴ Because the wheat was particularly hard and dry, it kept well through the long voyage around the Horn by clipper ship (and kept alive New England shipbuilding long after steam). Wheat and flour made up about two-thirds of non-metallic exports during the 1870s and 1880s (Willis, 1937, p. 226). Wheat also supported a vigorous farm machinery sector of considerable ingenuity, e.g., the Mitchell Straw-Burning Thresher (1885), Victor Mowing Machine (1882), or Climax Side Hill Plow (ca. 1875) (Hinkel and McCann, 1939).

Another pioneer agribusiness operation was the team of Henry Miller and Charles Lux, who built a million-acre cattle operation to serve the San Francisco market (Iglesias, 1996). Spreckels built the first sugar refinery in San Francisco in 1863, and Castle and Cooke, C&H, and Alameda Sugar soon followed suit. Fruits and vegetables came on the scene later, after 1870, but passed up wheat as the state's leading cash crops by 1890. Canneries and packing houses sprang up all around the Bay Area and Central Valley, and Oakland's J. Lusk and Co. purportedly was the world's largest cannery in the 1890s. Such preparation made California produce saleable at long distance, making the Santa Clara Valley world famous for its prunes long before its silicon chips. The North Bay became America's premier wine region, financed by San Franciscans and settled by Italians (Hutchinson, 1984). Merchants such as Gundlach & Co. shipped to Britain, and the California Wine Association (created by San Francisco merchants after 1906) ran the biggest winery in the world until Prohibition shut it down. Leslie Salt Works supplied all the table salt throughout the Western U.S. from bay drying beds. In 1900 food processing was the city's largest employer (Issel and Cherny, 1986, p. 55).

California's economy rapidly diversified from the Civil War onward in both industry and agriculture.²⁵ Because San Francisco's dominant role was mercantile and financial, a mistaken view arose that it was not an industrial city²⁶; yet by 1880, San Francisco manufacturing occupied a third of the work force and produced more than all other Western cities combined (Issel and Cherny, 1986, p. 25). Similarly, because regional growth was grounded in natural resources, California industry was long dismissed merely as "extractive" (e.g., Parsons, 1949); yet agro-processing was the leading sector in the United States, so why should California be different? (cf. Page and Walker, 1981). Because California was relatively isolated, the chief explanation for industrialization has been the local market (e.g., Issel and Cherny, 1986, p. 24); yet San Francisco was the nation's fourth largest entrepot for foreign trade by 1890 (*Ibid*).²⁷ Without question, San Francisco industry was force-fed by locally accumulated capital (Trusk, 1960), but the key factor, almost never mentioned in local histories, was skilled labor and innovation. The occupational structure was more skewed toward professions and craft skills than in any other U.S. city (Issel and Cherny, 1986, p. 54). California's open possibilities and influx of human talent meant

that the same process of technical change set loose in mining infected almost every other enterprise—and does so to this day.

San Francisco and the Bay Area boasted an array of vigorous industries in the last quarter of the century. Local machine shops turned out tools and equipment for sawmills, sugar mills, printers, and factories of every kind—and not only for the California market. Union Iron Works became a major shipbuilder, and many lumber schooners, ferries, and fishing boats were built at the bay's edge. Ships and merchants were supplied with barrels, boxes, cordage, and sails. Carriages, buckboards, and cablecars were assembled in San Francisco by Pioneer Carriage Works and many small workshops. The biggest oil exploration and refining company of the time, Pacific Coast Oil, built the state's largest refinery in the East Bay (Taylor and Welty, 1950); from there they exported kerosene and lubricants to China, Hawaii, and Mexico.²⁸ Rolling mills were built by Pacific, Judson, and other steel companies and foundries were commonplace around the Bay.

Construction materials were supplied by local lumber yards, turning and planing mills, and paint companies, and cement plants followed later. Household goods such as furniture, pots and pans, and cleansers and soaps were made locally, as well. Pioneer Woolen mills in San Francisco wove miners' blankets, California Cotton Mill in Oakland turned out cloth, Levi Strauss dominated the Western market for men's work clothes, and Kraker and Israel did the same for women's and children's clothes. Several tanneries fed leather to the makers of shoes, harnesses, drive belts, etc. The rich had jewelers and silver platers, and men their cigar makers. Businesses and wealthy families bought Hermann Safes and Schlage Locks. The most visible industry was perhaps printing and publishing, led by the mighty daily newspapers such as the *Chronicle*, *Examiner*, *Call*, and *Bulletin* (Bruce, 1948). Blake, Moffitt and Towne, Crown Willamette, and Zellerbach dominated the West Coast's production and marketing of paper.

Agriculture and the railroads boosted the supply of cheap labor—scarce among whites—by importing thousands of workers from China, Japan, Korea, India, the Philippines, and Mexico (Daniels, 1982). No sooner had white miners brought 50,000 “Chinamen” to heel in the 1850s than the Central Pacific recruited 10,000 more to build the transcontinental railroad. The concentration of wealth and capital after the Civil War, followed by the Depression of 1875–1878, again struck fear into white workers about the depredations of “coolie” labor; not surprisingly this was led by the Irish, the nearest substitutes at the bottom of the labor market,²⁹ and a frenzy of anti-Chinese racism led to the Chinese Exclusion Act of 1882. Despite this, Asians could not be kept out. Hawaii became a stepping stone for Asian migration to California, as the sugar barons recruited thousands of Japanese, Chinese, Korean, and Filipino “contract” workers (Chan, 1991). And between the peaks of Asian immigration in the 1860s and 1900s, Europeans poured into San Francisco to partake of its high wages and burgeoning labor demand: Germans, Irish, and Italians predominated, joining the English, Scots, and Chinese. The city reached extraordinary proportions of foreign-born in the 1870s and 1880s, at times exceeding 70%—the highest percentage in the United States (Wollenberg, 1985; Issel and Cherny, 1986, p. 55).

IMPERIAL AMBITIONS AND DOMESTIC RIVALS

As the U.S. rose to a position of global power at the turn of the century, San Franciscans swaggered along with Teddy Roosevelt and his manly burghers of the East Coast; they saw the city as the Gateway to the Pacific and the unlimited frontiers of East Asia (Kahn, 1979; Brechin, 1990). Yet those imperial ambitions soon were checked by global rivals and upheavals, and both California and the United States turned inward to concentrate on their own deepening powers of production and consumption. By the end of two ruinous World Wars, the U.S. would emerge astride the globe, thanks to its unchallenged economic strength; the irony is that the march to global hegemony took such a nationalist route—much more so than Britain in the 19th century (Ingham, 1994).

So successful was enterprise on Hawaii (annexed in 1899), Spreckels and fellow planters coveted the Philippines, ripe fruit among the dead branches of Spanish colonialism (Pratt, 1936). William Randolph Hearst—who turned his father's fortune into a newspaper empire beginning with the *Examiner*—helped trump up a “splendid little war” with Spain in 1898. Several warships that turned Manila to flame were built by Union Iron Works (Brechin, 1997). Californians' intimate history of genocide against their own indigenous peoples no doubt came in handy in the scorched-earth warfare against the Philippine rebels, under Oakland's General Arthur MacArthur (Douglas's father) (Agoncillo, 1969). The bloodletting took the gloss off the imperial adventure, however; Americans, then as now, have little stomach for prolonged fighting.

When Commodore Perry sailed back to San Francisco in 1853 from opening Japan to American influence, much was made of the Japanese connection to California. But as Japan appeared increasingly as a competitor and military threat, California's ardor turned to antipathy. Japan's victory over Russia in 1905 triggered a hysterical reaction from De Young's *Chronicle* and Hearst's *Examiner*, spawning a fearsome Anglo attack on the “yellow peril” (Becker, 1991). Japanese immigration and success in truck farming led whites to try to outlaw immigration, integrated schooling, and “foreign” land ownership, sparking an international furor that Roosevelt had to scramble to contain with the “Gentlemen's Agreement” of 1907 (Daniels, 1977; Brechin, 1997). California again was in the vanguard of anti-immigration forces in the United States (Chan, 1991). It didn't help: Japanese farmers transferred ownership to their children and Japan was running a trade surplus with the Western states by the late 1920s (Willis, 1937, p. 233). Rivalry with Japan is another unresolved element of U.S. economic history.

San Francisco's burghers also cast covetous eyes on Mexico, as they had a half century earlier. The Hearsts, the Chandlers of Los Angeles, and other California capitalists were major investors during the *Porfiriato* of the late 19th and early 20th centuries, and billions flowed into railroads, ranches, and mines. This led to mass displacements of peasants and a sharp sense of *reconquista* in Mexico that helped trigger the Revolution of 1910. Hearst once more turned up the volume on his media empire in a vain effort to have the United States take control of Mexico, and General Pershing was sent in to punish Pancho Villa in 1917; but full-scale war and conquest was not on the national agenda, momentarily absorbed by the European conflagra-

tion. Another imperial avenue was blocked, and many investments abandoned or nationalized before the Revolution ran its course (Acuña, 1988; Brechin, 1997).

