INDUSTRY BUILDS OUT THE CITY: THE SUBURBANIZATION OF MANUFACTURING IN THE SAN FRANCISCO BAY AREA, 1850-1940

By

Richard A. Walker
Department of Geography
University of California
Berkeley, CA 94720
walker@socrates.berkeley.edu

Published version (with maps) in
The Manufactured Metropolis
edited by Robert Lewis
Temple University Press
2004
pp. 92-123

ABSTRACT

The San Francisco Bay Area provides a clear example of industrial dispersal creating the sprawling form of the American metropolis. Neither change in transport modes nor residential suburbanization is principally responsible for shaping the outward spiral of urbanization. Manufacturing began its outward march from the outset of the city's industrialization, establishing peripheral nodes of employment and working class residence within San Francisco, then beyond the city limits in South San Francisco and especially the East Bay. The primary cause of decentralization has been industrial shifts, or the outbreak of new activities in new places; these have normally taken the form of industrial districts, at various spatial scales. A second cause has been the orchestration of development by business leaders through property ownership and political maneuvering guided by a general vision of metropolitan expansion (whether in cooperation or competition with one another).

List of Figures

(add? Emeryville, Richmond, photo of Potrero Pt, photo of South SF.

The San Francisco Bay Area provides a clear example of industrial dispersal creating the sprawling form of the American metropolis.[1] Manufacturing began its outward march from the earliest days of the city's industrialization, establishing major nodes of activity South of Market Street in San Francisco, then across Mission Bay after the Civil War, moving beyond the city limits to South San Francisco by the turn of the century, then over to Oakland and the Contra Costa shore on the east side of the bay. Along with the dispersal of industry came a steady expansion of working class residential districts, tied to manufacturing and warehousing districts by time, income and transit limitations on employees. All this happened long before the explosive growth of Silicon Valley fifty miles south of San Francisco after World War II. Contrary to prevailing idea, there was not a single industrial core of the Bay Area that decentralized after World War II and industrial development was just as important, if not more so, than residential suburbanization in driving the outward flow of urban growth.[2]

The primary cause of industrial decentralization has been industrialization itself, chiefly the sheer growth of manufacturing and distribution and the search for generous spaces in which to build factories and warehouses. This is an expansion that has been punctuated by change in the nature of industry, marked by episodic outbreaks of new sectors in new places. The main turning points in our narrative are the burst of industrialization after the Civil War and the reconfiguration of industry around the turn of the century; the 1880s and World War I are also significant moments. Cheap land has always been a draw for building at the urban fringe, as has being surrounded by similar and complementary industry -- often forming distinctive industrial districts within the metropolis. All the better if land can be packaged in an industrial park or a political jurisdiction dominated by industrialists. Better still if labor and unions might be contained as well outside their urban strongholds. Nature has played a minor part in driving industry outward, particularly the great earthquake of 1906 and the wide expanse of San Francisco Bay, and transportation improvements have been significant if secondary in facilitating the outward spiral of the city. [3]

San Francisco: Gold Rush City to Industrial Hub

The gold rush of 1848-1855 propelled San Francisco into the first rank of urban places in the United States, with 50,000 people by 1855 and 150,000 by 1870. In addition to being the hub of the California mining region, San Francisco served as the principal mercantile and financial center for the trans-montane West. For half a century, it had no major rivals closer than Chicago. The city's merchants, bankers, bonanza kings and railroad titans became lords of all they surveyed, reigning over an empire stretching from Alaska to Mexico.[4] In the Gold Rush era most industrial activity sprang up in outlying parts of the Bay Area, which was knit together by a network of ferries and produce boats. Most of this was resource extraction and processing, such as quicksilver (mercury) mines and smelters and logging and

lumber milling, and agriculture and food processing, such as wheatfields and flour mills, cattle ranches and slaughterhouses, vineyards and wineries.[5] San Francisco itself had only a small amount of manufacturing around Yerba Buena cove, the heart of the gold rush city. The percentage of total regional manufacturing lying outside of San Francisco in the 1850s would not be reached again until World War I (Figure 1).

Figure 1

manufacturing employment and output
by county groups, 1860-1940

In the dominant view, San Francisco was a commercial rather than an industrial city, because the percentage of workers employed in manufacturing was lower than eastern cities of its size. Manufacturing, it is argued, was limited by the scale of demand, scarcity of labor, and lack of fuel, and was too dependent on natural resource and the local market.[6] Percentages are misleading, however, because San Francisco's mercantile empire was so much larger than any other comparable city. Jobs in trade and transport were so plentiful that industry may appear relatively less impressive, but industrial activity began to quicken in the Civil War years and grew tremendously after that, whether measured in output, employment or number of firms (Figure 1). Industrialization occurred in two great economic upswings, 1862-75 and 1878-1893, with severe downturns in the depressions of 1875-77 and 1893-95 that hit the city hard. Things had revived smartly 1896-1906, until the great earthquake hit. San Francisco's manufacturing workforce and output doubled in the 1870s, peaked as a proportion of all workers in 1880, and ranked ninth in the US that year. By 1880 manufacturing occupied a third of San Francisco's workforce, counted for two-thirds of statewide employment and value-added, and exceeded the output of all other western cities combined.[7] This brought about a striking regional *centralization* of industry into San Francisco, as the city's manufacturers sold their goods around Northern California, the West, and even abroad. An aerial view of the city from the early 1880s already shows smoking factories ringing the city (Figure 2).[8]

Figure 2 here

Bird's eye view of San Francisco in 1880s

Despite some disadvantages such as high fuel costs, San Francisco's industrialization benefitted from favorable supplies of capital and labor. On the one hand, industry was force-fed by locally accumulated capital. Every big investor

like Billy Ralston and Charles Crocker had his fingers in a dozen pies. On the other hand, scarcity of labor was offset by rapid in-migration, the end of placer mining, and completion of the transcontinental railroad. Chinese workers, in particular, provided cheap labor for low-wage sectors such as shoes and cigars. More significant, however, was the systematic application of skilled labor, which San Francisco had in abundance. California's combination of talent and economic opportunity (especially for white men) set loose a flurry of entrepreneurial activity and technical innovation. Clear evidence of this can be found in the number of new firms in the city and the welter of innovative products, from blue jeans to hydraulic nozzles. Money and creativity unloosed the genie of growth, allowing industrialization despite high wages. With over 350,000 residents by 1900, the city held one-fifth of the populace of the entire West Coast and had climbed to seventh largest city in the country.[9]

The industrialization of San Francisco in the second half of the 19th century was based in resource processing, and in products not far removed from the basic inputs of nature. Such was the technology of the time, and the reality of California's resource-rich economy.[10] The four dominant sectors illustrate this: lumber and wood-working (lumber yards, planing mills, furniture), metal-working and machining (iron foundries, smelters, brass casting, metal plating, machine making), food processing (sugar milling, canning, coffee milling, biscuits and flour, alcoholic beverages), and animal processing (butchering, tanning, tallow, soap, glue and candles).[11] Smaller sectors were not far removed from natural materials, either: garments made of wool, leather and cotton (also blankets, shoes and harnesses for horses), luxuries made of gold, silver and tobacco (jewelry, cigars), paints and oils made of natural oils and pigments, energy supplies (coal, coal-gas, wood, methane, petroleum, and electricity). Even the most sophisticated products of the time, such as houses, mining machining, carriages and ships, were made with very humble materials: cast iron, brass, wood, tung-oil paints, iron nails, and so forth. Printing and publishing might be considered the furthest removed but it involved working with large quantities of paper and cloth. Without being overly reductionist -- since the essence of things such as reapers, pianos and lady's dresses lies more in the design and skilled work than in the materials -- it is nonetheless vital to recognize how close to the bone these early industries were, because as tecnology advanced into new types of goods and materials it would leapfrog over San Francisco's humble manufacturing base.

The Industrial Landscape of San Francisco, 1875-1905

Within San Francisco's expansive city limits, industry spread out rapidly after the Civil War.[12] Three patterns emerged in the period up to the turn of the century. First, industry was positioned along the waterfront, within a few blocks of the bay, in a great crescent from North Beach to Hunter's Point. Although this was a reasonably continuous strip, it can usefully be divided into six segments: North

Beach, Downtown, Rincon Hill, Mission Creek, Portrero Hill, and Islais Creek. Second, the bulk of industry headed South of Market, far beyond the bounds of the Gold Rush city (where Downtown offices and banks and Chinatown remained), stretching the city southward for several miles. Third, while factories and warehouses of various kinds mixed cheek by jowl along the waterfront, there was a discernible degree of areal specialization by industrial sector: particularly machining around Rincon Hill, foodstuffs north of Market, luxuries Downtown, lumber and woodproducts along Mission Creek, and animal products at Islais Creek. [13] (Figure 3) On the other hand, two of the most common land uses -- energy and wine warehousing -- could be found almost everywhere along the waterfront, for easy shipping (ships also used great quantities of fuel from these depots).

