

PART ONE

Flowering and Withering

COPYRIGHTED MATERIAL

1

I think it's clear that Steve always had a kind of chip on his shoulder. At some deep level, there was an insecurity that Steve had to go out and prove himself. I think being an orphan drove Steve in ways that most of us can never understand.

—Dan Kottke, one of Steve Jobs's closest friends

Roots

We all tend to lose track of just how much change—as a country, a society, a civilization—Americans weathered in the twentieth century: the shock and chaos of two world wars, the hopeful uncertainty of the 1950s, the upheavals of the 1960s, the reconfigurations of the 1970s and 1980s, the technology-inspired turmoil of the 1990s. The parade of powerful events in these decades altered the way Americans work, think, play, and even love. In hindsight, we recognize the inevitable shifts in what we consider socially acceptable behavior, and they surprise us by having defied our own conventional wisdom.

One practice that has remained constant and yet changed in the years since the birth of Steve Jobs is adoption. It was far more common in the mid-1950s and earlier than it is today. The differences can be simply explained: back then, single parenthood was a disgrace, and abortion was not only illegal but, if available at all, too often deadly. The advent of widespread birth control in the 1960s changed the equation forever: arguably the Pill ranks with penicillin as the greatest medical developments of the twentieth century. In conjunction with the women's movement, birth control changed our moral compass. Back in the 1950s only one respectable avenue was open for a single woman

who was pregnant: giving her newborn up for adoption. Agencies dedicated to bringing together childless couples with women who were “in the family way” became something of a cottage industry.

Steve Jobs was born on February 24, 1955, in San Francisco, California. Beyond that one fact, he knew virtually nothing of his birth parentage until he was already grown and famous. Within weeks of his birth, the mother of “Baby John Doe” signed over legal custody of her infant son to a San Francisco couple, Paul and Clara Jobs, who had been thwarted for nearly ten years in their hope of having children.

Paul Jobs had been through several lives before landing out West. He was a man of imposing demeanor, a farmer’s son raised with a non-nonsense midwestern Calvinism. It was enough to steel him for the decade-long Depression that would mark his young adulthood and define his choices. He dropped out of high school and wandered the Midwest for several years, searching for work during the height of the Depression and living something close to the life of a hobo. Eventually, Paul opted for the relative certainty of service in the military over the unsettling inconstancies of the open road, enlisting in the U.S. Coast Guard—the “Hooligan Navy,” in the popular phrase that he often used—and mastered the skills of an engine-room machinist. Like his midwestern upbringing, his Coast Guard experiences stayed with him in tangible ways: the tattoos on his arms, the short crew-cut hairstyle. Though he was always conscious of his lack of formal education, he exuded the hearty, robust personality of a proud, productive, blue-collar American.

Paul Jobs landed in San Francisco when his Coast Guard ship steamed into port to be decommissioned. By then, with the war and the Depression behind him, Paul was looking for the same thing that other men all over the nation were: a new beginning. He made a bet with a shipmate that “in the shadow of the Golden Gate” he would be able to find himself a bride. He was soon dating a local girl and promptly asked her to share his life. Paul and Clara married in 1946 and headed back to Paul’s roots in Indiana, where the mechanical skills he had learned in the service helped him land a job with International Harvester.

Paul’s tinkering abilities extended into his hobbies as well. He found nothing more relaxing or rewarding than buying an old, beat-up jalopy and spending his weekends underneath the hood repairing it and

getting it roadworthy again. When the work was done, he'd sell it and buy another, pocketing a profit each time. His austere background made him a tough negotiator, especially when it came to his auto deals.

Yet the attraction to California was too strong. In 1952 Paul and Clara packed up and moved back to San Francisco, into an apartment overlooking the Pacific Ocean. Paul was soon hired as a kind of strong-arm man by a finance company that sought help collecting on auto loans—an early repo man. Both his bulk and his aggressive personality were well suited to this somewhat dangerous pursuit, and his mechanical bent enabled him to pick the locks of the cars he had to repossess and hot-wire them if necessary.