In fact, San Francisco's reach was exceeding its grasp. To make matters worse, it was destroyed by the earthquake and fire of 1906. The City rebuilt furiously in hopes of recovering lost business and a tarnished image, but was bound to suffer in any case from the "inconstant geography of capitalism," in which no place in the urban hierarchy is ever secure (Storper and Walker, 1989). The greatest threat to San Francisco's hegemony lay nearest to its doorstep. By 1900 San Francisco faced increasingly sharp competition from upstart cities such as Seattle, Denver, and Portland, promoted by their own burghers and boosters and aided by outside investors, such as James Hill's Northern Pacific, Frederick Weyerhaeuser's lumber empire, and the Big Four meat packers of Chicago. Foreign trade from the northwest ports (serving the Midwest) rivaled that from San Francisco by 1920. Locally, the city was fast losing industry and residents to Oakland and the East Bay, the new "edge city" and bitter rival.³⁰

Los Angeles, leading city of the Mexican era, was awakening from its long sleep. The arrival of the Santa Fe railroad from Chicago triggered the land rush of the 1880s—while the Bay Area waited another 20 years for a second rail link. Southern California growers (backed by the Los Angeles business elite) took the lead in intensive agriculture with its well-orchestrated citrus exports. The main springboard to the ascendance of Los Angeles was its "black gold rush," based on oil, discovered near downtown in 1892. Over the first 30 years of the 20th century, California became the leading oil-producing state in the U.S.³¹ Unfortunately for San Francisco, the major fields were all in Southern California (despite early drilling efforts in Humboldt and Santa Cruz counties). Movies, garments, vehicles, machining, food processing, aircraft, and construction all grew rapidly in the southland (Fogelson, 1967). Los Angeles leapfrogged over the Bay Area to become the largest metropolis in the West by 1910.

The most potent symbol of the desire for global reach was the Panama Canal, begun at the turn of the century and celebrated with the Panama-Pacific Exhibition of 1915. Twin world's fairs in San Francisco and San Diego were linked up by the longest highway project of the day, El Camino Real, running the length of California. Panama's narrows had first come under San Francisco's suzerainty with the mass crossings of the Gold Rush (Pacific Mail won the franchise from the U.S. and built a railroad across the isthmus in 1855). Dollar Steamship lines used the Canal to go global, and enthusiasms were high for the city's ability to gain additional traffic for its port, long supreme on the coast. Yet Los Angeles benefited more from the Canal than did San Francisco, its newly completed port being a day's voyage closer. San Diego, meanwhile, ran a well-orchestrated campaign to gain the upper hand in military largess, becoming the home port for the Navy's new Pacific Fleet in 1918 (Lotchin, 1992). San Francisco's primacy in shipping and naval installations was blindsided by its coastal rivals.

Ironically, San Francisco capitalists were busily investing in rival places as a capital surplus built up in northern California (cf. Harvey, 1985). In the process, they made money and helped develop the Pacific Coast, but undermined the supremacy of San Francisco. Lending around the West by the city's banks grew tenfold from the end of the depression of the 1890s to the First World War, and was the most regionally

focused of all the major U.S. banking centers—of which it was fifth largest in 1914 (Willis, 1937, pp. 22, 57).³² Offspring of robber barons found their own golden acres to plow: Henry Huntington built the Pacific Electric system that integrated sprawling Los Angeles; John Spreckels revived a moribund San Diego; Hearst added the Los Angeles *Examiner* to his media empire along with a movie studio (Issel and Cherny, 1986). In the 1910s, fast-rising Bank of Italy began to open branches in Los Angeles; by the 1920s, the financial giant of the West was a major player there, helping the movie and garment industries expand (Nash, 1992).³³ Nonetheless, San Francisco capitalists were unable to secure a dominant place in oil, aircraft, or films—the pillars of Southern California's economy (Perlo, 1957, p. 231).

San Francisco's relation to New York has similarly been one of intense ambivalence, pulled between autonomous accumulation and subservience to the nation's economic capital. Many Gold Rush merchants such as Levi Strauss came with money and connections made in New York (Senkewicz, 1985). Wells Fargo started in 1852 as a spinoff of American Express, keeping close relations to the end of the century (Doti and Schweikart, 1991). Later, many successful San Francisco capitalists of the Gilded Age, such as Darius Mills, Collis Huntington, and Horace Carpenter, took their loot and moved to Fifth Avenue, investing fortunes back East. Huntington built the shipworks at Newport News. Francis Newlands, son-in-law of Sharon, built Chevy Chase outside Washington, D.C. Young Hearst took the greatest fortune of the age and plunged it into New York publishing (Swanberg, 1961; Brechin, 1997).³⁴

America's rise to global economic primacy meant national subordination to New York and decoupling from London (Reed, 1981). New York was exporting capital nationally and globally, as San Francisco was doing regionally, and Wall Street was buying up everything in sight. The great investment banks, led by J.P. Morgan, were rearranging the business landscape by engineering the consolidation of the Trusts and serving as midwives for the new breed of corporations created by Rockefeller, Sloan, and Dupont (Chernow, 1990). At the same time, Carnegie, Taylor, and Ford in the East and Midwest were introducing revolutionary new ways of making steel, cars, and other heavy goods. California soon felt the heat of these production changes, and San Francisco had its pretensions further nipped; but it never suffered eclipse in the fashion of other regional centers such as Baltimore and Buffalo (e.g., Perry, 1985).³⁵

The Southern Pacific was, symbolically, the most shocking loss, passing to control of New York financier Edward Harriman in 1901 at Huntington's death. Rockefeller's Standard Oil bought up Pacific Coast Oil in 1900. AT&T bought Home Telephone, Pacific Telephone, and Western Electric. Pacific Gas & Electric became almost wholly owned by Eastern financiers (Perlo, 1957). Pacific Coast Steamship was sold to the East Coast Villard syndicate. In the 1910s and 1920s, Ford and General Motors quickly moved West, building assembly plants or buying up rivals. Later, Bethlehem bought Union Iron Works, U.S. Steel grabbed Columbia Steel, Dupont bought California Powder, and American Smelting and Refining (Guggenheim) bought up Selby Lead. Swift & Co. moved into South San Francisco, pushing aside local butchers.

Nonetheless, external ownership was never more than perhaps one-quarter of industrial holdings in California, and branch plants were not the basis of California's manufacturing growth (Trice, 1955). Many companies nominally controlled from the East, such as Southern Pacific, Pacific Bell, and PG&E, kept their headquarters,

purchasing, and decision-making in San Francisco. So simple ownership says little about the fate of the region without a detailed knowledge of business organization, investment patterns, employment, markets, and innovation.³⁶ The argument can just as well be made that outside capital was buying into California's strengths. Outside acquisition and financial control was a rolling process from 1900 to the 1930s that must be measured against the upwelling of industry during this epoch. Agricultural processing, petroleum, electricity, telephonics, and motor vehicles were industries just hitting stride, and electronics was entirely new.³⁷

The water resources of the Sierra Nevada and Northern California, harnessed by the modern turbine (based on Pelton's water wheel, invented for mining in California), allowed the rapid development of hydroelectricity around the turn of the last century. San Francisco capitalists organized power and lighting companies throughout the region (Issel and Cherny, 1986, p. 47). The greatest hydraulic system on earth was in place by 1920, producing abundant electricity for the region as well as irrigating millions of acres for agriculture (Pisani, 1984). The consolidation of several electric companies under the head of Pacific Gas and Electric made it the largest public utility in the United States (which it remains today). The need for big capital brought it under the financial suzerainty of New York in the 1920s, but PG&E remained quite independent.³⁸

By the turn of the century, California led the world in agricultural processing, organization, and marketing. Its canners introduced the first name-brand foods (Del Monte was registered in Britain in 1896) and mass advertising, including the first industrial film in 1917. They moved from there to setting up the world's most advanced system of contracting, both backward to the farm and forward to the new supermarket chains (A&P, Safeway, etc.) (Braznell, 1982; Cardellino, 1984). As a result, the local canning industry won out over rivals in the Midwest for both national and international markets. Two waves of merger (1899 and 1916) culminated in San Francisco-based California Packing Corporation (CalPak, later Del Monte), controlling 50% of the state's canneries—with the financial backing of Bank of California and Salomon Bros of New York (and Balfour, Guthrie were there as major owners of Alaska Packers). Chicago's Libby, McNeil, and Libby shifted West in 1909 to join in the action, as did Pittsburgh-based Heinz, while CalPak invaded their territory and went abroad to Hawaii and the Philippines. Hunt Brothers (1896) remained independent until bought much later by Los Angeles's Norton Simon. Food processing was the Bay Area's largest employer as late as 1940 (Calkins and Hoadley, 1941).