Figure 3 here
Schematic map of industrial zones of SF

North of Market Street was characterized early on by a central cluster of consumer-goods manufacturers that arose in the old part of the city. Along the waterfront were several food merchants and processors such as Ghirardelli's Coffee mill, Pacific Coast syrup, National and Capital flour mills, National Biscuit bakery, Sacramento Biscuit, Shilling Spices, and Tillman-Bendels coffee and spice mill. A few clothing merchant-manufacturers, such as Levi Strauss, and boot and shoe makers could be found there, too. In the decade after the Civil War, 200 cigar-makers clustered near Chinatown, relying on the cheap labor of thousands of Chinese men released from railroad building and mining, where they lived mostly within the restricted boundaries of Chinatown. To the west up Market Street, women's and children's clothes were made and sold. Around Union Square could be found specialty clothiers, jewelers and silversmiths, and makers of luxury goods such as pianos and billiard tables. This was part of the separation off the main shopping district from the merchant-financial center along Montgomery Street. Centered around Market and Third Street, where the three largest newspapers were located by the 1890s, was a flourishing printing and publishing industry, with over one hundred small printers, Bancroft's book emporium, and magazines and broadsheets galore.[14]

On the city's northern edgea substantial industrial zone arose in North Beach. This zone stretched from Black Point to the northwest around Telegraph Hill to the foot of Broadway on its southeast flank. It's first big factory was the Pioneer Woolen Mills (later Ghirardelli chocolate and now Ghirardelli Square shopping center). It included a number of food processing operations, such as sugar refineries (Bay Sugar (later American) and Western Sugar), canneries (Presidio, King Morse, and later the merged California Fruit Canners Association, plus a can factory), breweries and malt factories (St. Louis, North Beach, Empire), a flour mill (Globe), a wine warehouse, biscuit makers (National and American) and even a mustard mill (CC Burr). At the same, time North Beach had some key companies in the metals trade: Selby's lead and silver smelter, Andrew Haladie's wire works,

Joshua Hendy's machine shop, and Vulcan Iron Works. And there were lumber yards, sawmills, and a sulfur refinery, as well.

The South of Market industrial zone was anchored by the Rincon Hill district, from Market Street to South Beach (China Cove) and west to Third Street. This area was dominated by the city's major machinery and metal-working cluster, made up of foundries, plating shops, iron works, and machine shops. Of these, Union Iron Works was the most famous, and occupied a full city block, but there were dozens of others, such as Risdon Ironworks, Pioneer Ironworks, Tatum and Bowen, Eureka Foundry, National Ironworks, Golden West Plating, Roylance Brass, Montague tinware, California Engineering works, Union Gas Engine, Oriental Gas Engine, Bryan Elevator, Selby Smelter, Judson Iron and Steel, John Finn Metal, Pacific Hardware and Steel, and so forth. Mining equipment, such as drills, rock-crushers, steam engines, hoists, derricks, pumps, and nozzles, was the main focus of this complex, and San Francisco revolutionized mining with its equipment, which it shipped throughout the west and around the world.[15] From there, the district branched into ship engines, flour mills, fruit presses, sugar mills, sawmills, and farm equipment. Then, too, local companies turned out such necessities of urban life as lead stoves, pipe, locks and safes, bolts and boilers. There were, in addition, a number of coal yards and gas works, lumber yards on the eastern and southern flanks of Rincon Hill, several wine warehouses, planing mills, a flour mill, a cooperage and the like. By the turn of the century, Rincon Hill had, if anything, become more specialized in metals, despite some losses of companies and the addition of Folger's Coffee roasting plant and Shilling Spices (which had both moved south across Market Street).

Southwest of Rincon Hill was another industrial district along Mission Creek, a mile and more south of Downtown. Mission Creek had been reduced to a finger canal for ship access with the filling of most of Mission Bay in the Civil War decade, and the Southern Pacific rail lines lay parallel a block north of the canal (between King and Townsend, terminating at 3d Street where SP's headquarters lay before 1906). The companies operating there were a mixed lot, but the concentration of lumber and woodworking is significant. Lumber was shipped from the North Coast of California to San Francisco, where it arrived at huge depots along Mission Creek such as Hooper's, Simpson, Sierra, California and Truckee Lumber (lumber wharves east of Rincon Hill had mostly disappeared by 1905, probably because the industry had consolidated). From there it was distributed to smaller woodyards and planing mills to be cut to size or shaped into parts and fixtures. Planing mills, such as Stockton, Usona, Progressive, Moore and Mechanics, were very numerous in the Mission Creek district (with a few left on Rincon Hill and in North Beach). As the chief building material of the day (and thus the largest single industrial sector in the state up to 1910), wood went into any number of products. In the MIssion Creek area, it went into boxes, barrels, matches, furniture, carriages, machines and ships. Furniture makers included Becker & Dillman, Frei, San Francisco, Emanuel's West Coast, Cordes, M. Friedman and George Fuller. Carriage and wagon manufacturers were fewer but

notable: Studebaker Brothers, Pacific, Waterhouse & Lister , Union, and Hammond Car Works (and Dunham Carriage, still over on Rincon Hill). There were two small shipyards: Hay's and Boole and Beaton. Mission Creek also had its share of foodstuffs factories and warehouses. It was the original site of such large operations as Claus Spreckels' (California) Sugar, Miller & Lux butchers, and A Lusk canning, before they moved elsewhere, and later of F.Cutting canners, Yosemite flour mills, Chicago, Jackson and Milwaukee breweries, South Park malt, Code-Portwood canning, Philadelphia Vinegar, and Eureka wine.[16] There were a number of metalworking facilities, such as American Can, Francis Smith Steel pipe, Acme Brass, Brunig's Machine, Garnett Brass (and the Excelsior Smelter, right next to Starr King Primary School!). And, finally, there were such odds and ends as gas works, wool warehouses, marble and stone yards, a cigar maker, a glass works, and a broom factory.

Many factories moved farther out in the 1870s and 80s, south of Mission Creek (roughly, 14th Street) in an area that was not platted until after the Civil War. This consisted of two districts, Potrero Hill, and, south of 25th Street, Islais Creek. A distinctive group of mostly noxious and space extensive activities developed in these outlying areas: animal processing, chemicals (paints and oils), and shipbuilding. (Powder works were another noxious industry already located far outside the built-up part of the city, near the Pacific Ocean -- these are not shown in figure 3).

A notable cluster of heavy industry took shape on Potrero Point, over two miles south of Downtown on a rocky promontory across what was formerly Mission Bay. The region's first substantial steel producer, Pacific Rolling Mills, went up in 1868 after gaining a grant of tidewater lands from the state. Union Iron Works relocated its shipyards there in 1878, joined in the 1880s by John Myers shipyard, and in the 1890s by Risdon Iron Locomotive Works and shipyard. Other major factories at the Point were Tubbs' Cordage, Spreckels' California (later Western) sugar refinery (the largest factory on the West Coast in value of output), San Francisco Gas (& Electric) Works and Arctic Oil Works (when San Francisco was the biggest whaling port in the world c. 1882-1908), replaced by Union Oil's petroleum depot by the turn of the century. [17]

On the northwest flank of Potrero Hill a tongue of industry moved along upper Mission Creek -- into what would later be known as the Northern Mission district -- around 16th and Potrero streets. In the 1860s, boats could still make their way up the creek and the railroad followed the valley down toward the San Mateo peninsula (it would soon disappear into a culvert beneath Harrison Street, but its waters were used by factories until the middle of the twentieth century). The character of this group of factories was dominated by animal products. These included Roth, Blum pork packing, two tanneries, Worden Grease and Varnish, San Francisco Candle, John Counihan Tannery, SF Glue Works, Golden Gate Woolen mills, and several soap manufactures. Another distinctive segment was chemicals, which at the time meant chiefly paints and pigments: Whittier-Fuller

moved out from Rincon Hill to the Potrero district by the turn of the century and was joined by Stauffer's Potrero works. Lastly, there was a terra cotta tile works, trunk factory, mattress factory, glass works, two breweries and a wine company. The biggest single factory to come into this area by 1905 was the American Steel and Wire/California Wire Cloth company operation at 16th and Harrison. Farther out, where open lands remained there were a couple commercial nurseries and a dairy.

Below 25th Street, three miles south of Downtown, lay the Butchertown district around Islais Creek. On the initiative of wholesale cattlemen and packers, led by Henry Miller, the state ceded waterfront lands for a Butcher's Preservation (an early form of industrial park) built on fill on the south shore at the mouth of Islais Creek in the 1880s. Most of the city's butchers relocated there to be free of nuisance complaints and dump their offal into the bay. The district around Butchertown, on both sides of Islais Creek, eventually included several cattle yards, twenty-three wholesale butchers, five tanneries, a wool pullery, two packing houses, a glue works and tallow plants -- many owned by the vertically-integrated Miller & Lux, largest agribusiness enterprise of the 19th century. A notable accompaniment to animal processing was a budding fertilizer sector, including Bryle LaCoste and Pacific Guano. Finally, out at Hunter's Point, beyond Butchertown, was the big California Drydock, Neylan's shipyard, California Fireworks company, Albion Brewery, and a couple orphan asylums. [18]

The post-Civil War flow of industry split the city in two: an industrial and working class South of Market and a residential and bourgeois northern tier and, to a lesser extent, an east-west schism as well. The well-to-do who had occupied Rincon Hill around South Park in the 1850s fled back north of Market, riding cable cars (introduced by Hallidie in the late 1870s) to the safety of Nob Hill. Rich men who had sought suburban refuge in the early Mission District, such as James Phelan Sr. and John Spreckels, abandonned it once it became *declassé.* Thereafter, the bourgeoisie settled a broadly strip across the northern tier of the city, out to Van Ness Avenue and across into Pacific Heights and the Western Addition.

North of Market, the main redoubts of the working class were Chinatown (much reduced by the Chinese Exclusion Acts of 1882 and 1892) and North Beach, which became mostly Italian by the turn of the century. Telegraph Hill would be built up solidly only after the great earthquake and fire leveled the whole area. When the Marina district open up to the west after the 1915 Panama-Pacific Exhibition was vacated, more well-off workers and middle class Italians would move out there. Sailors and longshoremen occupied a narrow strip of boarding houses and hotels along the waterfront on the eastern edge of the city from Telegraph Hill to Rincon Hill, which became part of the so-called Barbary Coast (centered just south of Broadway) (see figure 2).