Three years later, following the adoption of the baby boy they named Steven Paul Jobs, the family moved to a house in South San Francisco, an industrial town with a number of new housing tracts for returning veterans. Even at three years old, Steven was shaping up to be quite a handful, what polite folks today tactfully call a “hyperkinetic” child. He often started his day at four in the morning and had a gift for getting into trouble. Once he and a playmate had to be rushed to the hospital after they decided to see what ant poison tasted like. In another incident, Steve jammed a bobby pin into an electrical socket and got a nasty burn for his curiosity. Nonetheless, his antics didn't dissuade his parents from adopting another child, a daughter, Patty, two years younger than Steven.

Perhaps Steve needed a bit more supervision than most children, but he was obviously bright and in many ways seemed much like any other American kid in the mid-1950s. He mugged for the camera in neighbors' Super 8mm home movies, roared around the neighborhood on his tricycle, and watched unhealthful amounts of television—perhaps an early sign that he would turn into a youngster who didn't make friends easily.

Not long after Steve was born, the Nobel Prize for Physics was awarded to John Bardeen, Walter Brattain, and William Shockley for their invention of the transistor. Paul and Clara Jobs could not have imagined how this invention would change their son's life and would lead him to change the lives of so many others.

By the time he was ten, Steve's interest in electronics was patently obvious. He was attracted by the practicality of electronic gadgets, using his youngster's imagination to see their nearly unlimited potential. By now, his dad had moved the family down the peninsula to Mountain View, a bedroom community for the electronics companies sprouting up around Palo Alto, where Paul Jobs continued working as a repo man. The neighborhood Steve's parents had chosen was particularly suitable, being filled with engineers employed by Hewlett-Packard and other electronics firms. On weekends, they could be found at their garage workbenches, where they usually welcomed the lonely boy looking to learn and keep busy. It was one of these neighbors who let Steve play around with a simple carbon microphone that he'd brought home from the lab. Steve was fascinated with the device and asked many perceptive questions. Soon, he had spent so much time at the engineer's home and had so impressed the man with his precocity that he was given the microphone for his own.

From his peers, though, Steve reaped nothing but trouble. He was already a renegade. Much later, a schoolmate would describe him as a "loner, pretty much of a crybaby." The two were on a swim team together, one of Steve's only ventures into team sports. "He'd lose a race and go off by himself and cry. He didn't quite fit in with everyone else. He wasn't one of the guys."

Steve's youthful penchant for mischief and willfulness rapidly developed into something else. He was suspended from school several times for misbehavior and defying his teachers, refusing to do any schoolwork or assignment that he felt was a "waste of time." According to Steve himself, "I was pretty bored in school, and I turned into a little terror." He was the ringleader in a group that exploded bombs and let snakes loose in the classroom. "You should have seen us in third grade," he said. "We basically destroyed the teacher." That those words convey a sense of pride and satisfaction in giving pain offers another clue to what Steve would become. It is no surprise that he was eventually expelled.

Steve soon came under the influence of a fourth grade teacher who changed his life: Imogene "Teddy" Hill. "She was one of the saints of my life," he said. "She taught an advanced fourth grade class, and it took her about a month to get hip to my situation. She bribed me into learning. She would say, 'I really want you to finish this workbook. I'll pay

you five bucks if you finish it.' That really kindled a passion in me for learning things."

Steve learned more that year than in any other year in school. His teachers wanted him to skip fifth grade and go straight to middle school. Eventually his parents reluctantly agreed. He entered Crittenden Middle School a year early, but the school district made no provisions for the social adjustment of gifted kids, plunking them down with the older children.