California agribusiness continued its conquest of national fresh fruit and vegetable markets (and grabbed cotton from the South in the 1920s and 1930s) (Liebman, 1983). When the Armenians fled Turkey for Fresno, California became the Western Hemisphere's supplier of raisins. DiGiorgio Fruit was formed into one of the world's largest producers and marketers of fresh fruit in 1920 (from Joseph DiGiorgio's forty-some companies), with holdings all over the West as well as control over the Baltimore and New York fruit exchanges (Issel and Cherny, 1986, p. 45). There were supplier spinoffs as well. The caterpillar tractor was invented in 1904 by Stockton's Benjamin Holt, an agricultural equipment maker, who later moved the Caterpillar headquarters there. After being dependent on New England machinery companies in the 19th century, California canners came to rely on a stream of innovative pitters, peelers,

steamers and the like from local firms such as Anderson-Barngrover and Food Machinery Corporation of San Jose (Cardellino, 1982).³⁹

California's oil industry was essentially a local enterprise during its heyday, and did not become fully integrated into national markets (let alone global ones) until the 1960s (Andreano, 1970; Johnson, 1970). Little California oil made it out of state, but it did go by pipeline, ship, and tank car to the Bay Area, which became one of the half-dozen major refining centers in the country (SoCal, Union, Associated-Tidewater, Shell, Exxon, etc.). California industry and transport companies quickly learned to use fuel oil instead of scarce coal, setting an example for the world.⁴⁰ California also put its asphaltic crude to good use paving the largest highway system in the world and its natural gas for heating the cities.

California petroleum was very widely owned in this period. Pacific Coast Oil missed the boat,⁴¹ but Standard Oil never controlled the action as it had in the East, and after its breakup in 1911, SoCal (now Chevron) was headquartered in San Francisco (and local management was delighted with the autonomy) (White, 1962).⁴² Associated Oil was formed by dozens of Kern River investors in 1901 to market their product, and the Independent Oil Producers Agency followed the example in 1904. Associated came under stock control of Southern Pacific in 1910 to feed its voracious appetite for fuel oil. That year, San Francisco capitalists John Barneson and Joseph Grant created General Petroleum and the Crocker's started Universal Oil Company, the next biggest players in the state.⁴³ Anglo-Dutch Shell entered the regional market by buying a major California oil field in 1913 from the Scots at Balfour, Guthrie and put its divisional headquarters in San Francisco (White, 1962, p. 224). Union Oil, a Southern California company, remained independent, despite efforts by the British to obtain it.⁴⁴ True, San Francisco's role diminished as larger oil fields were discovered and more refineries built in the Los Angeles basin, and California's oil industry fell to the majors in the late 1920s and 1930s, as Mobil and Exxon bought out General and Universal Petroleum and Associated merged with Tidewater; but external control came late in the day and did not adversely affect the regional oil boom.

Here again, technology rather than commodity flows was the state's main contribution to global industrialization. While California's oil fields were originally developed by the oilmen of Pennsylvania (which played a seedbed role comparable to California in mining), the state eventually created its own pool of expertise through practical encounters with complex geology, university training (at Berkeley and Stanford), and investment in research (Union Oil, SP); this it exported. Several oilfield production techniques such as core sampling, deep drilling, cement-casing, offshore drilling, and secondary recovery through injection were developed here; Eric Starke's kerosene cleansing method of 1896 lit the lamps of China; pipeline systems were improved; California led the way in high-octane gasoline; and Jesse and C.P. Dubbs's Universal Oil Products Company (backed by SoCal and Shell) was a major contributor to the development of continuous flow refining and catalytic cracking in the 1920s and 1940s (Taylor and Welty, 1950; Enos, 1962; White, 1962, 1970).

The conventional history of Silicon Valley usually begins with Shockley and the transistor in the 1950s, but a substantial electronics industry already had set up shop in the Bay Area in the early 1900s (Sturgeon, 1992). It was here that Lee DeForest invented the vacuum tube, the key to electronic devices before solid state; where the first ship-to-shore radio transmission took place and where the first radio station was

established; where the loudspeaker and the television were invented; and where tubes were first mass-produced. World War I Navy contracts gave the locals a boost, but they were still far behind the behemoths of the East Coast in output of standard devices like radios and turbines in these years. On a related front, Merchant Calculating Co. produced a high-quality adding machine in Emeryville and sold it overseas by 1920.

While never out of the financial shadow of New York, San Francisco held onto its position as an independent pole of accumulation that Wall Street could never bring to heel. Indeed, San Francisco and New York financiers were able to work hand-in-hand in most cases, more so than the conflictive relations of competing Eastern financial centers (Perlo, 1957). Although San Francisco was poorly endowed with investment banks, it could produce Charles Blythe, whose Blythe and Company, acquired by First National City Bank, went on to underwrite twice as many securities for the Pacific states as all other Far West houses combined (Perlo, 1957, p. 229).⁴⁵ New York bankers led the drive for the Federal Reserve System in 1908, but it only confirmed San Francisco's financial hegemony over the West by the selection of the City as the Federal Reserve district headquarters and clearinghouse (Willis, 1937).⁴⁶

The rise of A.P. Giannini and his Bank of Italy is the clearest example of New York's inability to control all upwellings of capital in the highly regionalized U.S. economy and banking system. Bank of America grew along with the region, gathering in the savings of the state of California and lending them out to businesses and consumers to grease the wheels of development (Nash, 1992). Giannini's empire rested on aggressive use of branch banking (long held suspect in U.S. politics); willingness to risk lending to small borrowers (for small business, farms, and homes) and large companies with big ideas (Walt Disney, Henry Kaiser); and the luck of being in California. Bank of America's run to the top and San Francisco's leap to second banking city in the United States by mid-century is comparable to the way so many obscure banks of Japan now rank among the world's largest: they all rose with the growth of the underlying economy (cf. Reed, 1981, p. 57).⁴⁷

Thus, while San Francisco's pretensions to imperial power were curbed by national and international rivals, it found new sources of strength in the regional economy that would ultimately catapult it to new global importance. In this it was aided by natural wealth, in-migration, skilled labor, and deep pools of capital, as well as by a still formidable position in a Western region that was growing faster than ever.⁴⁸ Thus, San Francisco remained more dominatrix than love-slave to the whipsawing of competitive fortune and the inconstant affection of capital for places.

REGIONAL POWERHOUSE IN AN AGE OF WAR

The global calamity of the Second World War pushed California once again to the front of the world's stage (Nash, 1985). The crucial geographic fact was the global shift marked by war in the Pacific. The expansion of Japan brought imperial rivals into murderous conflict. The West Coast was the staging area for the Pacific Theater, with the Bay Area as its pivot. Like another gold rush, the war brought 10% of Federal wartime expenditure to the state, including an amazing 38.5% of all continental U.S. military construction at over 100 military installations (Brubaker, 1955), and channeled millions of people into California bases, embarkation points, and war industries, many of whom came back to stay (Johnson, 1993).⁴⁹ Conversely, it led to the dispersal

of Japanese-Americans, who were ignominiously shunted into concentration camps across the western U.S. (Daniels, 1977).

California was ready to seize the new opportunities of wartime. Federal spending did not flow to open hands and an empty land, making an economic desert bloom. California had reached a high level of industrialization, and its leading sectors would have attracted millions in Army and Navy contracts regardless of the transects of global warfare and Federal spending (Scott, 1994). Moreover, California capitalists and politicians had learned very well the art of milking the Feds for government aid and contracts (e.g., the port of Los Angeles and the Naval base in San Diego) (Lotchin, 1992).⁵⁰ The key beneficiaries were aircraft and movies in the southland and electronics and construction in the north, but oil companies, garment makers, agribusiness, steel mills, vehicle assemblers, and machine shops up and down the state did well off the war, too. Banks were put on a sound footing after a decade of depression.