Meanwhile, the South of Market became the principal area of working class housing in the city, because it held the core industrial zones around Rincon Hill and along Mission Creek.[19] Because workers usually walked to work, roughly four-fifths of San Francisco's laborers in the late 19th century lived within one-half mile of their jobs. This meant that working class residences were built in close proximity to the industrial strip running along the waterfront. The densest area of working class settlement piled up below Market Street down to Harrison, from the waterfront west to 12th Street. This was very likely the densest residential district west of Manhattan before the earthquake and fire, with many of the workers living in group lodgings, boarding houses, or multistory flats. The in-fill of housing throughout this zone was virtually complete, and housing grew up check-by-jowl with industrial sites. Most of the residents in this area were Irish immigrants. The 1906 earthquake almost certainly killed thousands of people South of Market, who were never accounted for, but the number were hushed up in the aftermath so as not to unduly disturb the business revival of the city.

Somewhat more prosperous workers could take the cable car or horsecar jitneys to upper Market Street or out to the Mission district, which was also filling up at this time; by 1900 there was a built out corridor a couple blocks on either side of Mission Street as far as 22nd Street. These better-paid employees, mostly Anglo-Scots or German, could buy or build single-family homes, either from small builders or as lumber-yard kits. At the same time, extensions of the industrial zone southward propelled the outward flow of working class settlement, and working class neighborhoods began dotting Potrero Hill, the former Mission Creek lowlands, and even onto Bernal Heights to the south (see figure 3). Specific patches of housing grew up in direct juxtaposition to the pioneer outlying factory districts, such as the mean quarters of Dogtown just behind Potrero Point, around Butchertown (in a district then called 'South San Francisco'), and next to the city hospital on the western flank of Potrero Hill. After the earthquake and fire, the rest of the Mission district would fill in, Bernal Heights and Potrero Hill would be covered with houses, and the working class realms would push further south into the newly-platted Excelsior, Ingleside, Outer Mission and Portola districts. Many of the same capitalists backing industrial expansion, such as the Crockers and Newhalls, were busy investing in land development in these outer lands.[20]

Last Gasp of the West Bay: South City and the Eclipse of San Francisco

A telling case of industrial decentralization is South San Francisco, ten miles away from downtown San Francisco and across the line into San Mateo County (Figure 4). South City, as it came to be called, provides a clear example of the force of industrial restructuring, property ownership, and political maneuvering on industrial suburbanization. It was also the last redoubt of industry along the western shore of San Francisco bay, which would be cut off by the burghers of San Mateo from continuing its southern march. Industrialization in the first half of the twentieth century would shift decisively to Oakland and the East Bay.

The area at the foot of Mount San Bruno was for many years the property of Charles Lux and used as a staging area for cattle going to slaughter. After Lux died in 1887, his heirs and former partner Henry Miller cut a deal with Joseph Swift of Chicago, fronting for the Beef Trust. Swift's Western Meat Company factory went up on the Lux property in 1894. Western Meat represented the success of the Chicago packers in revolutionizing beef slaughter and packing; by means of improved mass production methods and unskilled labor, they could underprice local butchers. But the latter were able to hold off their new competitor for a decade by convincing San Franciscans that industrial meat was tainted. Swift had to orchestrate the entry of the new methods carefully, seeking a local partner in Miller & Lux and a strategic location just outside the city limits. Victory did not go to the swift until the 1906 earthquake levelled Butchertown and people had to try Swift's product, finding it palatable. Soon several other packers and a new Union Stockyards came to South City. Ironically, Miller & Lux could not compete with the Chicago boys, and went into decline.[21]

Other factories were attracted to South City's emergent industrial district in the 1890s and 1900s, including an immense Steiger Terra Cotta & Pottery factory, a Whittier-Fuller paint factory and Columbia Steel's mill, all the largest of their kind on the west coast. Along with these came another half-dozen iron and steel plants supplying regional shipyards, builders and metal shops. Housing again followed the outward march of manufacturing, and the valley south of Mount San Bruno quickly filled up with the little homes of the working class -- who could neither commute from San Francisco nor afford homes in the elite cities of San Mateo county. South San Francisco remains resolutely proletarian to this day. Politically, South City was the creature of the corporations. Of the first four mayors of the town after it incorporated in 1908, two had worked for Western Meat, one for Southern Pacific, and one as a local realtor.[22]

Industrialization might have continued down the Peninsula, but ran into the border guards of the wealthy. San Mateo county had long been the rural redoubt of San Francisco's biggest capitalists, such as Darius Mills, Alvinius Hayward and William Sharon, and the children of the barons, led by Francis Newlands and William Crocker, opened an exclusive residential enclave at Burlingame (Hillsborough) in the 1890s. Fearing for their sylvan landscapes, the grandees blocked a planned ASARCO copper-smelting plant in 1908 and closed off further expansion of South City. This gave added impetus to heavy industry to take the path of least resistance over to the East Bay. San Mateo's industrialization fell back before and after the First World War. Only the modest nodes at Redwood City and South San Francisco remained.[23] (Figure 4)

Figure 4 here

Aerial map of Bay Area, c. 1925.

Of course, San Francisco's industrial base was still substantial through the first half of the twentieth century. Factories and warehouses rebuilt along with the rest of the city after the earthquake. While North Beach and the South of Market would remain industrial, little would be left in the Downtown area. A notable addition to Rincon Hill were the big coffee roasting and canning operations of Hills Brothers (inventors of the first vacuum packed coffee) and MJB (Chase & Sanborn would locate at Potrero Hill).[24] SOMA also became the domain of scores of printing shops. There was an expansion toward the open areas south of Mission Creek as new factories and warehouses were added. The Mission District and the flanks of Portrero Hill would steadily fill up with new plants such as McClintock-Marshall Steel, Pelton Water Wheel, Crown Shirts, Remler Radio, Baker & Hamilton machinery, Pacific Felt, Hyman Shoes, Hellman Mayonnaise, Best Foods, Lyons-Magnus Fruit Products, Rainier, Regal-Pale, and Hamm's breweries, People's Bread, Orowheat Baking, and John Cleese mattresses, along with planing mills, industrial laundries, dye works, and so on.[25] Some of the older companies remained, like Sterling Mattress and Illinois-Pacific Glass, while others relocated from more northern locations: Korbel Box, American Can, and Enterprise Foundry, among them.

The Islais Creek basin would also become completely covered with large factories and warehouses , such as Planter's Peanuts. By mid-century, it would be the largest indusrial district in San Francisco. Hunter's Point would be taken over by the Navy during the war for its largest west coast drydock operation. Meanwhile, as San Francisco county was built out with housing during the interwar period, the southern and eastern parts of the city kept their working class character intact, even as African-Americans were added at Hunter's Point-Bayview, Filipinos came into the South of Market, Central Americans entered the MIssion, and European ethnicities blended into a generic category of white Americans.

But San Francisco's days of unrivaled glory were over, and it fell from its perch atop the western states after the turn of the twentieth century. Los Angeles began its remarkable ascent, becoming the largest urban center in the west by 1910, and Seattle, Portland and Denver all grew substantially, challenging San Francisco's commercial hegemony. This fall from grace was paralleled by the fate of the city's industrial base. Manufacturing plateaued from 1890 to 1930. While output continued to rise, employment growth rates fell off for twenty years, revived in the First World War, then slid down again and collapsed in the Great Depression (figure 1). The city's saving grace was the banking sector, where it held onto its position as the financial heart of the Pacific Coast.[26]

San Francisco’s industrial woes are often blamed on the earthquake and fire of 1906, when people and businesses fled in droves to the suburbs. Permanent losses included Joshua Hendy's relocation to Sunnyvale in Santa Clara county, Judson Steel to Emeryville and Vulcan Iron Works to Oakland, and most of the wine mechants who lost millions of gallons in the quake. Yet most refugees

returned as the city was reconstructed. A closer look shows that San Francisco manufacturing was already in trouble before the great quake, slow to rebound from the downturn of the 1890s. Any number of companies, such as A. Lusk, Alex Hays shipyard, Excelsior Smelting, and Becker & Dillman Furniture, had already disappeared by 1905. Meanwhile, most new factories in the Bay Area were being established in industrial suburbs like South San Francisco and Richmond by the turn of the century. These included a wide cross-section of industrial sectors such as blasting powder, paint, chemicals, meatpacking, oil refining, sugar, lumber, machining, canning, steel, ships, vehicles and electrical machinery.

The East Bay was the principal beneficiary of this metropolitan industrialization. Alameda and Contra Costa counties together passed San Francisco (and the west bay as a whole) in manufacturing output by 1910 and in employment by 1920 (Figure 1). Reflective of this shift, the port of San Francisco fell below one-half of all Bay Area tonnage handled by 1920. As a result, the Bay Area as a whole performed better than most historians acknowledge. From 1900 to 1920, the five-county population grew 87%, employment by 163% and value added by 617% (San Francisco, Alameda, Contra Costa, San Mateo and Marin). From 1869 to 1935, the city-region outgrew Philadelphia, Boston and Baltimore in population, ran even with New York and Pittsburgh, and lost ground only to the industrial *wunderkinds* of the east, Detroit and Cleveland, and to Los Angeles. Overall, in the years 1869 to 1935, the Bay Area improved its rank among US metropolitan areas in total employment from 17th to 16th and value-added from 15th to 10th. Bay shipping remained atop the West as late as 1938, second only to New York in value (Los Angeles was still a distant sixth). It is important, therefore, not to confuse the fate of San Francisco with that of the metropolitan region as a whole. Industrial dispersal would have much to do with their differing fates.[27]

Nonetheless, we still require an explanation for the tilt away from San Francisco toward the East Bay. One reason is simple space: as industry expanded and the scale of factories increased, there was pressure to seek large, cheap, accessible sites at the urban fringe. This would be true of nurseries as well as oil depots and refineries to some degree. Another reason, in some cases, was to follow the general the march of the city and local markets outward, as in the case of lumber yards, breweries, tile works, and foundries making civic infrastructure like manhole covers. A third is to avoid conflict with residential areas, as we have already seen. But certain overarching causes have been proposed.