At the same time, things weren't going well for Paul Jobs. He had quit the repo business and become a real estate salesman in the booming world of the peninsula. His brusque personality wasn't suited to the mix of obsequiousness and aggression required to be a successful realtor. One day during Steve's fourth grade year, Teddy Hill asked her class, "What is it in the world that you don't understand?" She recalls that Steve's hand shot up and he replied, "I don't understand why all of a sudden we're so broke!"

In time, Paul Jobs, after fifteen years away from the trade, returned to work as a machinist. Though he had to reenter at the bottom and work his way up, he quickly climbed the ladder and the family breathed a little easier financially. Paul went to work for Spectraphysics, where he eventually worked on developing the system of mirrors that read bar codes on products in just about every supermarket in the world.

Steve, however, was absolutely miserable at his new school. Mountain View's Crittenden Junior High was much tougher than the grade school, and it was on the wrong side of the tracks to boot. The local police were often called to break up fights, and the troublemaking of Mountain View hooligans made Steve's pranks seem tame by comparison.

His free spirit and immense intelligence went unnoticed against the backdrop of all the commotion, and he grew increasingly unhappy and frustrated. The situation became so dire, to Steve's mind, that he simply decided not to return to Crittenden the following year. He informed his father of the decision that summer. After much discussion, Paul and Clara accepted the reality that their son, already a discipline problem, was on the verge of becoming a full-blown juvenile delinquent. They understood that they had to make a choice.

"He said he just wouldn't go [back to that school]," recalled Paul Jobs. "So we moved."

At eleven years old, Steve was already able to demonstrate enough strength of will to convince his parents to resettle. His trademark intensity, the single-mindedness that he could apply to remove any obstacle to his progress, was already evident.

In 1967, the Jobs family moved to the flatlands of Los Altos and found themselves smack in the middle of what may have been the largest assemblage of science wonks ever gathered in one place since the Manhattan Project. Los Altos and the surrounding towns of Cupertino and Sunnyvale were sown through with electrical engineers and their families. At the time, Lockheed was booming as the prime contractor for NASA in the space race, and all through the area a profusion of electronics companies was springing up to service the moon shot. It was also ground zero for a wave of innovation and entrepreneurial activity that exploited the world of electronic miniaturization ushered in by the invention first of the transistor, and then of the integrated circuit, or IC, which crammed hundreds of those transistors onto a single “chip.” In every garage there was a welcoming brain for Steve to pick and a box or two filled with spare parts or obsolete equipment that could be taken apart after school. In contrast to rough-and-tumble Mountain View, this was heaven.

At Cupertino Junior High School, Steve met Bill Fernandez, the slight, intense son of a local attorney, who was as much of a misfit as the young Jobs. Neither one was even vaguely athletic—they were both skinny, scrawny, and relatively uncoordinated—but they each had a discernible intensity, viewed as oddness by their classmates. Electronics was the perfect outlet for these outsiders. They could pursue their interests in the calm solitude of the neighborhood garages and workshops, while relegating the usual adolescent dilemmas of peer acceptance, sports prowess, and boy-girl turmoil to another world for hours on end. They may have been oddballs to their fellow students, but Fernandez and Jobs had tapped into the sensibilities of the surrounding community of engineers and scientists.

“I have this vivid memory of Steve Jobs,” recalled Bruce Courture, who attended both Cupertino Junior High and Homestead High—six years of school—with him. Courture was voted “Most Likely to Succeed” in the senior class and is now living up to this expectation as a partner at one of the most successful high-tech law firms in Silicon

Valley. “It’s one moment that has always stuck in my mind. It was a very foggy day. All us boys in our freshman class were running a couple of laps around the track. And all of a sudden Steve, who was ahead of me, glanced back across the field at the PE coach, who was hidden by the fog, and saw that he couldn’t possibly see the far side of the field. So [Steve] sat down. Well, I thought that was a pretty good idea. I joined him. The two of us just sat and watched everyone else run by us. When they came back around for the second lap, we stood up and joined them.