Construction probably is the least appreciated of industries, yet its works are with us everywhere. California companies pioneered in large-scale construction, from pipelines and bridges to highways and housing tracts, in the period between the two World Wars. No doubt the ferocious rate of development in areas such as oil, water resources, and suburbanization had much to do with the innovative stance of local firms, but so did a tradition of engineering achievement and a certain bravado that made doing the impossible an accepted challenge. And it stimulated various supply industries, such as structural steel, asphalt, cement, lumber, and plumbing fixtures. California nurtured several brilliant firms in civil engineering, industrial engineering and housing construction, but the Bay Area's Henry Kaiser and Stephen Bechtel stand out.⁵¹ They began by laying railroad tracks, but soon moved into road building, a California growth sector after the first state gas tax in 1917. Kaiser was the first to get rid of horses and mules in favor of earth-moving machinery on roads and dams in the 1920s, absorbing a heavy-equipment manufacturer to meet his own specs; he also introduced diesel engines into all construction equipment (Kaiser, 1968). Kaiser's first really big project, however, was international—200 miles of highway in Cuba, completed in 1930.

Waterworks had been a California specialty from the time of the hydraulic miners, and engineers such as von Schussler and Mulholland had built dams, canals, and aqueducts far larger than anything since the Romans (Brechtin, 1997). So it is not surprising that Kaiser, Bechtel, and a consortium of eight firms⁵² built the world's first high-arch concrete dam (an exceptional technology at the time) at Boulder Canyon on the Colorado River, and the global age of high dams was born (Foster, 1989; Hundley, 1992). Various of the Six Companies went on to build Bonneville and Grand Coulee on the Columbia, and Kaiser and Bechtel built the Golden Gate and Bay bridges. They tackled everything from tunnels to drydocks in those years, and grabbed contracts from New York to Panama to Hawaii (Kaiser, 1968).

During the war, the builders turned their attention to merchant ships, converting the San Francisco Bay into the biggest shipyard the world has ever seen (some 200,000 workers in the Bay Area alone, plus another 150,000 under their dominion at yards in Los Angeles and Portland). Knowing little of the arts of the industry before starting, they put into effect revolutionary mass-production systems of the Fordist type so as to be able to produce ships in record time (Wollenberg, 1990). During the War, Kaiser

became one of the largest industrial employers anywhere. Along with his shipyards and dams, Henry took the opportunity presented by government investment in steel and aluminum plants on the West Coast, federal animosity to the monopoly position of Alcoa and U.S. Steel, and good connections to the Democratic administration to buy the Fontana Steel Works east of Los Angeles and aluminum plants in Washington (powered by cheap electricity from the new dams). He added cement, gypsum, and chemicals to feed his construction works, and built housing tracts as he had built the company town of Boulder City.

World War II brought a new generation of West Coast whiz kids into the limelight of electronics; Hewlett-Packard and Varian became major players overnight, thanks to their advanced technology in tubes for radar and sonar. Eitel-McCulloch prospered, as well. By the Korean war, Lockheed (which had started in the Bay Area before jumping to Los Angeles) moved its enormous aircraft and missile electronics operations back to the South Bay. Philco(-Ford) moved nearby and NASA put its missile tracking station at Moffitt Field, while Ampex used German tape recording technology to good effect in becoming the leading producer of tape recorders in their early years. Long before silicon chips, the Bay Area was a leading region for innovative electronics, as well as a partner in crime with Southern California in the creation of the military-industrial complex that ruled the Cold War globe.

California's oil industry continued to have a global impact, in new ways. First, Californians invented and promoted unified operation of oilfields, and the U.S. adopted pro-rationing after a long campaign in the 1920s led by the American Petroleum Institute, which was dominated by Californians such as Mark Requa.⁵³ Production and import controls supported U.S. and global oil prices for decades. Second, Californians developed oilfields around the world. Petroleum engineer Ralph Arnold became a prominent international consultant, for example. By the end of World War I, almost all the American oil companies were looking abroad, and in 1920 California Senator James Phelan tried to establish a U.S. government corporation for overseas exploration. Most significantly, Standard of California opened up the Bahrain and Arabian oil reservoirs in the 1930s, revolutionizing the geography of global oil and politics for the rest of the century (Blair, 1976, pp. 35-37). Lacking distributors in the Eastern Hemisphere, SoCal joined with Texas Oil (Texaco) to form Cal-Tex and then Aramco to exploit the enormous Saudi fields. During the Second World War, SoCal and Texaco cut Jersey Standard (Exxon) and Socony (Mobil) into the Aramco deal, keeping world production and prices under control but losing the opportunity to vault over their rivals into first place among the "Seven Sisters."⁵⁴

Bank of America grew along with the industrialists and agriculturalists of the region, and the Second World War gave it the final lift to the pinnacle of the banking world. Giannini lent to Kaiser and the big builders, the burgeoning homebuilding industry, Goldwyn and movie moguls, and agribusiness right through the Depression—often when no other lenders could be found, as for the Golden Gate and Bay Bridge bonds (James and James, 1954, pp. 399-411). Only oil was too wild for A.P.'s enthusiasms. He also had national and global ambitions. He started branch systems in other Western states and bought a bank in New York and one in Italy in the 1920s. U.S. banking laws, backed by Wall Street as well as small banks of the farm states, held at bay his efforts to create the first interstate banking chain, Western Bankcorporation. Giannini fought tooth and nail with the New York bankers, particularly the House of

Morgan, as his bank grew large enough to challenge for national supremacy and a piece of the international action. Morgan's men actually seized Giannini's holding company in the mid-1930s, forcing him off the board of directors; but Giannini undertook a whistlestop tour of California to woo his many small stockholders, winning back control a year later. Giannini also quarreled endlessly with the Federal Reserve and bank regulators in Washington; this ultimately resulted in the antitrust action that split Bank of America from Transamerica (and Western Bankcorp) in the 1950s (Nash, 1992).⁵⁵

POSTWAR GLOBALISM

As the U.S. took charge of the world capitalist system in the second half of the 20th century, San Francisco was well positioned to reassert itself in the global economy. The United Nations Charter was signed here—although the dream of keeping the headquarters of the UN in the city was squelched by the Atlantic Alliance. Nevertheless, the postwar era was a time of great prosperity for the Bay Area. Incomes rose to the top of all major metropolitan areas in the country, except Washington, D.C. The regional economy grew rapidly, powered above all by the electronics industry, and would rank around 15th in national output if this were a country. Population ballooned to six million by the mid-1980s, pushing past Philadelphia and Detroit to fourth place among U.S. cities.

California agribusiness began a new wave of globalization after the war. Del Monte was the world's largest agro-processing firm and Safeway (of Oakland) the world's fastest-growing supermarket chain, and the largest during the 1970s and 1980s.⁵⁶ Del Monte set up its first canneries outside the Pacific Basin in the 1950s, in South Africa and Italy, expanding into Britain, Kenya, Venezuela, and Mexico in the next decade (Burbach and Flynn, 1980, pp. 164–219; Braznell, 1982). Safeway went to Europe and Latin America, while J.G. Boswell was growing cotton in Australia (Liebman, 1983). California growers pushed further into Mexico (Lizárraga, 1993). More generally, the California agro-production system set the pattern for industrialized agriculture around the world (outside of grains) (Perelman, 1977). California growers demanded an exceptional level of industrial inputs and infrastructure. Irrigation was doubled and redoubled by the Colorado River and Central Valley projects built in the 1930s and 1940s (Worster, 1985; Hundley, 1992). California growers drove the most advanced machinery over the world's largest farms, and had some of the most advanced plant-breeding laboratories at their service, thanks to the University of California. The modern feedlot system for fattening cattle was begun in the state (Page, 1993).

By the end of the war, Bank of America was moving aggressively into Asia and Europe, becoming the first international bank outside of New York. San Francisco joined the second tier of global financial centers by the 1950s (on a par with Osaka, Hong Kong, Bombay, or Amsterdam), even though its other big banks—Wells Fargo and Crocker-Anglo—had almost no overseas presence (Reed, 1981). Business at home was booming, after all, with four California banks reaching the top dozen in the country.⁵⁷ Bank of America introduced the first universal credit card in 1959, and it soon swept the nation as the Visa system. Another group of California banks, led by Wells and Crocker, followed with the Master Charge (Mastercard), which became the second standard in consumer credit (Doti and Schweikart, 1991, p. 196).⁵⁸ Bank of

America's overall business abroad remained modest until the 1970s, when it joined in the general global euphoria, setting up overseas offices, buying foreign banks, and joining the Eurodollar market in London—quadrupling in size and garnering 40% of its profits abroad. Bank of America syndicated loans from Brazil to Indonesia, laying the foundation for the debt debacle of the 1980s. CEO Tom Clausen—a dry Midwesterner—was rewarded with the presidency of the World Bank in 1981 (Hector, 1988; Johnston, 1990).

