

San Francisco Chronicle

Tracing Silicon Valley's Roots

Leslie Berlin, Special to The Chronicle

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Fifty years ago, when most employees expected to stay with one company for their entire careers and the region today called Silicon Valley was an agricultural paradise best known for its prunes and apricots, a group of eight young men who disliked their Nobel Prize-winning boss, William Shockley, made a radical move.

They decided to quit their jobs.

Six of them with doctoral degrees, only one of them over 30, with backgrounds in physics, electronics, engineering, metallurgy or chemistry, they were united in two goals: to build silicon transistors, and to do so on their own terms.

The group wrote to a New York investment bank for help in finding a company to hire all of them. Two bankers - Arthur Rock, himself barely 30, and Bud Coyle - agreed to fly to California and discuss options over a meal at San Francisco's Cliff Hotel.

It would prove to be a historic meeting.

On the appointed day, the young men - Julius Blank, Victor Grinich, Jean Hoerni, Eugene Kleiner, Jay Last, Gordon Moore, Robert Noyce and Sheldon Roberts - squeezed into two family cars and headed to breakfast in the Redwood Room.

As the meal drew to a close, the bankers suggested that they could indeed help the researchers - not to find a new employer, but to start their own company.

The group of eight agreed to try, and the senior banker, Coyle, a ruddy-faced Irishman with a fondness for ceremony, pulled out 10 newly minted \$1 bills and laid them carefully on the table. "Each of us should sign every bill," he said. These dollar bills, covered with signatures, he explained, would be their contracts with each other.

The company they would start together was Fairchild Semiconductor, the first successful semiconductor company in Silicon Valley.

Many consider the men who signed those bills to be the founding fathers of Silicon Valley.

To be sure, other electronics companies had earlier starts, and others would prove even more successful than Fairchild, but much of what one associates with Silicon Valley - the innovations, glorious rises and spectacular flameouts, young employees going off on their own to pursue ideas their bosses ignore, savvy venture capitalists helping transform these ideas into viable companies, the creation of vast wealth - can be traced to Fairchild Semiconductor.

The decision to start a company in 1957, particularly after resigning en masse from another employer, was so bold that Shockley's boss, Arnold Beckman, called the young men into a small room on their last day of work and urged them to "consider the community reaction" to what they were about to do. Launching their own company, Beckman warned, "will be looked on as a shameful act."

Last took notes during that meeting. “Beckman feels that our leaving in this manner is a disloyal act,” he recorded. “The right of the individual to change employment is different from a planned concerted action. ... Beckman feels as if a good friend has stabbed him in the back.”

In a time before widespread institutional venture capital, Rock had a difficult time finding a backer for the group of eight. He approached more than 30 companies, including Magnavox, General Mills and Burroughs, all of which turned the idea down flat, without even asking to meet the men involved.

Finally, as the summer of 1957 turned to fall, he found a company willing to take the risk. On Sept. 19, the group of eight met with representatives from Fairchild Camera and Instrument to sign papers establishing Fairchild Semiconductor Corp.

Camera and Instrument, an aerial camera company run by millionaire inventor Sherman Fairchild, agreed to loan the new company a total of \$1.38 million over 18 months. In exchange, Camera and Instrument controlled the company through a voting trust and received an option to buy all of Fairchild Semiconductor’s stock for \$3 million. It was, as one founder put it, “a very good deal for both sides.”

Fairchild Semiconductor’s eight founders imbued the company with a corporate culture that today might be called “quintessential Silicon Valley”: open communications, laissez-faire management styles, flat organizational structures and autonomous research groups. The founding team also pushed for a generous distribution of stock options, but the lead shareholder of Fairchild’s parent company called the practice “creeping socialism.”

In a decade, Fairchild Semiconductor grew from its core of eight employees to thousands, with \$12 million in profit. The company pioneered the processes behind integrated circuits that are still in use today.

Fairchild was one of the first to employ offshore labor to assemble and test its microchips. The company blazed trails in areas as diverse as marketing, manufacturing and basic research. At one point in 1966, Fairchild was the fastest-growing company on Wall Street.

When that ride came to an end in 1967, Fairchild’s decline proved as significant as its rise. By this time, the once-treasured act of leaving an employer to start a company had become commonplace.

Fairchild employees formed dozens of startups (dubbed the “Fairchildren”), several of which exist today at the heart of the \$228 billion global semiconductor industry. Andy Grove of Intel, Jerry Sanders of AMD, and Charlie Sporck and Floyd Kvamme of National Semiconductor - all of them worked at Fairchild.

Over the next two decades, Fairchild’s founders and employees would go on to create no fewer than 65 technology companies.

And they passed on the lessons they learned to the next generation of entrepreneurs.

Noyce, Grove and Sanders were mentors to Steve Jobs, who wanted, he said, “to smell that second wonderful era of the valley, the semiconductor companies leading into the computer.”

A generation later, the founders of Google, Larry Page and Sergey Brin, would come to Jobs for advice. It all started with eight disgruntled researchers, a dream and a handful of \$1 bills.

Fairchild panel

Julius Blank, Jay Last, Gordon Moore and Arthur Rock - three company founders and the venture capitalist who backed them - discuss the firm's early years and its significance in a discussion moderated by Leslie Berlin of the Silicon Valley Archives at Stanford University. Stanford President John Hennessy will introduce the panel discussion, which is free and open to the public. The event is co-sponsored by Stanford Libraries and the Bill Lane Center for the Study of the North American West.

When: Thursday, 6-7:30 p.m.