One unifying explanation that had to be discarded long ago was that local companies fell prey to buyouts by eastern corporations after the turn of the century. Some large companies, such as Studebaker, Bethlehem Steel, and the Chicago Packers, did build and/or buy out local factories. But they added to the local mix rather than subtracting from it, and they never dominated California industry (or finance), which continue to proliferate its own firms and products. This theory was part of the mid-century adulation of the large corporation and Fordist mass

production -- which has fallen out of favor with the late twentieth century success of California industry, especially Silicon Valley.[28]

Another popular candidate for a unitary explanation is high wages and labor organization. The militancy of the city's workers from 1901 to 1918 is legendary, and electoral control of the city lay with the Union Labor Party from 1901 to 1911. There is some evidence that this induced capital to flee: Columbia Steel, for example, built a mill in Contra Costa county in part because, according to financier Joseph Grant, "labor conditions there would be less disturbed than in San Francisco". William Gerstle, president of the Chamber of Commerce said in 1910 that in San Francisco .."the cost of manufacturing is so high that we cannot compete with neighboring communities. Everything is on a competitive basis except labor, and this is due to the fact that we have not had the courage in San Francisco to enforce the open shop principle which prevails in our competitive cities". Yet wage rates alone do not set the terms for capitalist development, and low wages are not always an advantage. In fact, very high average wages compared to the rest of the United States never choked off growth in nineteenth century San Francisco, and helped stimulate mass in-migration, consumption, and attraction of skilled labor conducive to innovation -- all contributing to growth. So what had changed? If there is one area in which labor militancy had a clear effect, it was the reduction of low-wage Chinese labor; this probably lies behind the precipitous decline of such sectors as cigars, boots and shoes, blankets and apparel in San Francisco before 1900.[29]

A third sweeping theory is the failure of a weak bourgeoisie to adequately promote the city's interests vis-a-vis its urban rivals. True, San Francisco capitalists were notoriously schismatic, as in the long feud between the Spreckels and DeYoungs, and no doubt some ground was lost to better organized business classes in Los Angeles and Oakland.[30] An example of failure of will would be the still-born proposal by the Chamber of Commerce for an Islais Creek industrial park after the fire. Nonetheless, San Francisco's bourgeois leaders were capable of joint efforts in many regards. James Phelan and his circle of Progressives were instrumental in reforming the city charter at the turn of the century. Following that, the earthquake forced businessmen to put aside differences, as did the struggle against organized labor. The major business associations merged under the Chamber of Commerce, elected merchant James Rolph Mayor in 1911, and established a think-tank that generated another city Charter Reform. Business engaged labor in repeated battles, finally defeating the unions city-wide in 1921. A spectacular new Civic Center was erected between the world wars. [31] Overall, the problem was not so much that San Francisco's capitalists were weak as that they had a wide-ranging view of the field of investment -- one that took in the whole Bay Area, and most of the western United States besides (city capitalists were instrumental in building up Los Angeles, San Diego, California's interior, and even the Pacific Northwest). They were not simply advocates within the city limits.

But the most important single factor in the decentralization of manufacturing in the Bay Area was industrialization itself, i.e., the force of technical and market change unleashed by capitalist accumulation. Fast-growing sectors can erupt in quite unexpected venues, while stagnant sectors and established centers of industry fade away. The industrial base of capitalism has shifted repeatedly from era to era, recasting urban geography along the way.[32] San Francisco had led the way during the expansive stage in several early California industries, such as mining equipment, men's clothing and blankets, lumber and woodworking, iron work, carriages, foodstuffs, alcoholic beverages, paint and animal by-products. But three things happened to undermine the importance of the city's manufactures. The first is that some of its best products ceased to be very important in the mix of California industry in the 20th century: for example, mining equipment, leather harnesses, wooden barrels, whale baleen, steam boilers, cast iron stoves, buggy whips, leather belting, and Victorian house detail work. Second, and conversely, most of the key industries of the 20th century grew up almost entirely outside San Francisco, including petroleum refining, alloy steel, automobiles, and chemicals. Third, in several sectors where the city had a foothold, the technical nature of the product or process changed so much as to be unrecognizable: guano gave way to ammonium nitrate fertilizer made through electrolysis; carriages and wagons turned into cars and trucks; coal was replaced by fuel oil, coal gas by methane, gas by electricity.[33]

By 1919, San Francisco was still prominent in only a few industrial sectors like printing and publishing, coffee and spices, chocolate, cigars, bags and ship repair -- none of them among California's leading industries of the day. Output in furniture, meat packing, clothing, and machining, while still noteworthy, was fading. Beer and spirits were eliminated by Prohibition. Lumber, sugar and canning had virtually disappeared. And, of course, the process of product and technical change kept moving forward, even where San Francisco knew success in the new century: Ford's Model T factory on 16th Street, opened in 1913, was replaced by a Model A factory in Richmond in 1931 as Ford responded to the competitive challenge of General Motors. The city would continue to house many of the corporate headquarters of business involved in the new industries, such as Standard Oil, Zellerbach Paper, or Castle & Cooke foods, but that was due to its importance in finance and adminstration, not production.

Oakland Rising: The Industrialization of Alameda County

The foreward wave of regional growth had shifted by 1900 to Oakland and the greater East Bay. Alameda and Contra Costa counties together surpassed San Francisco and the West Bay (including San Mateo county) in manufacturing employees and value of output by 1910. The rapid acceleration of East Bay urbanization that went along with this industrial surge would create the greater Bay Area metropolis of the 20th century (Figures 1 and 4).

Oakland began as one of several small towns around the Bay, with the usual smattering of resource industries. By 1869, it could count sixteen factories, including sawmills, tanneries, slaughterhouses, dairies, a jute mill, flour mill, drydocks and a brewery (the only thing out of the ordinary was a boot and shoe maker). The big turning point was the arrival of the Central Pacific in 1869, after which population climbed from 10,500 to 35,000 in a decade -- making Oakland the second city in the western United States for a generation. Although the rail terminus was officially San Francisco (trains were ferried across the bay from the 7th Street mole), the railyards were a major employer in West Oakland and an attraction for manufacturers seeking access to California markets. Oakland industrialized rapidly through the rest of the century. Factories became abundant in the 1870s and the 1880s saw another thirty establishments spring up. By 1890 California Cotton was the largest cloth mill in the West, Josiah Lusk the biggest cannery, Pacific Coast Borax the largest producer of cleanser, and Lowell Manufacturing the biggest carriage works. But the best was yet to come, and Oakland still looked more like a satellite of San Franisco's diversified manufacturing complex than a realm of its own.[34]

The principal axes of Oakland's industrial belt ran along the waterfront and were reinforced by the rail line coming from the east along the estuary all the way to Oakland Point (1869), where it met a second line arriving from the north (1873). The principal manufacturing node lay within the original Oakland city grid, which ran from the waterfront to 12th Street with Broadway as the central thoroughfare. Machining and woodworking were a fixture of the central district. A second cluster appeared a mile and half west, in an area platted and annexed in the 1860s. The defining activity of West Oakland was the railyards, but beyond them at Oakland Point (long gone due to surrounding fill) lay such space-extensive functions as lumber yards, shipyards, stockyards, tanneries, and slaughterhouses. A third cluster could be found two to three miles east across Lake Merritt in the Brooklyn and Fruit Vale districts (settled in the 1850s and annexed in 1872), which featured the Cal Cotton mill, the boot and shoe factory, saw and planing mills, early cannieres, a flour mill, a pottery factory, and tanneries. A fourth formed in the 1880s and 90s two and half miles north of downtown along Temescal Creek, beyond the city limits, in what would later become Emeryville (incorporated 1899) and North Oakland (annexed 1897). Some of the largest factories in town such as Judson Steel and Lowell Manufacturing moved to the Emery district, while up the creek the principle site was the J. Lusk cannery with 400 acres of fruit and vegetable gardens in the Temescal district. (Pacific Coast Borax and N. Clark & Sons Brick Works were across the estuary in Alameda Point and there was another small industrial settlement at Oceanview, now West Berkeley, to the far north).

The initial locus of housing was the 1850 city grid, with small settlements around workplaces in Brooklyn (Clinton and San Antonio districts) and Fruit Vale to the east. A few wealthy burghers like James DeFremery and George Pardee moved into the wide open spaces to the west, but after 1869 that area blossomed as a

working class district and the rich were displaced to the northeast around and across Lake Merritt. West Oakland filled in rapidly all the way up to 50th Street (roughly Temescal Creek) which gave the city a lopsided appearance for decades. Workers commuted by foot from the flatlands east of the industrial belt or rode the streetcars fanning out from downtown and West Oakland in a manner still clearly visible in the diagonals overlaying the regular street grids. The little industrial communities of Brooklyn -- which grew less rapidly -- retained their distinct identities long after incorporation, each with its own street grid, retail commerce and ethnic flavor. For example, Jingletown, where Jack London grew up, still looks like any eastern mill village with an ethnic, Catholic working class, though it has gone from Irish to Portuguese to Mexican and was bisected by a freeway in the 1940s.