In the 1950s and 1960s, Kaiser and Bechtel led the rebirth of an international construction industry, building dams, refineries, pipelines, and other infrastructure along lines laid down in California. Kaiser Engineers built a dam in Australia in 1954, then a steel mill in India, and was in dozens of countries by the 1960s. Kaiser made the mistake, however, of subordinating construction to his ambition to become the Henry Ford of the West; he took an ill-fated turn to steel, cars, and household appliances in the late 1940s, and lost his shirt (Foster, 1989; Davis, 1990). Defeated by the Big Three car makers in the United States, Kaiser put the first auto plants in Brazil and Argentina in the mid-1950s (Kaiser, 1968). Still ranked 25th in the Fortune 500 in 1967, the Kaiser empire unwound gradually after Henry died that year, and fell apart completely in the 1980s. Bechtel stuck with construction, becoming the world's largest such firm in the 1970s (Strassman and Wells, 1988). Bechtel rode the wave of petrodollars that turned the Middle East into the world's hottest construction zone, and became one of a handful of truly global engineering and building contractors. San Francisco's Guy Atkinson, builder of Venezuela's Guri Dam, and Los Angeles's Parsons and Fluor also were among this elite. Bechtel was the only construction company to have its own research department working on advanced design for factories, fiber optics, and the like. It sent two of its directors, George Schultz and Caspar Weinberger, to the most powerful positions in the Reagan cabinet, better to oversee the global dominions of the American empire. But Bechtel also stumbled over the oil bust of 1979–1982.

The role of microelectronics in the recent growth of the Bay Area and California is by now well known (Saxenian, 1983, 1994). Silicon Valley seized hold of global leadership in the technology of microcircuitry on a chip in the 1950s and 1960s, becoming one of the world's premier industrial districts in the process (Ernst, 1983). Semiconductor firms begat new semiconductor firms in a seemingly endless round of spinoffs during the 1960s and 1970s. Mainframe and mid-sized computers and their parts became the specialties of the Valley, along with medical and scientific instruments and aerospace guidance systems. The leading companies of the Valley—such as Fairchild, Intel, National, Amdahl, and Hewlett-Packard—clambered into the Fortune top 100. These, in turn, set up global operations, from assembly houses in Southeast Asia to computer and components plants in Silicon Glen, Scotland, pioneering the new global division of labor in the process (Flamm, 1986). Established giants, particularly Lockheed and IBM, ran gigantic components factories here. Jobs were plentiful, both for high-level engineers and low-level assemblers. Globalization is wonderful when you make what everyone else wants.

Federal expenditures in the Cold War era were beneficial to the Bay Area, even though it did not wax as fat as Southern California did on defense contracts. The Federal deficit in California ballooned from \$225 million in 1952 to \$2.5 billion in 1960; notably, as much was paid out in wages to federal employees and transfer

payments as was spent on military contracts (Minsky, 1965, p. 117). The Bay Area also was pivotal in the Faustian pact with atomic energy, and E.O. Lawrence was the uncrowned emperor of Big Physics, leveraging millions of dollars out of local capitalists, the state of California, and the U.S. government to build his cyclotrons, and the driving force behind the Manhattan Project (Heilbron and Seidel, 1989). After his death, the Lawrence labs continued to force-feed the engines of darkness, including neutron bombs and Star Wars. University of California scientists and Pacific Gas and Electric Company also pioneered the so-called "peaceful atom" campaign. But nuclear technology, while changing the world, did not benefit the region's economy in the same way as electronics—the labs and Star Wars and aerospace electronics paid off, but the peaceful atom was a bust and only three nuclear power plants were ever built in California.

GLOBAL OPPORTUNITIES, GLOBAL HAZARDS

By the 1970s, the United States was opening up to global trade, inward investment, and international migration to an unprecedented degree, with California leading the country in all regards (Ettlinger, 1991; Erickson and Hayward, 1991). California was home to over half the \$70 billion in foreign-owned assets in the U.S. by 1989. Yet global competition and long-wave doldrums hit the Bay Area as they did the rest of the country. And while the region showed resiliency in the face of economic change, it took several body blows and suffered the same depressing characteristics of human sacrifice under neoliberalism as the rest of the world (Walker, 1995). Silicon Valley passed up San Francisco and the East Bay as an employment center in the 1970s. The reality of this shift was brought home starkly by the 1982–1983 recession, which clobbered heavy industry in the East Bay—a microcosm of the industrial-spatial revolution hitting the U.S. (Shapira, 1984; Storper and Walker, 1989). At the same time, the new edge city of the outer East Bay added 20 million square feet of office space during the 1980s; many San Francisco companies have relocated major operations there, including divisional headquarters and high-level functions (not just back-office clerical work, as was the case earlier in the process of decentralization). All this undermined San Francisco's long claim to hegemony in the region (Walker et al., 1990). Yet a continuing investment boom—particularly in commercial development—carried the regional economy through the early 1980s with less pain than expected before the crunch finally came in both finance and electronics. Overheated speculation left a rash of bankruptcies, bad loans, and unleased buildings. Silicon Valley and San Francisco recovered in the late 1980s, but not without shedding tens of thousands of jobs.

By the late 1970s, international competition in microelectronics had stiffened and Silicon Valley no longer could claim the quasi-monopoly it once had enjoyed. Asians and Europeans were catching up with U.S. leadership, while Boston's Route 128 was booming from its dominance in mid-sized computers. Japanese electronics companies, in particular, possessed a mastery of mass production that had swept aside American producers of consumer electronic goods like televisions, and seemed poised to do the same in standardized semiconductors. Suddenly, Japanese firms were crowding formerly unassailable U.S. firms from the top ten semiconductor firms in sales and profits. Doomsayers predicted the end of Silicon Valley, and seemed to be

vindicated as the rampant investment bubble of the late 1970s and early 1980s turned to ashes in 1984–1986, leaving a residue of unfilled, speculatively built industrial space covered with “For Lease” signs (Kroll and Kimball, 1986).

But the Valley was retrenching, as standardized semiconductors were shed as unprofitable and replaced by personal computers and specialty chips for such pre-programmed duty as running automobile ignition systems. New generations of small computers soon followed hard on one another, putting Apple’s Macintosh and Sun workstations at the top of the charts by the end of the 1980s. Intel kept ahead of the baying pack by putting more and more circuitry on its central processing chips. Smaller and more powerful disk drives and other peripherals were another strength. Silicon Valley ended up back on top of the global heap (Saxenian, 1994). A new recession in the early 1990s cost many more people their jobs, but the Valley successfully reconstructed itself again. Now RISC chips are driving computers, PCs and workstations are converging, and software is the employment growth leader in the industry. Artificial intelligence, special effects, virtual reality, and other fantastic concoctions of the new machinery and software all are arenas in which Silicon Valley still leads the competitive race (Skinner, 1993; Egan, 1996). Unable to maintain the same pace of innovation, the Boston electronics complex shrank (Saxenian, 1994), while companies from all around the world (including Japan) have branches in the Valley in order to keep abreast of new technology. Silicon Valley remains the engine of growth for the Bay Area, with the highest concentration of manufacturing of any locale in the United States. The Valley has surpassed San Francisco and Oakland in the number of Fortune 500 companies, and Intel and Hewlett-Packard now exceed Bank of America and Chevron in market value, after the recent run-up in high-tech stocks.

In San Francisco, the story turns on Bank of America, which nearly collapsed in 1985–1986. When the crunch finally came, the bank was badly overcommitted in oil, agriculture, and real estate in the United States and the Third World. It began furiously shedding pieces of the empire, writing off bad loans and searching for “white knight” investors (Johnston, 1990). Japanese investors’ willingness to buy the Bank’s downtown office building in Los Angeles and to inject \$700 million in capital helped save the day—a graphic illustration of how the flood of Japanese money into the U.S. during the 1980s helped preserve the American economy and global stability (quite the opposite of Davis’s [1990] implication that Japanese buyouts are a loss to California’s independence). Bank of America was not alone, of course, as Crocker Bank failed because of real estate speculation in the 1970s and many Northern California S&Ls were among the worst offenders in the debacle of the 1980s (Pizzo et al., 1989). Charles Knapp’s Financial Corporation of America (out of Los Angeles) used Northern California’s American Savings and Loan to become the biggest S&L for a time before flaming out, while Larry Hagedorn took San Francisco’s First Nationwide Financial Corp. to the second spot among S&Ls before selling out to Ford Motors (Robinson, 1990).⁵⁹

The recession of the mid-1980s in the Bay Area made San Francisco’s economic fortunes look like dying embers compared to the raging fires of Los Angeles during the Reagan years. But the latter was based on militarism, money, and Mexicans, i.e., a debt-financed weapons build-up rapidly exhausting the national treasury, cheap money generated by junk bonds and bilious savings and loans, and cheap labor

flooding across the border (Walker, 1995). Los Angeles may be the “capital of the 20th century,” but it was also a fool’s paradise (cf. Scott and Soja, 1986; Soja, 1991; Scott, 1993). The result was the worst depression in California since the 1930s, centered in the South. The North got through the early 1990s with less pain than Los Angeles.⁶⁰

