# Industry in the San Francisco Bay Area

Richard J. Lamb, Jr.

The name doesn't have a very familiar ring now, but 40 years ago it graced the facade of the newest building on the Berkeley campus of the University of California, the portal through which the university and a whole generation of scientists entered the Nuclear Age. The building was called the William H. Crocker Radiation Laboratory after the eminent San Francisco banker who, at the depth of the Great Depression, shelled out the money to pay for it.

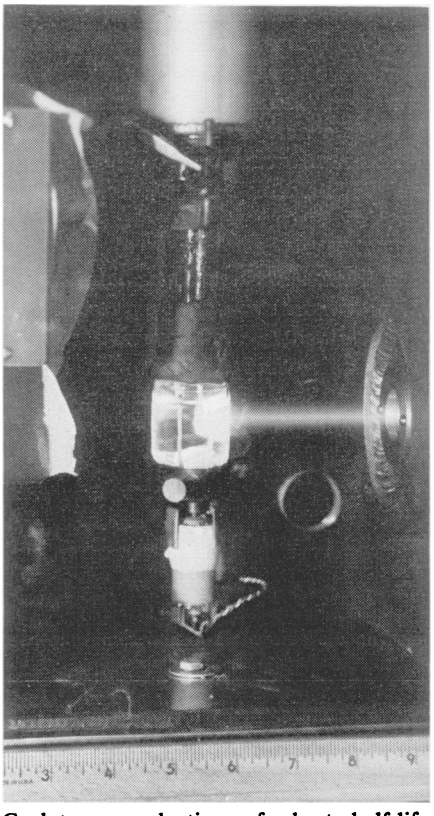
The Crocker radlab, long since obsoleted by the advances in nuclear science and razed to make room for more sophisticated apparatus, was symbolic of the affinity between the San Francisco business community and the academic scientists who propelled the Bay Area into the forefront of high-technology industry.

In San Francisco next month, participants in the annual meeting of the American Association for the Advancement of Science (AAAS) will learn that one portion of the area—the Santa Clara Valley—shelters what is reputedly the greatest concentration of high-technology companies in the world. This is the area south of the city, dubbed Silicon Valley, that accounts for 36 percent of U.S. semiconductor production and is home to some 300 manufacturers of electronic gear.

Scan the roster of the thousand largest industrial companies in the United States and you'll find it dotted with the names of young, gutsy, science-oriented firms that made their impact from bases in the San Francisco area—names like Hewlett-Packard, Ampex, Varian, Memorex, Raychem. None of them existed when Will Crocker, with his handsome benefaction, made it possible for the then obscure Ernest O. Lawrence to build a home for his second-generation cyclotron. And none except Hewlett-Packard was even dreamed of before the awesome consequences of Lawrence's research became known.

As the great universities were the magnet that drew men like the University of California's Dakota-born Lawrence and Stanford's Coloradoborn David Packard to the intellectually stimulating climate of the Bay Area, imaginative bankers like Crocker and A. P. Giannini provided the financial sinews that held them there. Giannini founded the Bank of America, the largest commercial bank in the world.

Crocker's gift to the University of California was no flash in the pan. Five years earlier, he and two associates bankrolled the youthful Philo T. Farnsworth's research that led to the first successful, if primitive, broadcast of television in 1927. A man of stern and bearded visage, Crocker was no scientist, yet he financed at least a dozen solar eclipse expeditions lead by astronomer William Wallace Campbell, director of the University of California's Lick Observatory and later president of the university.



Cyclotron production of short half-life isotopes. Photograph shows a quartz vessel containing pure water being bombarded by a beam of 65 million electron volt alpha particles from the cyclotron. [Lawrence Radiation Laboratory, University of California, Berkeley]

In addition to his 29 years as a regent of the university, Crocker served 40 years as a trustee of the California Academy of Sciences, a unique institution only 4 years younger than the state itself. His interests at the academy, reflected by the fallout from his checkbook, centered on botany, ornithology, and herpetology, among the seven areas of research that engage the academy's attention. It's indicative of the institution's stature in the community that all but a dozen of its 32 present trustees are San Francisco business executives—including William R. Hewlett, cochairman of the AAAS meeting.

In a comparable category is the prestigious Stanford Research Institute (SRI), based in Menlo Park not far from Stanford University. Although started (in 1946) with a small loan from the university, SRI got its major impetus from a crusty, cantankerous millionaire manufacturer, the late Atholl McBean, and other executives he mobilized in support. Its contract research for both public and private clients in the United States, Europe, and Asia helped to fuel the high-technology boom in the Bay Area. SRI's sprawling headquarters houses a colony of 1450 professionals, backed up by 1350 in supporting roles, and its directorate is a Who's Who in Business. The institute, divorced from the university a few years ago, is now an independent entity.

Alongside San Francisco business giants like Standard Oil of California, Southern Pacific Railroad, and the Bank of America, some of the corporate citizens of Silicon Valley look pretty tiny. Nor do they come anywhere near matching the size, in dollars, of the Bay Area's Pacific Gas & Electric Co., Safeway Stores, Transamerica Corp., the Kaiser family of aluminum, steel, engineering, and cement companies, or the world-renowned Bechtel Corp., behemoth of heavy engineering construction.