The bay made Oakland a twin city rather than a suburb, but it was not a strong antipode to San Francisco in the 19th century. While many manufacturing companies were locally owned, giving the city a potentially independent economic base, the town's leading burghers, Horace Carpentier and Samuel Merritt, were master land speculators rather than industrialists. The local bourgeoisie gave away the waterfront not once but twice to private owners (themselves!), who turned it over to the Central Pacific based in San Francisco (indeed, Carpentier, Oakland's first mayor, worked as a lawyer for the railroad before he took the money and ran to New York). It took the city fifty years to regain control of its harbor (1911). Stirrings of boosterism could be found, such as the bold proposal for a cross-bay bridge as early as 1863, but San Francisco capitalists felt little threat and were happy to join in Oakland's growth by investing in such things as a cable car system, paint factory, and real estate promotions.[35]

The sea-change came after the depression of 1893-95. Oakland and the East Bay began a meteoric ascent, becoming an early metropolitan 'edge city'. Oakland was one of three fastest growing cities in the US from 1900 to 1930, jumping from 67,000 to 284,000, and development spilled over into neighboring towns of San Leandro (1872), Berkeley (1878), Alameda (1884) and Emeryville (1899). The earthquake of 1906 doubled Alameda county's population and industry overnight, and there was another a trebling of employment during the boom of the First World War. Output continued to rise in the 1920s, although employment slipped. (Figure 1) Oakland was no longer an outlyer of the metropolitan core, but a distinctive industrial arena in full bloom (Figure 5). Breakthroughs in transportation were important, of course: repossession of the waterfront from the Southern Pacific allowed the city to develop its own port facilities and the arrival of the Santa Fe (circa 1900) and Western Pacific (circa 1910) lowered freight rates. The East Bay grew on water and rails, not trucks, well into the 20th century. But the port and rail system grew to serve industry, as much as, if not more than, the other way around.[36]

Figure 5 here

map of East Oakland industrial belt, 1926

Fundamental to the industrialization of the East Bay were the emergence of new leading sectors and major reorientations in older ones. First among Alameda county's peacetime industries after 1900 was food processing, chiefly canning. The East Bay became the principal node in the Bay Area's largest industry, which led the nation in canning output from 1890 to 1940. California packers and canners introduced the first name-brands in food, standardization of produce, and mass advertising in foodstuffs (Del Monte brand was dreamed up at the Lusk company). They later set up the world's most advanced marketing and contracting system, tied to the new supermarket chains (such as Oakland's Safeway). And they innovated new methods and products, such as the canned olive (invented in Oakland). A major organizational restructuring of canning took place as well, as the industry underwent a marked concentration. In 1899 a dozen companies merged into the California Fruit Canners Association, headquartered in Oakland; in 1917 this group expanded into the giant CalPak (Del Monte) corporation, the leading agribusiness firm for much of the 20th century (though its headquarters moved to San Francisco). A host of suppliers provided cans, jars, crates and cartons to store and ship produce, as well as a stream of innovative machinery, such as pitters, peelers, and steamers. Many other food products were manufactured in the East Bay, including cereal, meat, and bread. Closely related were a dozen soap and cosmetics manufacturers. These factories were distributed along the length of the East Bay industrial belt and well into the outlying farming areas of southern Alameda county.[37]

Oakland's second leading sector was metal working and machinery, which continued a long tradition in the Bay Area -- but in a new era of steel alloys and high-speed cutting. Machine shops and foundries proliferated, clustering around downtown and along the estuary-rail corridor. Oakland companies such as Union Machine Works, Bay City iron and Vulcan Foundry made machines for packaging, road grading, clothes washing, canning, and chemicals, as well as boilers, engines, turbines and cast parts, some of which were unprecendented products. Upstream from metalworking was steel production, which finally developed as a significant industry in California in the 20th century. The East Bay steel district, focussed on Emeryville, was one of three that grew up around the Bay Area at the same time (the others were South San Francisco and Pittsburg, in Contra Costa county).[38]

The metal trades extended in several new directions. For a brief time, the Oakland estuary developed into an exceptional shipbuilding district. This was based on companies transferring operations from San Francisco and on wartime orders. Wooden shipbuilding migrated first to the estuary in the 1890s, later joined by Moore and Scott (later Moore Drydock) and Bethlehem (moving most of Union Iron Works' former operations). During the peak years of the World War there were a

dozen shipbuilders employing 40,000 men, putting out 18% of US production. Several companies supplied marine engines. The shift from San Francisco to Oakland appears to be tied to technical and product changes, such as steel construction, the Dreadnaught class of battleships, and oil tankers.[39]

No sector better exemplified the new age than automobiles and Fordist mass production, which swept into Oakland from Detroit in the 'teens. The city became host to over fifty assembly and component plants in the interwar period. Chrevolet was first, in 1916 , followed by Durant, Star and Willys-Overland. Another pioneer was Coast Tire and Rubber in 1919, which was rapidly joined by a variety of tire and parts makers. Many of these were local companies, as were specialty assemblers like Fageol (buses) and Benjamin Holt (tractors). Holt's caterpillar tractors, invented in Stockton for the Sacramento Delta, would revolutionize farming, warfare and earth-moving around the world within a generation. The auto age filled in the vast expanse of East Oakland, after Chevy jumped 7.5 miles out to empty fields at Foothill and 70th Avenue (Figure 6).[40]

Figure 6 here

aerial photo of Eastmont Chevy plant, c. 1918

The brand-new electrical machinery industry entered Oakland and the East Bay in the 1910s with an influx of branch plants from General Electric, Westinghouse, Western Electric, and Victor, as well as local operations such as Marchand and Magnavox. These factories manufactured lamps, motors, calculators, phonographs, and loudspeakers (invented in Napa). Aircraft were a promising East Bay industry in the biplane era; some thirty-five East Bay factories supplied airplane parts in World War I, including a United Airlines plant and Standard Gas Engine in Oakland and Jacuzzi and Hall-Scott Motors in Berkeley. For a time the new Oakland airport, completed in 1926 at the eastern edge of the city, was the premier airfield on the Pacific Coast.

The new wave of industrialization stretched the metropolitan area of Alameda county dramatically north and east. Hand in hand with industry growth came extensive residential development and land speculation. As westside industry built up, the flatlands of the north county up through Berkeley and Albany (1908) filled in, creating a sea of small homes of the working class. During its period of rapid growth from 1900 to 1930, the East Bay developed one of the most extensive streetcar systems in the country, led by the Key System. Trolleys and good wages allowed of considerable lateral mobility; so workers moved eastward all the way to the edge of the upper class redoubts in the foothills. East Oakland beyond Fruitvale -- largely vacant until the First World War despite annexation in 1908 --

filled in rapidly during the 1920s. Subsequently, tracts such as Melrose Highlands, built by the Realty Syndicate, and Havenscourt, built by Wickham Havens, were developed expressly for workers at the new auto factories.[41]

The East Bay has its own striking examples of local political initiatives to steer development. One was the creation of Emeryville. At a stroke, an emerging satellite of Oakland became an independent city devoted wholly to industry -- one of the first such entities in the United States, twelve years before the incorporation of South San Francisco. By 1935 little Emeryville (only 1.2 square miles) was home to over one hundred manufacturing plants. The town excluded all but a few hundred working class residents and operated as a tax haven and friendly government to industry. The manager of Judson steel, Walter Christie, served as Mayor for the first forty years of the town's existence, and was succeded by Al LaCoste, a packinghouse boss, who ruled for the next three decades. But even reputable Berkeley put in a sophisticated zoning ordinance c 1910 to protect factory owners from complaints by residential neighbors.[42]

By the turn of the century, Oakland was generating powerful capitalists of its own willing to do battle with San Francisco over water supplies, port expansion, and industrial growth. A Greater Oakland movement got underway in 1896 to push for civic improvements and the Chamber of Commerce campaigned tirelessly to attract investors. Francis Marion Smith was Oakland's first great booster capitalist, who put together the Key System of trolleys and built his Realty Syndicate into one of the biggest residential developers in the country (13,000 acres in 1900, almost 100 tracts complete by 1911). George Pardee, Mayor 1893-1895, went on to be Governor of California, while Joseph Knowland became a powerful voice for local interests while serving six terms in Congress. The iconic figure of the New Oakland was non-partisan Mayor Mott (1905-1915), who brought several civic improvement plans to fruition. One was a skyscraper City Hall that turned its backside to San Francisco. Another was the liberation of the port from Southern Pacific. Mott aggressively annexed all of East Oakland while it was still open land, and tried to forcibly add Berkeley. Labor repression was something Oakland's burghers distinguished themselves by, as when Mayor Pardee and Councilman Mott handed out pickhandles to vigilantes confronting Coxie's Army of the poor in 1893.

By the 1920s Oakland was a major player in California politics. Joseph Knowland, who bought the city's main newspaper *The Tribune* , became Oakland's chief power-broker and the leading force in the state Republican party for thirty years. He promoted Earl Warren to District Attorney and then Governor of California 1940-1954, and his son, William to US Senator and Senate Minority Leader in the 1940s and 1950s. Henry Kaiser and Walter Bechtel built their construction empires out of Oakland in the 1920s and 30s, partly on the strength of local projects such as the Alameda Tube, the Bay Bridge and the Caldecott Tunnel. Kaiser led the Six Companies in building Boulder Dam, then became a figure of national importance in the Democratic Party by allying with Franklin Roosevelt (during World War II he

would be one of the world's largest employers, with roughly 250,000 workers in his shipyards, building sites and factories).[43]

San Francisco's business leaders were alert to the challenge presented by Oakland to their hegemony over a burgeoning metropolis. Hoping to follow the lead of New York's metropolitan consolidation and LA's aggressive annexations, James Phelan and his Progressive allies put together a Greater San Francisco Association to try for political unification of the region. This plan went down to defeat in a statewide vote in 1912, against opposition led by Joe Knowland and Oakland's business community. Attempts to formalize a cooperative relation under a Regional Plan Association started by Phelan in the 1920s also came to naught. Oakland's own attempts to annex Berkeley in 1908 or to merge city and county in the late 1920s failed just as miserably. Of course, the regional business class on both sides of the bay was acutely aware of the challenge presented by Los Angeles to the economic supremacy of the north, so some cooperation was possible. In the 1910s Oakland's leaders supported the Hetch Hetchy water plan, the Panama-Pacific Exhibition, and regional unification by bridge, interurban rail and state highways. And during the Depression era regional leaders were able to pull together on such infrastructural projects as the trans-bay bridges.[44]

All the same, San Francisco capitalists, undaunted by shifting industrial geography or political opposition, kept investing in an expansive metropolitan fringe around the Bay Area. In Oakland, they were backers or owners of such firms as Parr Terminal, Moore-Scott ships, and Hunt Brothers canners. They invested in the East Bay's streetcar, rail, gas and electric infrastructure. Industrial rivalries made little difference to financiers and realtors, who could play both sides of the table and hedge their bets. Oakland Bank of Savings merged with San Francisco's Mercantile Trust to form American Bank and Trust Company, the region's second largest bank, in 1921. Bank of Italy opened branches there, and Coldwell, Cornwall and Banker joined the rush in the 1920s. Several leading San Francisco businessmen, such as Wallace Alexander and Isaias Hellman, made their homes in Oakland's posh hills by the 1910s.