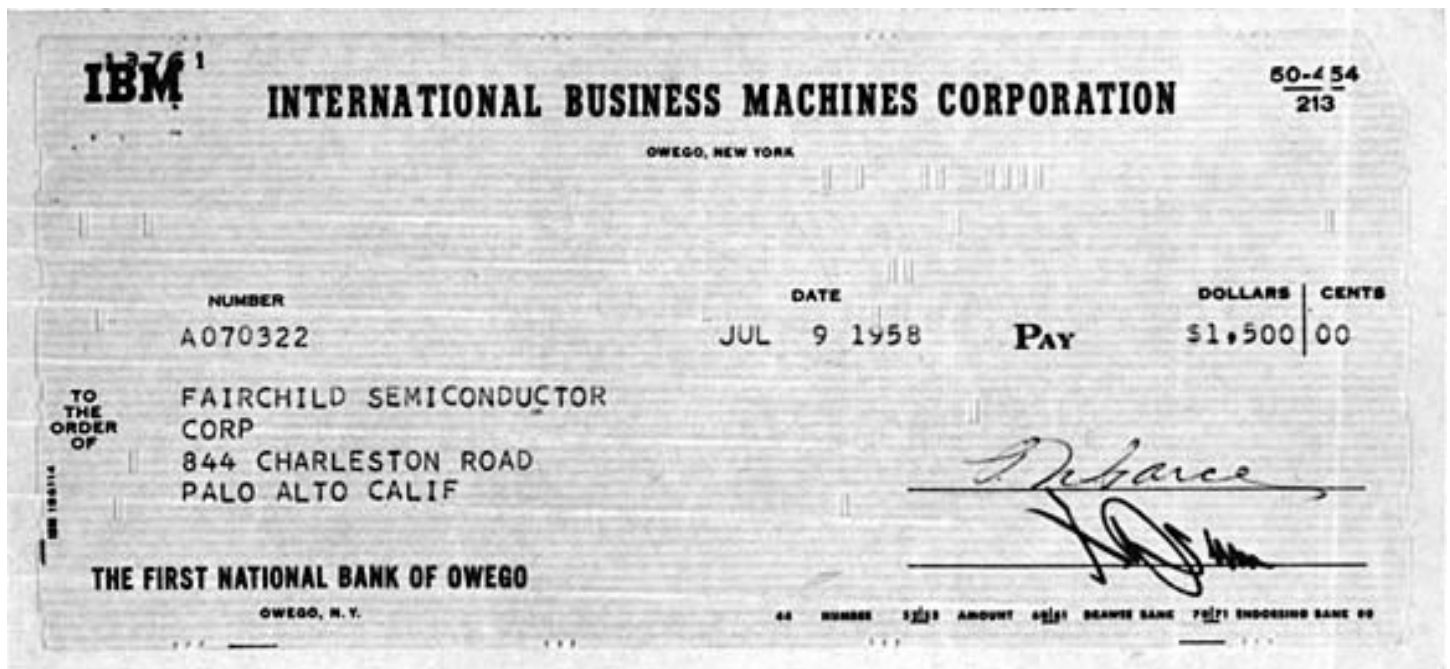
Where: Cubberley Auditorium, Stanford University

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<http://sfgate.com/cgi-bin/article.cgi?f=/c/a/2007/09/30/BULBSDUFM.DTL>

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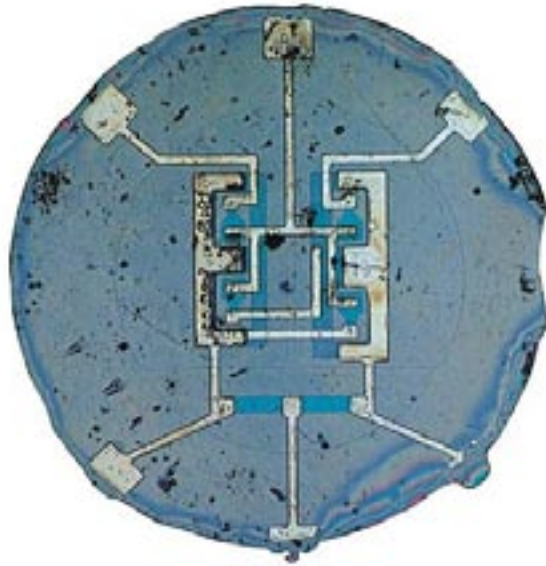
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This check is an early installment on Fairchild Semiconductor's first sale: 100 transistors sold to IBM for \$150 apiece. Equivalent transistors today cost less than a hundred-thousandth of a penny.

Photo courtesy of Special Collections, Stanford University Libraries



Fairchild Semiconductor

In 1961, Robert Noyce showed how two transistors could be made to work together on a single slice of silicon. Called an “integrated circuit,” it is the ancestor of today’s billion-transistor chips. Photo courtesy of Fairchild Semiconductor



Chronicle File

The San Jose of yesteryear bore no resemblance to the high-tech center it became in later decades. Chronicle file photo



Courtesy of Special Collections, Stanford University Libraries

The eight founders of Fairchild Semiconductor pose shortly after starting their company in the fall of 1957. Noyce is front and center, his arm slung over the back of the chair. Seated clockwise from Noyce are Jean Hoerni, Julius Blank, Victor Grinich, Eugene Kleiner, Gordon Moore, C. Sheldon Roberts and Jay Last. Photo courtesy of Special Collections, Stanford University Libraries



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A Fairchild Semiconductor employee in May 1963 uses a microscope to package chips in the gold “headers” lying in the tray to her right. She is wearing a hairnet and gloves in a company-mandated effort to reduce contamination of the devices in production.

Photo courtesy of Special Collections, Stanford University Libraries

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His fellow Fairchild founders look at Robert Noyce, who poses near equipment in the production area.

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