“We had to take some ribbing, but he had figured out how he could get away with half the work and still get credit for the whole thing. I was really impressed, especially that he had the guts to try it, even though he was just a freshman. I would never have thought to do that on my own.”

Living directly across the street from the Fernandez family were the Wozniaks. The father, Jerry Wozniak, was an engineer with Lockheed, and since Fernandez’s parents had nothing to do with electronics, Jerry had been Bill’s mentor and tutor in the subject. Jerry’s son Stephen also shared in the passion for electronics and on occasion pitched in with Fernandez on science fair projects, despite being five years older.

Steve Jobs entered Homestead High School in 1968, an important year for the United States. The country was wracked by conflicting sentiments about the war in Vietnam and civil rights, and college campuses were convulsed by protests, demonstrations, and riots, with newsworthy hotbeds at the northern California schools of UC Berkeley and San Francisco State.

Meanwhile, Steve Wozniak, a freshman at the University of Colorado, was leaving his own mark on the campus. In a series of confrontations, the daring and able computer prankster had challenged the school’s administration. After one memorable episode on Election Day, the campus computer kept generating an irreverent message, over and over. That was the last straw, as far as the dean of students was concerned, and once the culprit’s identity was revealed, Wozniak was able to stay only long enough to finish one academically lackluster year. He left campus knowing that he would not return.

Though the affair with the campus computer might indicate otherwise, he was, in his own mother's words, "a square." He didn't seem to notice girls and was athletically challenged.

"Woz," as he'd been called since grade school, was a generally obedient youngster despite his tendency to be willful in certain circumstances. He also had the ability to focus, completely and utterly, on whatever interested him and often became so absorbed that his mother's only recourse was to rap his head with a pencil if she wanted his attention. Few things held Woz's attention besides electronics and the science and math that constituted its basic elements. He could spend endless days designing circuit boards for various gadgets, but when it came to more mundane subjects like literature or social studies, his lack of interest held him back from doing even the simplest homework assignments. It was the classic personality profile of genius: brilliant in one area, bored in all others. By his senior year in high school, he was nearly failing English and history.

Still, Woz was secure in his knowledge of electronics and cocky enough to let everyone know it. In class, he talked back to his electronics teacher, catching him in errors and challenging him before the other students. His smug superiority made him equally unpopular with staff and classmates, leaving him isolated and with few friends, but his hearty sense of humor was appreciated.

The friends he did have were invariably younger. There was something about him—precision, single-mindedness, and a generosity of spirit—that appealed to youngsters looking for a role model. His best friend through high school was a boy two years younger, Alan Baum, another bright electronics whiz, who eventually went on to MIT. Woz was also a dyed-in-the-wool prankster. He honed his practical-joking skills while developing his talent for electronic design.

Despite his academic shortcomings and pranks, Woz soon became the best technician in the Cupertino neighborhood and was a figure of worship to kids like Bill Fernandez.

In the summer of 1969, Woz and Alan Baum spent a few months filling a folder with schematics and specification sheets for a computer. Then, when Baum left to attend MIT, Woz decided to build the device himself, scavenging parts from surplus stores or directly

from sympathetic companies. He convinced Bill Fernandez to help, an attractive idea since the methodical Fernandez had a neat, carefully designed, and eminently accessible workbench in his garage across the street.

“I wanted to design a machine that did something,” Wozniak said years later. “On a TV, you turn a knob and it does something. On my computer, you pushed a few buttons and switches, and lights would come on.” That was his goal and he succeeded: things could happen. At least, until the power supply exploded as the two boys were demonstrating their machine to a reporter from the *San Jose Mercury News*. It may not have been a sophisticated device, but Wozniak had built it five years before the first hobbyist computer kits appeared on the market.

They called it the “Flair Pen or Cream Soda computer,” said Fernandez. “Woz was always drawing schematic designs with them. He said you could tell a real engineer by the Flair pens in his shirt pocket. Purple was the color of choice that year. And all we drank was cream soda in bottles. We were so broke that we would save up the bottles and walk over to Safeway to get the deposits back so we could buy another.”