Predictions of Los Angeles as the new financial capital of the West Coast⁶¹ were belied by Bank of America’s amazing turnabout: having almost been sold to one Los Angeles bank (First Interstate),⁶² Bank of America recovered to buy the biggest bank in Los Angeles (Security Pacific) in 1990—catapulting it back into the number two spot among U.S. banks. Furthermore, Bank of America recast its geographic strategy back from freewheeling globalization to a stronger presence in the western U.S. Wells Fargo followed suit in 1996 with the hostile takeover of LA’s last big bank, First Interstate. Bank of America now has invaded the Midwest, buying up Continental Bank of Chicago. This does not mean, however, that the Bank of America has abandoned the international field. It still clears billions per year in currency transactions. San Francisco remains a premier banking center, attracting scores of branches and agencies from banks around the world.⁶³ The Visa credit system is coordinated from Foster City, near the San Francisco airport. Charles Schwab invented discount brokerage in the 1970s and is now one of the major dealers outside Wall Street. The region’s financial complex includes the largest pool of venture capital in the world, centered near Stanford (Florida and Kenney, 1988; Florida and Smith, 1993). This was a spinoff of electronics, and attracts billions of dollars of high-return funds from New York, Chicago, and around the globe to invest in start-up companies in electronics, biotechnology, software, and retail in the Bay Area. Venture capital dried up in the early 1990s, but has rebounded smartly of late.

Meanwhile, the core of the region has witnessed the loss of many old-line companies—some 18 of the 32 Fortune 500 industrial companies headquartered in San Francisco and Oakland in 1979 (McLaughlin, 1988). Some faded away during the postwar boom, such as Blake, Moffitt & Towne, City of Paris, and Lucky Lager. Many more were gobbled up in the mergers of the 1980s, such as Crown-Zellerbach, Genstar, Pacific Lumber, and Natomas. Even relatively new companies, such as ITEL, Shaklee, and Cost Plus, succumbed. By 1988 the Japanese held five of the eleven largest California banks, including San Francisco-based Bank of California (Mitsubishi) and Union-Cal First Bank (Bank of Tokyo)—now slated for merger along with their parents. In the mid-1990s another wave of mergers and bankruptcies swept away Emporium, I. Magnin, San Francisco Federal Savings, and Southern Pacific (*San Francisco Chronicle*, September 11, 1995, p. B1).⁶⁴

But the effects of corporate change can be exaggerated. Hundreds of Bay Area companies are involved in mergers each year, in good times and bad, and an acquired company and its local office functions may not disappear (e.g., Macy’s West); some reemerge as independents (e.g., Del Monte), and some are bought back (e.g., Wells Fargo taking Crocker from Barclay’s Bank). Some supposedly local companies are already foreign-owned (Bank of California was bought from the Rothschilds, Golden State Sanwa bought up Lloyd’s Bank of California). And outside purchase can mean substantial new injections of capital, as with Japanese rehabilitation of the Palace Hotel, while the most draconian cutbacks in employment may be overseen by local companies, as in the elimination of branches and relocation of back offices by Wells

and Bank of America. Whatever the effects of mergers and acquisitions, most of them are homegrown in the U.S., where merger mania has been a leading response to changing economic circumstances, and is linked only indirectly to globalization.

Moreover, it is disingenuous to cry wolf about "outside control" when San Francisco has been the spider in a web of distant exploitation for its entire history. San Francisco capitalists have investments nationwide and worldwide, from which they, too, siphon off profits (Pred, 1977). The sword of acquisition continues to cut both ways: Chevron bought Gulf Oil (1979), Bank of America has been buying banks all over the West, and California First Bank bought L.A.'s Union Bank and moved its headquarters to San Francisco. Moreover, San Francisco companies have seized upon new global opportunities. Airphone, a Pacific Telephone spinoff, is the world's most successful cellular phone company. Chevron has recently secured the concession for the massive Tengiz oil field in Kazakstan, the largest in Central Asia. Bechtel is building Hong Kong's new airport and a technopolis outside Moscow. The city's China connection is paying off in terms of trade, banking, and cross-investment with the surging South China Sea region.

Despite major real estate purchases by international investors, adding up to about 30% of downtown by the mid-1980s (Asian investors have been particularly active in hotels, office buildings, and commercial properties), the biggest international players in local property development, Canada's Cadillac Fairview and Olympia and York, went bust in the last downturn and many Japanese investors were stiffed for billions in California's real estate crunch (Tabb, 1995). And if one is concerned about "local control," how democratic is realty kingpin Walter Shorenstein's ownership of 30% of downtown San Francisco? (Delehanty, 1989, p. 66). Shorenstein used the recessions to good effect in buying up properties such as the Bank of America headquarters building, and more in Los Angeles and other U.S. cities.

The most significant factor in San Francisco's decline relative to Silicon Valley or Los Angeles is that its home companies are largely remnants of an older, regional industrial base resting on timber, paper, oil, department stores, food processing, and mining, which are no longer growth sectors (cf. Malone, 1986). One older sector that still thrives is clothing, with Levi Corporation, the world's largest garment maker, and The Gap not far behind (and others such as Koret, Esprit, and Victoria's Secret still doing well)—although production is through global networks and local factories have been shut down (Louie, 1992). Meanwhile, in the high-tech sectors the Bay Area still leads the world, and again is adding thousands of jobs in the mid-1990s. Not a bad prospect for a region struggling with global challenges. In biotech, one finds giant international pharmaceutical companies such as Bayer and Hoffman-LaRoche buying into local start-ups, leading to the erroneous impression that local initiative has been lost. In fact, the multinational drug companies are desperate to get their hands on the new technologies dreamed up by Bay Area research teams, and keen to provide much-needed infusions of capital to sustain long-term product-development efforts. Bay Area biotech remains a leading node in a worldwide network of pharmaceutical production and marketing, and one that will continue to transform an entire industry (Kraus, 1996).

Agribusiness remains a huge segment of the regional economy, even though the old canneries, sugar mills, and baby food plants have shut down in favor of Central Valley or overseas locations, or because of slackening demand for such food products.⁶⁵

Northern California remains the world's largest producer of fresh vegetables (not to mention strawberries, raisins, and processing tomatoes), although its hegemony in fresh fruits has been broken by Florida and Texas and winter produce coming from as far away as Chile and New Zealand.⁶⁶ Partly this is the work of California companies themselves, particularly in Mexico (Lizárraga, 1993). But a globalized agro-export system, more than offshoring by U.S. capital, has increased competition from capitals of all nationalities operating on principles developed in California: high-input, high-intensity farming organized by contract system and huge agribusiness corporations (Watts, 1992). Leadership in new forms of contracting also has passed elsewhere—for example, to British supermarket chains. Nonetheless, California growers have responded by shipping oranges and rice to Japan and table grapes to Hong Kong. Growth in this labor-intensive domain has been so formidable that, despite mechanization and use of herbicides, demand for harvest labor has shot up to almost 700,000 workers, over 90% of whom are immigrants (Villarejo and Runsten, 1993).

The largest employer in the city of San Francisco today is a different sort of global industry: tourism. The city already was a tourist stop of sorts in its boisterous youth. In the last quarter of the 19th century, tourism's principal face was turned toward the great outdoors, at the Hotel Del Monte near Carmel or Yosemite National Park (Pomeroy, 1957). The great exhibitions of 1894, 1915, and 1939 were special drawing cards. Both the hotel district and Chinatown were expressly rebuilt after 1906 for the tourist trade—the latter with faux-Ming rooftops and porticos to spice it up (Delahanty, 1989; Groth, 1994).⁶⁷ The Barbary Coast long had an alluringly unsavory reputation (Asbury, 1933), maintained in our time by Broadway topless joints, porno films, and gay exhibitionism. The city's taste of the "exotic east" lives on with its fabulous throng of newly arrived peoples from the Pacific Rim (the percentages of Asian-Americans in the Bay Area are highest of any city in the U.S. today).

Recently tourism has exploded as a money-making activity for the city, as in so many parts of the world (Urry, 1990). The tourist "industry" claims over 13 million visitors a year, staying in the city's 30,000 tourist hotel rooms and eating at its 3,500 restaurants—keeping San Francisco just ahead of Disneyland as a California tourist attraction. San Francisco was rated the number one international travel destination in 1991 and 1993 by the elite Condé Nast poll. The city has kept its reputation for beauty, thanks to the Golden Gate, the Bay, and the fog, as well as the unsung efforts of preservationists to save something of the landscape. Sadly, San Francisco also has sacrificed part of itself on the altar of theme parks, as in the plasticity of Fisherman's Wharf, and repression, as with police sweeps of the homeless.