Still, although electronics is basically a capital-intensive industry, it ranks virtually neck-and-neck with construc-

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tion as a dominant private employer in California. The Western Electronic Manufacturers Association (WEMA) reported to the state last month that member firms in 1972 employed upwards of 400,000 in California and generated sales of $7.5 billion. Four of the bigger ones in Silicon Valley together accounted for well over $1 billion in sales.

It's not too surprising, then, that San Francisco banks have exerted special effort to accommodate the financial needs of the high-technology companies. In step with its founder's interest in science-oriented business, the Crocker National Bank last month installed an electronics engineer, Dr. Bernard A. Wambsganss, as a vice president of the corporate division with the special mission of monitoring relations with electronics companies. Wambsganss is based in Mountain View near the center of that business.

"We had so much money out in high-technology companies," says senior vice president Howard R. Carlson, "that I needed somebody to give me a reading on the technical competence of the borrower, whether the company's products were really ready for the world to use. We hired Ben Wambsganss 5 years ago for that purpose because he was steeped in scientific research and knew the technology intimately. When I was regional manager down there, I always felt so inadequate that I was just shooting crap as to whether the borrower was capable of completing a job. Ben steps in and plays the major role. We don't make loans in the electronics industry down there without an opinion from Ben, and he handles the loans himself in many cases."

Wambsganss is also on call to help the bank's Los Angeles officers in their relations with electronics manufacturers. Crocker's veteran Palo Alto vice president, Charles D. Means, became a specialist in electronics financing and in 1959 wrote a full-dress thesis on the subject during special studies at the University of Washington at Seattle.

Wells Fargo Bank took a somewhat different route toward the same goal. Almost 4 years ago Wells created what it calls the Special Industries Group (SIG) and based it in Palo Alto. As the SIG was aimed specifically at serving high-technology customers, neighboring branches of the bank turned over their high-technology loan commitments totaling around $10 million to the new task force. The group consisted of three very junior loan officers and a secretary. Now there are nine loan officers and six members of a supporting staff servicing some 120 companies with loans ranging from $15,000 to $15 million. Where technological advice is needed, the Wells Fargo group employs special consultants instead of retaining an inhouse expert like Wambsganss at Crocker. But Wells Fargo, conscious of the relative youth and mental agility of its high-technology customers, sets the same specifications for its SIG loan officers. Vice president and manager of the group is Roger V. Smith who has yet to observe the tenth anniversary of his graduation from the University of Colorado.

Smith's group works hand in glove with a dozen or more venture capital firms in the immediate area, in San Francisco, and New York, each supplying its own special brand of service. Much of the bank's volume in this specialty area is realized on referral of customers by the venture capital companies. Of the group's $115 million in current loan commitments, computer-related activities absorb 20 percent, communications companies another 20 percent, semiconductors 14 percent, optics manufacturing 13 percent, and scientific instruments 10 percent.

Still a third approach is that of Bank of America, which set up an electronics section in its national division, the corporate financing arm of the bank, in 1966. Vice president George C. Yates, in charge of the section, heads a force of seven account officers servicing $200 million of loan commitments, 85 percent of which originated in the Silicon Valley area. The section this month is moving into a new phase by assigning marketing responsibility to three of the senior loan officers.

"We're known down the Peninsula for expertise in high-technology banking," says Yates, "and I would guess that we have between 40 percent and 50 percent of WEMA's manufacturing members as customers."

Yates emphasized that the bank "does not put out credit indiscriminately." Nor do the other banks. Crocker's vice president Means, 32 years on the job in Palo Alto, recalls the legend of Hewlett-Packard's modest start. Dave Packard walked in cold in 1940 and asked to borrow $1000, half on his note and half on Bill Hewlett's, to buy materials for a new type audio oscillator they were building in Packard's garage. They got the loan after their credit was checked out, and they still are Crocker customers. Thirty-two years later, Crocker's $1000 borrower reported sales of $479 million for the year.

## The Wine Industry of California

One business distinction that San Francisco doesn't share with any other city is that it is the wine capital of the Western Hemisphere.

To the people who live there this means, for one thing, that they have access in their retail shops to more than 600 varietal table wines—32 whites and 24 reds produced by 74 different vintners. Among the 240 million gallons of California wine that reach market in a year, the varietals are the pride of the vineyards, produced predominantly from the juice of a single grape variety. Many are produced in such limited volume that there's not enough to fill the supply pipeline to eastern markets, so they never get past the California border.

Another plus is that the San Franciscan is never more than an hour or two from the vineyards and the wineries where the wines are fermented, aged, and stored, and virtually all of the wineries open their arms—and their bottles—to visitors.

Members of the American Association for the Advancement of Science who attend the San Francisco meeting next month will be too late to see any grapes on the vines, or any of the 1973 vintage in the crusher or the fermentation tanks. But there's still plenty to see, the smells around a winery are fantastic, and the tastings on a winery tour are a delight to one who enjoys wine.

The Wine Institute (717 Market St., San Francisco 94303) has an informative pocket guide, "California's Wine Wonderland," with maps of the vineyard areas and visiting hours at individual wineries.

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