The Contra Costa Shore

The northern tier of the new East Bay industrial belt appeared from the 1870s to the 1920s in Contra Costa county along the banks of the Sacramento River. Contra Costa specialized in giant resource-intensive plants, processing explosives, chemicals, oil, sugar, cement, lumber, silver, lead and steel. It leapt into the picture quite suddenly in the 1890s, and by 1900 the country's industrial output exceeded that of Alameda county (Figure 1). By 1906 some forty factories had opened along the river's south shore, including more than a half-dozen of the largest factories of their kind in the country in the early 20th century, such as C&H sugar, Standard Oil of California, Union Oil, Redwood Manufacturers and Hercules powder. By 1920 its various docks carried over half the tonnage on the Bay,

principally in petroleum. Edged out by Alameda county in the 1920s in value of output, Contra Costa did much better than its Bay Area rivals in the Depression and was by 1940 the second county in the state in value of industrial output. [45]

Contra Costa developed a peculiar urban-industrial landscape owing to the nature of its industries: a series of worker villages and company towns (Figure 7). While some factories employed hundreds of workers, almost all were capital intensive, high throughput operations that generated less total employment than the myriad workshops of Oakland and San Francisco (Figure 1). The most extreme form of this occurred at the several powder works, which favored Chinese men living in bunkhouses because of frequent explosions. Such places as Hercules, Rodeo, and Cowell were little more than company towns. Crockett, the third largest settlement in the county, was settled mostly by sugar workers. Pittsburgh, the second largest, was mostly a steel town. Only Richmond, at the western end of the industrial belt and the terminus of the Santa Fe Railroad (1899), became a small city, counting 80 factories and 23,000 people by 1940. Contra Costa county's population came to only 32,000 in 1910 and a rather modest 99,000 by 1940 -- in sharp contrast to the rampant urbanization in Alameda county.[46]

Figure 7 here

map of Contra Costa industrial belt, 1915

The first manufactures to come to Contra Costa county were powder and dynamite works serving the mining industry. Atlas Powder and California Power Works moved out from San Francisco circa 1880, and were joined by a half dozen others thereafter. These were leftovers from the mining era, who were fleeing from nuisances complaints in the city. But a new industrial age was dawning, and it soon made its mark in Contra Costa. Chemical plants entered the picture at the turn of the century, as demand for sulphuric acid, chlorine and ammonia fertilizers increased with advances in chemistry and industrial agriculture. Peyton Chemical was first, in 1898, followed by Stauffer Chemical in Stege (Richmond), Great Western Electro-Chemical, and others. Then came the oil refineries, another index of the new industrial era. A band of oil refineries along the river would make the Bay Area one of the chief refining centers in the United States. The first big refinery was Union Oil in 1896; Standard Oil followed at Richmond in 1901, and four others came in soon thereafter. Oil came by pipeline, ship and tank-car from the San Joaquin and Ventura fields. [47]

Another major industry was foodstuffs. In the 19th century, the wheat boom had given birth to Port Costa, a rump town fronted by miles of docks for transhipment from rail to ship; the biggest warehouses went up circa 1880. But Port Costa and

wheat went into sharp decline in the 1890s, when Contra Costa county was just catching fire. The fish packing industry started early, too, but had more staying power. The great California fish packing industry (famous from Monterey's Cannery Row) began along the Sacramento river: the first cannery to open was FE Booth in 1875, three more plants were there by the early 1880s, and 17 still survived in 1940. A whaling station and rendering plant operated for many years at Point San Pablo (Richmond). California & Hawaiian (C&H) built an immense sugar mill at Carquinez Straits at the turn of the century, while the crenellated fortress of Winehaven, built by the California Wine Association at Point Molate (Richmond), was the biggest winery in the world before Prohibition closed it down.[48]

Primary metals were another mainstay of Contra Costa industry. Selby's lead smelter and shot works (later ASARCO) moved from San Francisco to the Carquinez Straits in 1884, adding gold and silver smelting and a cartridge factory later. Copper smelting was first tried in 1864, but the most impressive operation came in the twentieth century with Mountain Copper (Mococo) at Bulls Head Point (Martinez). Steel came to the county in 1908 when Columbia Steel (later US Steel) chose a site upriver at Pittsburg. Also significant in the Contra Costa industrial complex were wood, paper and building materials. Building materials went through a major restructuring around the turn of the century, with the introduction of portland cement, better quality sawmills in the forests, and large-scale use of asbestos, and these technological changes featured in the shift of industry to Contra Costa: the Redwood Manufacturing Company's lumber mill, Cowell's cement plant, Johns Manville's asbestos works, and California paper and cardboard mill.

San Francisco capitalists dominated the development of Contra Costa county, which was more an industrial colony than Oakland. Almost all the county's major factories were dreamed up and financed from the city, including Selby, Great Western Electro-Chemical, and Redwood Manufacturing Company. San Francisco financiers orchestrated the rail, water, oil and electricity networks that fed the new industrial district, including the crucial link to the Santa Fe that broke the Southern Pacific's rail monopoly into the Bay Area. The county's largest city, Richmond, was almost entirely a creature of San Francisco designs: Standard Oil of California was city based, plant manager William Rheem organized the local trolley line to tie Richmond to the rest of the East Bay, HC Cutting put together the company that developed the inner harbor, and Fred Parr came in to build the outer harbor terminals and to negotiate Ford's move from San Francisco to Richmond. Other Richmond enterprises, such as Stauffer, Winehaven and Atlas, were funded by San Francisco investors. Oakland capital was represented by John Nicholl, who owned most of Point Richmond where the Santa Fe terminus and railyards were located.

Several upriver towns were also founded by city capitalists: Port Costa was the brainchild of merchant Isaac Friedlander, Pittsburg was engineered by Columbia

Steel, and Crockett grew up under the aegis of C&H Sugar. Pullman's Richmond sleeping car works was one of the few outside corporations to come into the area. San Francisco's business leaders had a clear regional perspective and strategy for industrial decentralization. And they dominated the scene, given the paucity of local capital, unions or working class voters. There was little fractiousness from Contra Costa -- unlike Oakland or even little Vallejo, just across the river in Solano county, which helped sink San Francisco's bid to be the home port for the Navy's Pacific Fleet. Contra Costa county was a South City or Emeryville writ large -- a clean slate on which big capital could write its industrial narrative unimpeded.[49]

Conclusion

San Francisco's urban geography has been deeply shaped by industrialization, and industry has helped lead the outward march of the metropolis from the Civil War to this day. Suburbanization of industry appears to be the normal mode of urban growth. This can be seen in the spatial expansion of industry within the city of San Francisco, down the Peninsula, over to Oakland and up along the Contra Costa shore. In fact, the tendency for industry to seek spacious quarters at the fringe is so marked from the outset that it makes no sense to speak of an 'old industrial core' that later suburbanized. Indeed, San Francisco's original core of workshops had been exceeded in importance by the South Market by 1870, and the latter by more southerly industrial districts by 1890. San Francisco as a whole was overtaken by the East Bay in the early 20th century, which itself was spreading out rapidly from central Oakland to West Oakland, then to Emeryville and East Oakland, and along the Contra Costa shore from Richmond to Crockett to Antioch.

The reasons for new eruptions of industrial activity at the urban fringe are several. Land prices and speculative gains are one, as in the founding of Richmond around the new rail terminus. Better infrastructure is another, as improved rail access or harbor facilities open up, as they did in Oakland. Less militant labor beyond the reach of the powerful San Francisco unions is a third, as in Contra Costa. Spatial politics enters with a vengeance in cases such as the Chicago meatpackers avoiding the city's butchers or in the formation of Emeryville as an industrial enclave city. Most strikingly, spatial expansion has been closely associated with opening up of new industrial sectors and restructuring of old -- the geography of the metropolis has been periodically (re)constituted along with its productive base.

Of course, there are always multiple and contingent forces at work to configure parts of the urban complex differently. South City ended up a stunted growth node, Contra Costa a string of industrial colonies, and Oakland a ferociously independent twin star to San Francisco. These particulars matter a great deal for the microgeography of the Bay Area. But the metropolis was bound to expand geographically as long as its economy grew, and capital to flow throughout the region as it developed. San Francisco investors, who led the way from the outset,

had a metropolitan vision, and they planted the seeds for much, if not most, of the development around the bay. As the editor of the *Chamber of Commerce Journal* wrote in 1912, "in San Francisco are made most of the great plans for state development", and he went on to quote H.C. Cutting , developer of Richmond's inner harbor, who said: "This growth means as much to San Francisco as though it took place within her own city limits, for financially it is all one. We grow together."[50]

---

[1] Thanks to Kevin Carew and David Landau for research assistance, and to Gray Brechin, Jim Buckley, Paul Groth, and Paul Rhode for advice and counsel.

[2] For the traditional view, see J. Vance, *Geography and Urban Evolution in the San Francisco Bay Area* (Berkeley 1964) 50-51; P. Groves, *The Intrametropolitan Location of Manufacturing in the San Francisco Bay Area* (Unpubl. PhD diss., University of California, Berkeley, 1969) 28-29.