Meanwhile, the migration of the non-tourists has remade the city, giving it new vibrancy, a new layer of the exotic, and more poverty than any other part of the Bay Area. The new immigrant poor include displaced Salvadorans, Vietnamese, and Cambodians, among others. Somewhat better off are the Filipinos, Chinese, and Central Americans, who keep the office buildings and the tourist trade humming as maids, busboys, waiters, janitors, and stockers. Add to this the Asian seamstresses who have fueled San Francisco's surprisingly large garment district (third in the country) (Louie, 1992). Low-wage workers did not flood the Bay Area in the same numbers as Southern California, however, because the demand for skilled labor is proportionately much higher here, drawing thousands of foreigners into professional and technical slots in the large big-medical, electronics, financial, and educational sectors. But the

same bifurcation of the labor force has occurred here as throughout the country and the capitalist world, forcing most workers either to crowd into inner city apartments or flee to the far suburbs in the Central Valley for affordable housing (Leigh, 1989/90; Walker et al., 1990).⁶⁸

CONCLUSION

San Francisco has a long experience with the world market, European conquest, international migration, and internecine competition. The opportunities opened up by the Gold Rush eventually were closed down by the rapid development of laggard regions on the Pacific slope and countries around the Pacific Basin—in a way that strongly parallels the experience with the decline of U.S. hegemony in the late 20th century. The first opening produced San Francisco's great leap forward and initial industrialization, but limits to the city's imperial ambitions forced local capital to turn inward and to intensify the development of California. This turned out quite well, as the region built up an even stronger base of production and accumulation before being propelled once again to the global forefront by wars in the Pacific. After another exhilarating ride on the roller-coaster of globalization, the San Francisco Bay Area finds itself facing new and severe challenges to its success. This has led to a certain turning inward once more, but always with an eye on outside markets and investments and a hand out to welcome global labor, capital, and tourists making the trip to California.

Some clear lessons of San Francisco's history are that globalism impinges repeatedly on local economic prospects, has done so for over a century, and does so even more intensely today. Nonetheless, the central lesson one can draw from San Francisco and California's collision with globalization is the way the local becomes the global, as much as the reverse. The only way to have that kind of impact is for the locale to be extraordinarily good at what it does, and to innovate its way to the head of the pack. In that competitive race, the key regional advantages of the Bay Area have been these: a fully capitalist society from the outset, rapid exploitation and capitalization of natural resources, accumulation of capital locally to invest in production, research, and education, an agglomeration of complementary activities, and—most of all—an exceptional wealth of human labor, including the talents brought by immigrants and those developed in the process of experimentation and production. Both labor and capital would have done less, of course, without the rather egalitarian opportunity structure and the vigorous ideology of openness and possibility that frequently proved itself right despite the odds. None of this forgives the exploitation and conquest that went hand in hand with the success so obviously tilted to white men, only to say that the opportunity of the few was relatively large, and not altogether squandered.

Nor is it meant to deny the grip of external forces on any local economy, with the spreading tentacles of multinational corporations, intensification of geographic competition, and globalization of capital investment. Nonetheless, much of the worry in San Francisco's case has been based on an easy confusion among the effects of globalization, competition, sectoral shifts, recession, changing local geography, and the locus of ownership versus production. Calculating the net result is difficult indeed, and the case remains anecdotal. In sum, San Francisco and the Bay Area have largely

benefited, not suffered, from their global position over the course of the last 150 years, and particularly the last 50. Whether the region's favored economic status can be maintained is impossible to say, because the stone of capitalist "progress" keeps on rolling; but clearly the conditions of labor and life in the San Francisco metropolis have been and will be for a long time a product of capitalist success more than its depredations. This fact fundamentally sets the Bay Area apart from the less fortunate areas facing the global juggernaut of capital.

NOTES

¹Castells's (1989) "space of flows" has very little space in it, for example, whereas many "locality studies" recapitulate local history and geography without much connection to the rest of the world.

²Many thanks to Gray Brechin for his vast knowledge of San Francisco, from which I have borrowed shamelessly (with citations), and Kevin Carew, who assisted me with research.

³As in Massey's (1984) rounds of investment. On the geographic expansion of capitalism, see Harvey (1985); for the world systems view, see Chase-Dunn (1989). For a classic statement of the march from localized to national markets in the United States, see Meyer (1983); conversely, Pred (1980) has the national system of cities fully interactive from the mid-19th century. For all their merits, these works render the historical geography of nationalization and globalization too sweeping and too pat.

⁴I have tried to dissect the various dimensions of industrial production, circulation, organization, and technology in previous writings on industrial geography and the division of labor; see Storper and Walker (1989) and Sayer and Walker (1992).

⁵California fits neither dependency nor free-market development theory, but falls into the grey area of possibility and alternative roads to growth explored by Gerschenkron (1962) and Moore (1966), and more recently by Amsden (1989) and Evans (1995). See also Brenner's (1977) critique of world systems theory for its lack of attention to internal relations of nations. For an effort at a *regional* political economy of the American Midwest attuned to both the new industrial geography and to the wider dimensions of historical geography, see Page and Walker (1991).

⁶E.g., Sassen (1991). For a critique of stability theories, see Storper and Walker (1989, chapter 1).

⁷See, e.g., Thrift (1994); also Amin and Thrift (1992). For attempts at a more bottom-up and unsettled economic geography, see Scott (1988) and Storper and Walker (1989).

⁸Unfortunately, in this paper I am limited to a narrowly economic field of vision that excludes any but passing mention of matters of politics, warfare, racism and the like—where California has had an equally decisive impact on the course of world affairs (think of Hollywood, Richard Nixon, Ronald Reagan, the atomic bomb, and you get a flavor of it).

⁹John Parrott, San Francisco's chief banker in the 1850s, made his initial fortune in Mazatlán.

¹⁰There is no need to romanticize the Spanish and Mexican occupations, which destroyed the indigenous peoples of the Coastal zone and the Central Valley.

¹¹Gold production in California and the West reached \$2 billion by 1905, and \$3 billion by 1930 (Willis, 1937, chart 2). California produced three-fifths of U.S. gold mined in the 50 years after 1848, one-fifth of the world's total (San Francisco *Chronicle*, January 23, 1898). Western gold output exceeded the gold stocks of the entire United States through the First World War (Willis, op. cit.).

¹²Slackening output from California also helped trigger the Panic of 1857.

¹³The Rothschilds reclaimed the huge China market for cinnabar (as a dye) in the 1880s, then cyanide processing appeared in the 1990s, vastly increasing gold production from lower-grade ores.

¹⁴Shinn (1901, p. 154) estimates the Comstock yield at almost \$200 million net.

¹⁵The silver boom undid itself by exhausting the Comstock and by flooding the world with silver, driving the U.S. off bimetalism and ending European settlements in silver in the early 1870s (Studenski and Krooss, 1963).

¹⁶The Mining Exchange hit peaks of over \$200 million in shares traded in 1863 and 1872-1875, then declined through the rest of the century, only to revive with the Nevada gold strikes and California oil rush of the early 1900s (Carlson, 1942); it finally was closed in the 1950s.

¹⁷The Stock Exchange started up in 1882 to deal with non-mining stocks and ultimately surpassed its elder cousin, but volume had reached only \$50 million by 1915.

¹⁸Reed's analysis goes back only to 1900, at which time San Francisco shows up as a third-tier center, moving into the top ten by 1915, then slipping until World War II (see below).

¹⁹Some British, on the other hand, did well by marrying into California fortunes to support their habits: Robert Louis Stevenson followed a married woman back to Oakland to win his suit, and much of the Sharon (and Ralston) fortune found its way into an English estate by marriage.

²⁰Hence the absurdity of Victor Perlo's claim that outside ownership of natural resources in the West was crucial to their plundering (Perlo, 1957, p. 227).

²¹Production continued through the 1930s, revived by the government's gold-buying policy. Postwar prices were low, closing most mines; but better ore recovery brought foreign investors back to California and Nevada in the late 20th century to rework the mines and tailings of earlier eras.

²²Hoover's financial wizardry is almost wholly unknown today (but see Nash, 1983, especially pp. 392, 411). Among his investments from Nicaragua to Burma to Siberia, Hoover steered British capital back toward California oil in 1910.

²³One of Hoover's Stanford men, George Wilson, led the recruitment of Chinese for the South African mines in 1904, the protests against which helped bring down the government in Britain (after which the Chinese were repatriated in 1910) (Nash, 1983, p. 346).