[3] See the lead article in this book by R. Walker & R. Lewis, Beyond the crabgrass frontier.

[4] C. McWilliams, *California: The Great Exception* (New York 1949); G. Barth, *Instant Cities: Urbanization and the Rise Of San Francisco And Denver* (New York 1975); L. Doti & L. Schweikart, *Banking In The American West: From The Gold Rush To Deregulation* (Norman 1991); G. Brechin, *Imperial San Francisco: Urban Power, Earthly Ruin* (Berkeley 1998).

[5] On early resource extraction and processing around the bay, see J. Hittell, *The Commerce And Industries Of The Pacific Coast* (San Francisco 1882); A. Hynding, *From Frontier To Suburb: The Story Of The San Mateo Peninsula* (Belmont 1981); M. Koch, *Santa Cruz County: Parade Of The Past* (Santa Cruz 1973); R. Paul, The wheat trade between California and the United Kingdom *Mississippi Valley Historical Review* 45 (1973) 391-412; J. Hutchinson, Northern California from Haraszthy to the beginnings of prohibition, in D. Muscatine, M. Amerine and B. Thompson (eds) *The Book of California Wine* (Berkeley 1984) 30-48.

[6] M. Gordon, *Employment Expansion and Population Growth* (Berkeley 1954); J. Guinn, *History Of The State Of California And Biographical Record Of Oakland And Environs* (Los Angeles 1907); Vance *op.cit*.

[7] W. Issel and R. Cherny, *San Francisco, 1865-1932* (Berkeley 1986) 25, 54; R. Elgie, *The Development Of San Francisco Manufacturing, 1848-1880* (Unpubl. M.A. Thesis, University of California, Berkeley, 1966); N. Shumsky, *Tar Flat and Nob Hill: A Social History Of Industrial San Francisco During The 1870s* (Unpubl Ph.D. diss, University of California, Berkeley, 1972) 22-24; R. Walker, Another round of globalization in San Francisco *Urban Geography* 17 (1996) 60-94.

[8] Keeping in mind that Currier & Ives birds'-eye views were sometimes embellished.

[9] On capital see R. Trusk, *Sources Of Capital Of Early California Manufacturers, 1850-1880* (Unpubl. Ph.D. diss., University of Illinois, 1960); Issel & Cherny *op.cit.*, Brechin *op.cit*. On the stimulus of labor migration, see Elgie *op.cit*. On the skewed occupational structure toward professions and craft skills, see Issel & Cherny,

op.cit. 54-55. Wages, incomes and value added per worker were all higher in California and the West than elsewhere in the US. Average firm size was lower. For evidence of innovation, see Hittell, *op.cit.,* Brechin, o*p.cit.*, and J. Johnson, Early engineering center in California *California Historical Quarterly* 29 (1950) 193-209.

[10] For an overview of California's resource-based economic dynamism at this time, see R. Walker, California's golden road to riches *Annals Of The Association Of American Geographers* 91 (2001), 167-99.

[11] I consider animal processing to be a more useful category than simply meatpacking, because it includes byproducts like glue and marine products like whale baleen and fish rendering.

[12] The following portrait is a composite over thirty years, which means companies came and went and may not always be strictly contemporaneous. It is drawn from my close readings of the Sanborn Insurance Maps for 1886-93 and 1899-1905, plus F. Hackett (ed), *The Industries of San Francisco* (San Franciso 1884), Anonymous, *The Bay Of San Francisco: The Metropolis Of The Pacific Coast And Its Suburban Cities* (Chicago 1892); Hittell *op.cit.*, Trusk *op.cit.*, Elgie *op.cit.*; Shumsky *op.cit.*; Issel & Cherny *op.cit*.

[13] On San Francisco's emergent and shifting business district, see M. Bowden, *The Dynamics Of City Growth: An Historical Geography Of The San Francisco Central District, 1850-1931* (Unpubl PhD Diss.,University of California, Berkeley, 1967). I also became aware of a significant separation of company offices and salesrooms from manufacturing well before 1900, but cannot pursue it here.

[14] For the location of businesses north of Market, see San Francisco Post Company, *Business Map* (San Francisco 1880). On Chinese labor, see A. Saxton, *The Indispensable Enemy: Labor And The Anti-Chinese Movement In California* (Berkeley 1971). On publishing, see J. Bruce, *Gaudy Century: The Story Of San Francisco's Hundred Years Of Robust Journalism* (New York 1948). Figures on printers, G. Bowser, *A Business Directory Of The City And County Of San Francisco* (San Francisco 1885).

[15] On machining and mining, see J. Blum, The early San Francisco iron industry (Unpublished manuscript, 1997); Vance *op.cit.*; Brechin, *op.cit.*

[16] On the lumber industry, see J. Buckley, *Building the Redwood Region: The Redwood Lumber Industry and the Landscape of Northern California, 1850-1929*, (Unpubl PhD diss, University of California, 2000). Mission Bay was filled and the wood district fully in place by 1884, N. Olmsted, *Vanished Waters: A History Of San Francisco's Mission Bay* (San Francisco 1986).

[17] On Potrero Point, see Olmsted *op.cit*.; P. Groth, Making the system work: engineering cultural change in 20th century factory complexes. Paper for the American Studies Association meetings, New York 1988; J. Kemble, *San Francisco Bay: A Pictorial Maritime History* (Cambridge, MD 1957) 10 (map).

[18] Butchertown's history has not been told, but on Miller & Lux see D. Igler, *Industrial Cowboys: Nature, Private Property And The Regional Expansion Of Miller & Lux, 1850-1920* (Berkeley, 2001).

[19] On residential patterns, their linkage to industrial expansion, and bourgeois resettlement, see Shumsky *op.cit.*, 138-39; Issel & Cherny *op.cit*.; Buckley, *op. cit.;*

R. Dillon, *North Beach: The Italian Heart of San Francisco*. (Novato, 1985); A. Shumate, *Rincon Hill And South Park: San Francisco's Early Fashionable Neighborhood* (Sausalito 1988); P. Groth, *Living Downtown: The History Of Residential Hotels In The United States* (Berkeley 1994); R. Walker, Landscape and city life: four ecologies of residence in the San Francisco Bay Area *Ecumene* 2 (1995) 33-64.

[20] On Dogtown, see Olmsted *op.cit*. 47; Groth, Making the system work. On land speculation by major San Francisco capitalists, see Brechin, *op.cit*. There is no detailed study of land speculation and residential development in the southeastern part of San Francisco, however.

[21] L. Kauffman, *South San Francisco: A History* (self-published 1976); J. Blum, South San Francisco: the making of an industrial city *California History* 63 (1984) 115-33 119;.Igler, *op.cit.*

[22] E. Burns, *The Process Of Suburban Residential Development: The San Francisco Peninsula, 1860-1970* (Unpubl PhD Diss, University of California, Berkeley 1975); Walker, Landscape and city life; Kauffman, *op.cit*.; Hynding, *op.cit* (Kauffman and Hynding are descendents of South City leaders).

[23] Hynding, *op.cit*; Blum, *op.cit.* Although the Peninsula was chiefly a commuter zone for San Francisco, an electronics industry grew up there early in the century. It developed out of high-voltage transmission and long-distance communications, and the vacuum tube invented in Palo Alto by Lee DeForest. D. Hanson, 1982 *The New Alchemists: Silicon Valley And The Microelectronics Revolution* Boston Little, Brown; T. Sturgeon, *The origins of Silicon Valley: the development of the electronics industry in the San Francisco Bay Area* (Unpubl. M.A. Thesis, University of California, Berkeley 1992). The airport and its surrounding warehousing district did not arrive until World War II.

[24] On the importance of San Francisco's coffee companies nationally, see M. Pendergrast, *Uncommon Grounds: The History of Coffee and How it Transformed the World (*New York, 1999).

[25] P Cohen, *Transformation In An Industrial Landscape: San Francisco's Northeast Mission* (Unpubl M.A. thesis, San Francisco State University, 1998). On industrial conditions in San Francisco after World War I, see US Bureau of the Census, *op.,cit.* 158-59; SF Chamber of Commerce, *Directory of Manufactures of San Francisco, California* (San Francisco 1920, 1922); Chamber of Commerce, *San Francisco Economic Survey* (San Francisco 1937-40).

[26] Los Angeles outgrew the Bay Area in population and employment 1880-1910 and 1920-40. On San Francisco's declining commercial dominance over the west, see E. Pomeroy *The Pacific Slope* (New York 1965); on its continuing financial hegemony, see Doti and Schweikert *op.cit.* Figures on shipping, Calkins & Hoadley *op.cit.* 156-58.

[27] R. Calkins and W. Hoadley, *An Economic And Industrial Survey Of The San Francisco Bay Area (*Sacramento 1941) 170. A few local historians have alert to the need not to confuse San Francisco's performance with that of the whole Bay Area, e.g., M. Scott, *The San Francisco Bay Area: A Metropolis In Perspective* (Berkeley 1959) 136; Issel & Cherny *op.cit.* 50. Industrial employment in the Bay

Area fell 1904-1909 and grew little up to 1914, according to Census figures, although output continued to expand; however, the Census defined the metro area to exclude much of Contra Costa. US Bureau of the Census, *Fourteenth Census of the United States, State Compendium - California* (Washington, DC 1924).

[28] The evidence never bore out the corporate takeover theory, as shown fifty years ago by A. Trice, *California Manufacturing Branches Of National Firms, 1899-1948: Their Place In The Economic Development Of The State* (Unpubl. Ph.D. diss., University of California, Berkeley, 1955). On Studebaker, e.g., see T. Bonsall, *More than they Promised : the Studebaker Story*. (Stanford, 2000). An aside: even without national corporations, generic names for industrial companies did not begin with General Foods and General Motors; San Francisco's early capitalists were remarkably uninspired in their naming, repeating over and over the same handful of labels: Pioneer, Western, Pacific Coast, California, San Francisco, Enterprise, etc.

[29] Quote from Grant in Issel & Cherny *op.cit*. 51. Gerstle quote from President's Annual Report, Sixty-First Annual report of the Chamber of Commerce of San Francisco, 17-18, as cited in M. Scott, *The San Francisco Bay Area* (Berkeley, 1985, 136). On San Francisco's militant labor in general, see McWilliams *op.cit.*, M. Kazin, *Barons Of Labor: The San Francisco Building Trades And Union Power In The Progressive Era* (Urbana 1987). On the virtuous circle of high wages and growth, see Gordon, *op.cit.* On the Chinese see Anonymous *op.cit.*; Saxton, *op.cit.*. Many Chinese migrated to southern California in the 1880s and 90s to escape persecution, no doubt helping LA's manufacturing growth.

[30] On the Southern California capitalists' militant self-organizing in the Progressive Era, see M. Davis, *City of Quartz* (London, 1989); W. Deverell and T. Sitton, eds. *California Progressivism Revisited* (Berkeley, 1994).

[31] On San Francisco's business power and alliances, see McWilliams *op.cit.*; Issel & Cherny *op.cit.*; Brechin *op.cit.*; Scott *op.cit.;* Kahn, *Imperial San Francisco: Politics And Planning In An American City, 1897-1906* (Lincoln 1979); W. Issel, Citizens outside the government: business and urban policy in San Francisco and Los Angeles, 1890-1932 *Pacific Historical Review* 57(1988) 117-45; Issel, Business power and political culture in San Francisco, 1900-1940 *Journal of Urban History* 16(1989) 52-77; Issel, The New Deal and wartime origins of San Francisco's postwar political culture: the case of growth politics and policy, in R. Lotchin (ed), *The Way We Really Were: The Golden State in the Second World War* (Urbana, 2000) 68-92.

[32] On geographical industrialization, see M. Storper & R. Walker, *The Capitalist Imperative: Territory, Technology And Industrial Growth (*New York 1989).

[33] For an overview of change in California industry, see Gordon *op.cit*. I will take up the changes in specific sectors further throughout the chapter.

[34] The chief source on industrial Oakland, including locations, is E. Hinkel and W. McCann (eds), *Oakland, 1852-1938* (Oakland 1939) chapter 12. Also, The Illustrated Directory Company, *The Illustrated Directory Of Oakland, California* (Oakland 1896); Anonymous, *Greater Oakland, 1911* (Oakland 1911); Oakland Central National Bank, *Oakland, California: The City Of Diversified Industry*

(Oakland 1920); Oakland Tribune *Year Book* (Oakland 1926, 1927); R. Cleland and O. Hardy, *March of Industry* (Los Angeles 1929); Oakland Chamber of Commerce, *Industrial Facts about Oakland and Alameda County, California* (Oakland 1931); Emeryville Industries Association, *Emeryville, California: Facts and Factories* (Emeryville 1935), Emeryville Industries Association, *A Roster of Emeryville Industries* (Emeryville, c1936).

[35] Carpentier owned the waterfront from 1852 to 1868, then ceded it to the Oakland Waterfront Company, held by himself, his brother and Samuel Merritt, as well as Leland Stanford and other San Francisco barons. J. Dykstra, *A History Of The Physical Development Of The City Of Oakland: The Formative Years, 1850-1930* (Unpubl. M.A. thesis, University of California, Berkeley, 1967); B. Bagwell, *Oakland: Story Of A City* (Novato 1982).

[36] Calkins & Hoadley *op.cit.* 217, 156 & 212. Hinkel and McCann *op.cit.* call Oakland "the Glasgow of the US, the Marseilles of the Pacific and the Detroit of the West", boosterist terms promoted by local business leaders in the preceding years. Published figures can be misleading because much of East Bay industry was in unincorporated areas or because of exaggeration by Chamber of Commerce type sources.

[37] US Bureau of Census, *Census of Manufactures,* 1914, I, 179. There were seventeen CalPak canneries in the south county alone. Oakland Chamber of Commerce, *op.cit.* 22. On Bay Area canning see J. Cardellino, Industrial location: a case study of the California fruit and vegetable canning industry, 1860 to 1984 (Unpubl. M.A. thesis, University of California, Berkeley, 1984); W. Braznell, *California's Finest: The History Of Del Monte Corporation And The Del Monte Brand* (San Francisco 1982); Hackett *op.cit.*; Hinkel & McCann *op.cit.*; Calkins & Hoadley *op.cit.*

[38] Hinkel & McCann *op.cit.*; Emeryville Industries Association *op.cit.*. Overall, California's steel and machinery industries made spectacular advances in the 1910s, due in part to low-cost energy and Federal wartime spending. Gordon *op.cit.* 56.

[39] Hinkel & McCann *op.cit.* J. Moore, *The Story of Moore Dry Dock Company: A Picture History* (Sausalito, 1994).

[40] Hinkel & McCann *op.cit.;* Oakland Tribune *Year Book 1926* 53, 181; H. Christman, Development of the pacific coast automotive industry *Western Machinery World* January (1929) 13-19.

[41] On the residential expansion of Oakland, see Dykstra *op.cit.* and Bagwell *op.cit*. On local real estate cycles, see L. Maverick, Cycles in real estate activity *Journal of Land and Public Utility Economics* 8 (1932) 191-99. The Realty Syndicate was responsible for about half of modern Oakland, especially along the foothills, where middle class riders used the trolleys to commute from homes in the elite districts such as Claremont, Elmwood, Piedmont and Trestle Glen. See also Walker, Landscape and city life.

[42] Emeryville Industries Association *op.cit.*. Emeryville's political history has not been adequately told. Emeryville preceded the first industrial suburb of Los Angeles, Vernon, by eight years. On Berkeley zoning, see M. Weiss, Urban land

developers and the origins of zoning laws: the case of Berkeley Berkeley Planning Journal. 3 (1986) 7-25.

[43] Vance *op.cit.* emphasizes Oakland's independence. On the port, see Bagwell, *op.cit.*; Dykstra, *op.cit.* On labor and Oakland politics, see C. Rhomberg, *Social Movements In A Fragmented Society: Ethnic, Class And Racial Mobilization In Oakland, California, 1920-1970,* Unpubl. PhD dissertation, University of California, Berkeley 1997. Oakland's Chamber of Commerce could brag in 1931 that the city was 90% Open Shop. Oakland Chamber of Commerce Industrial Bureau *op.cit.,* 11. On Knowland, see G. Montgomery and J. Johnson, *One Step From the White House: The Rise and Fall of Senator William F. Knowland* (Berkeley 1998); E. Cray, *Chief Justice: A Biography of Earl Warren* (New York 1997). On Kaiser, see M. Foster, *Henry J. Kaiser: Builder in the Modern American West* (Austin 1989). On the Greater Oakland movement, see R. Self, . *Shifting Ground In Metropolitan America : Class, Race, And Power In Oakland And The East Bay, 1945-1977* (unpubl PhD diss, Stanford, 1998).

[44] On metropolitan consolidation, see M. Scott *op.cit*, 134 and Anonymous, The Bay Basin and Greater San Francisco, *Merchants' Association Review,* December 1907, Anonymous, Greater San Francisco Edition, *San Francisco Chronicle,* December 22, 1907. Scott emphasizes the failure to unify the region and its costs; for a contending view, see R. Lotchin, The Darwinian city: the politics of urbanization in San Francisco between the world wars *Pacific Historical Review* 48 (1979) 357-81.

[45] For a comprehensive history of local industry, see M. Purcell, *History of Contra Costa County* (Berkeley 1940) chapters 24 and 25; also J. Whitnah, *The Story of Contra Costa County, California* (Martinez? 1936); G. Emanuels *California's Contra Costa County* (Fresno 1986); and promotional pamphlets from 1887, 1903, 1909 and 1915 held in the Bancroft Library, e.g. Board of Supervisors, *Contra Costa County: Leading County Of The West In Manufacturing* (Martinez c 1915). Figures on output from Census of Manfacturers, various years. Shipping figures, Calkins & Hoadley *op.cit*. 158.

[46] Figures from Purcell *op.cit*.; Emanuels, *op.cit*. Company towns were segregated by race and ethnicity, as at Tormey/Selby, Valona/Crockett, or Hercules. On Richmond, see J. Whitnah, *A History of Richmond, California* (Richmond 1944); E. Davis, *Commercial Encyclopedia Of The Pacific Southwest* (Berkeley 1910-15).

[47] Oil and electricity fueled Contra Costa's industrialization. The first oil pipeline, from Bakersfield, arrived in 1903. Meanwhile, thanks to the water resources of the Sierra, use of electricity in California manufacturing outran the rest of US by six times in 1904, triple in 1909 and double in 1919. Gordon, *op.cit*. 99. On electrification, see J. Williams, *Electricity And The Making Of Modern California* (Akron 1997).

[48] On fish canning, see A. McEvoy, *THe Fisherman's Problem: Ecology And Law In The California Fisheries, 1850-1980* (New York 1986); K. Davis, *Sardine Oil on Troubled Waters* (Unpublished PhD thesis, Berkeley, 2002).

[49] Investors from Issel & Cherny *op.cit*. Chapter 2. There were few upstart capitalists in Contra Costa's history. On Vallejo versus San Francisco, see R. Lotchin, *Fortress California, 1910-1961: From Warfare To Welfare* (New York 1992).

[50] Quoted by Mel Scott *op.cit*. 137 and Issel & Cherny *op.cit*. 42. For more such uplifting rhetoric on regional unity in the 1930s, see *ibid.*, 50.