²⁴The largest, owned by Hugh Glenn, covered 66,000 acres along the Sacramento River and produced a million bushels in 1880.

²⁵The following draws heavily on Issel and Cherny (1986), Elgie (1966), Trusk (1960), and Shumsky (1972), as well as Hittell (1882), Davis (1914), and Hinkel and McCann (1939).

²⁶The earliest version of this view appears to be Gwinn (1907).

²⁷Issel and Cherny (1986) contradict themselves, providing evidence against their theory of the local market. Amazingly, even raw materials were imported to this "resource region" to feed manufacturing: scrap iron and coal from England as ballast from the grain trade, coal from Australia, jute from Calcutta, hemp from the Philippines, and cotton from Mexico, for example.

²⁸Pacific Coast customs districts accounted for only 8% of U.S. foreign trade in 1952, a lower figure than in the 1920s or today's roughly 25% (Perlo, 1957, p. 227; Ettliger, 1991).

²⁹But rising faster on the social scale than elsewhere in the U.S. (Burchell, 1980).

³⁰This was to be expected, of course, as the Western U.S. became more densely settled and built up, but was by no means inevitable, as Pomeroy (1965) implies.

³¹The U.S. contributed a steady two-thirds of world petroleum output between the World Wars; California peaked at about 20 percent of world production in the 1910s, but its share fell sharply after 1930.

³²This increased lending corresponded to the shift from state to national banks.

³³Giannini was held at bay during the 1910s by fearful Los Angeles bankers (and an unfriendly Banking Commissioner), who were able to set up their own branch banking systems in the meantime.

³⁴Philip Armour made money in the goldfields and returned to Chicago and meatpacking fame.

³⁵On New York's leadership in the national economy at this time, see Pred (1966). On the rise of the Midwest, see Page and Walker (1991) and Hounshell (1984).

³⁶For a statement of the problem, see Walker (1989). How misleading it can be to look at patterns of outside investment and ownership is shown by Los Angeles, which labored under the thumb of San Francisco and New York, yet outgrew every city in the United States during the 20th century. Bank of America did more business in Los Angeles at midcentury than Los Angeles's largest bank, Security National (Perlo, 1957, p. 234)—but so what, if the bank was recycling money within greater Los Angeles (its branches were highly independent) and lubricating the regional economy with credit?

³⁷And, of course, San Francisco had its own financial hooks still deep in other places: the phone system of the Philippines, Southern California land and utilities, etc. (Issel and Cherny, 1986, p. 47).

³⁸Pacific Bell was more externally dominated than PG&E, yet AT&T allowed Western Electric research labs to survive despite centralization of telephone research at Bell Labs in New Jersey.

³⁹California auto and truck production continued to be enormous despite outside ownership because of the huge local market. Furthermore, many companies remained independent in niche markets: Fageol Motors and Young Truck and Coach in Oakland until the 1930s and Gillig Bus Company today.

⁴⁰Fuel oil was used by both San Francisco's and Los Angeles's manufacturing industries from as early as the 1880s, while ships and locomotives changed over in the early 1900s. As late as 1917, 80% of California oil went to fuel, and only 20% to refined products—the reverse of the national pattern (Johnson, 1970). Union Oil played a major role in pushing fuel oil consumption.

⁴¹Pacific Oil failed to gain entry into the main San Joaquin fields when it easily could have done so. Lloyd Tevis, who owned giant Kern County Land Company, rejected sage advice from E. A. Starke to buy, saying "I don't believe there's any oil there, and I don't want any more jackrabbit land" (White, 1962, p. 134). Later, Giannini regarded oil as too risky—as shown by the speculations of the 1920s (Tygiel, 1994)—but I. W. Hellman, who moved from Los Angeles to head Nevada-Wells Fargo Bank, was a long-time backer of Union Oil (Taylor and Welty, 1950).

⁴²The Rockefellers still held one-eighth of its stock (Blair, 1976, p. 149). SoCal kept growing by gobbling California companies such as Pacific Oil and Pacific Petroleum in the 1920s (*Ibid.*, p. 127).

⁴³They also held directorships on Associated and Standard Oil (Issel and Cherny, 1986, p. 46).

⁴⁴Herbert Hoover is reputed to have saved Union Oil from British takeover in 1913 and the Sloss-Lillienthal families from bankruptcy in 1914 (Nash, 1983, pp. 471–473).

⁴⁵Blythe can be compared to such recent financial players as junk-bond king Mike Milken of Beverly Hills (of New York's Drexel, Burnham) and LBO artist George Roberts of San Francisco (of New York-based Kohlberg, Kravis, and Roberts).

⁴⁶As for negative impact, the great fire of 1906—still the largest urban disaster in U.S. history—almost surely precipitated the financial crisis of 1907 through its toll on insurance companies, triggering legislation establishing the Federal Reserve.

⁴⁷Conversely, a regional or national banking center is not necessarily an international financial hub. Note Pittsburgh's role or New York's failure to displace London (Reed, 1981, pp. 25–26).

California had branch banking before it was specifically legalized in 1909, but it was little used (Doti and Schweikart, 1991, p. 79).

⁴⁸Calkin and Hoadley (1941) report that two-thirds of manufacturing was intended for regional markets in 1940, and one-eighth was based on natural resources.

⁴⁹The Korean and Vietnam wars had similar, but lesser, effects.

⁵⁰Contrast Markusen et al. (1992) who ascribe the "gun belt" to federal military programs.

⁵¹Both were headquartered in Oakland, though Bechtel later moved to San Francisco.

⁵²The Six Companies included Morrison-Knudsen and Utah Construction, as well as MacDonald and Kahn of San Francisco. Guy Atkinson of San Francisco worked on Grand Coulee.

⁵³Californians, however, rejected conservation by referendum in 1932.

⁵⁴See Blair's scathing indictment of this deal and the oil cartel. Blair attributes SoCal's decision to Rockefeller family stock holdings in all the Standard Oil companies (p. 149), but SoCal management was divided, and production controls were standard procedure in U.S. oil by then.

⁵⁵Perlo (1957, p. 235) considered Bank of America/Transamerica the "first really major financial and industrial empire centered in the Far West, controlling corporate assets of \$14.4 million." Bank of America held 45% of California savings in 1959 (Doti and Schweikart, 1991, p. 177). Perlo, however, is fixated on financial holdings and heavy industry of the early 20th century, unaware of other aspects of industrial dynamism and leery of the potential of industries such as aircraft and electronics so heavily linked to military demand (p. 226; cf. Page and Walker, 1991).

⁵⁶Other California firms such as Stokely-Van Camp, Dole, and Lucky Stores were not far behind.

⁵⁷As California's big banks swallowed small ones in their expanding branch systems, they became the most concentrated of any state's (Doti and Schweikart, 1991, p. 177).

⁵⁸On the other hand, California banks were laggards at adopting ATMs in the 1970s.

⁵⁹Both American and First Nationwide were later restructured into banks, both presently owned by Dallas financiers, the Bass brothers.

⁶⁰The Bay Area economy grew at about the same rate as that of Los Angeles in the 1970s and 1980s, but greater Los Angeles has been twice the size of the Bay Area since the 1920s.

⁶¹Widespread in the financial press, and echoed by, for example, Davis (1990) and Soja (1989).

⁶²First Interstate—formerly Giannini's Western Bancorp holding company—nearly went under in 1989 through bad real estate loans (Doti and Schweikart, 1991, p. 217).

⁶³By 1980, foreign bank subsidiaries were making 35% of all business loans in California, compared to 20% nationally (Doti and Schweikart, 1991, p. 194).

⁶⁴Corporate fates follow twisted paths, indeed. Emporium bought Capwell's and Weinstocks, became part of Carter-Hawley-Hale (the Hales coming from San Francisco), then moved its main operations to Los Angeles, before being sold to Federated in 1995 and closed. Southern Pacific was merged with the Denver & Rio Grande Western and headquartered again in San Francisco before being sold to Union Pacific and its operations slated for relocation.

⁶⁵C&H's Crockett factory is still one of the world's largest sugar mills.

⁶⁶Wine is a different matter; California wines exploded in output and rose in quality during the last 25 years, even making a splash in Europe. Premium wines from the North Bay have continued to increase their share of the market, but bulk wines have been hurt by the anti-drinking campaign.

⁶⁷Tourism was significant enough in the early 20th century that the West Coast could balance its overall trade deficit with the Eastern states (Willis, 1937, p. 194).

⁶⁸Mercifully, however, the social tensions have been less in the Bay Area because of the upward class skew of its immigrants; the region voted against Proposition 187 on the 1994 ballot.

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