One day Fernandez invited Steve Jobs to see the computer that he and Woz had built. It was the first meeting between Woz and Jobs, and it was by no means auspicious. At eighteen, Wozniak was a bona fide electronics whiz, while Jobs and Fernandez, five years younger, were just a couple of kids who didn’t know much of anything practical about the subject. Sure, they liked to play with gadgets, but they were much more interested in doing tricks with lasers and mirrors than they were in doing something worthwhile. Wozniak, on the other hand, had already designed circuit boards on paper for more elaborate computers and regularly visited the Stanford Linear Accelerator library to pore over the most advanced materials he could find.

Jobs was awestruck by the ability represented by the project. Though he had long felt unrivaled in his knowledge of electronics, he was sobered by his realization that Woz was “the first person I met who knew more electronics than I did.”

Steve Jobs had already heard about Wozniak from Fernandez and knew his reputation as a highly accomplished prankster. His most famous high school stunt had resulted in Homestead High’s principal running out on the athletic field holding at arm’s length a heavy and

ominously ticking gym bag that had been snatched from a student locker; the bag contained bricks and an alarm clock. This little episode earned Woz a night in Juvenile Hall—and a standing ovation from the student body upon his return the following day.

Steve Jobs and Steve Wozniak seemed to be cut from the same cloth. They both were solitary, self-absorbed, and isolated, neither joiners nor jocks. Their five-year age difference was trumped by the passions they shared. Wozniak had an ardor for electronics that made his sentences run together like a speeding train when he tried to explain a concept or a principle that held his interest.

Jobs also had an intensity, driven by whatever his latest passion might be. He would stand very close to whomever he was talking to, invading the person's space as he poured forth about his newest discovery, and he was nearly impossible to avoid once he made up his mind to buttonhole you. Much later, an acquaintance said of him, "Trying to have a conversation with Steve Jobs is like trying to sip water from a fire hose." Steve had a sharp wit but rarely laughed—not as a boy or even later when he was on top of the world. At times, he was seen to smile, but real, uninhibited laughs were few and far between.

This was always a major difference between the two. Steve Wozniak had a quick wit and loved sharing a joke—it was one of the few things for which he'd take a break from technology. (A few years later, he ran a free Joke-a-Day service in San Jose, and even now he sends out jokes and cartoons almost daily to a select list of friends.) Woz was immersed in computers and electronics, while Jobs was immersed in himself.

Jobs almost certainly knew by then that he was adopted, and this knowledge seemed to have fueled a quest for something that would give his life meaning. The machine that Wozniak and Fernandez were completing was one early element to fill that void.

Woz may have had the know-how, but Steve Jobs certainly had the gumption. When Jobs had an objective, nothing stood in the way of his reaching it. One thing that didn't change over the years was his chutzpah, his aggressive personal willingness to wade right in, to go for the top person, the decision maker. After the family's move to Los Altos, he began a project to build a frequency counter—a device to track the occurrences of a given electrical frequency in a circuit. When he found

that he needed more parts, he picked up the phone and placed a call to Bill Hewlett, one of the founders and principals of Hewlett-Packard. “He was listed in the Palo Alto phone book,” explained Jobs. “He answered the phone, and he was real nice. He chatted with me for, like, twenty minutes. He didn’t know me at all, but he ended up giving me some parts, and he got me a job that summer working at Hewlett-Packard, on the line assembling frequency counters. . . . Well, ‘assembling’ may be too strong. I was putting in screws. It didn’t matter; I was in heaven.”

But as puberty worked its hormonal alterations on Jobs, he began to realize there might be more to life than electronics. “I remember my first day on the assembly line at H-P,” he recalled wistfully. “I was expressing my complete enthusiasm and bliss at being there for the summer to my supervisor, a guy named Chris, telling him that my favorite thing in the whole world was electronics. I asked him what his favorite thing to do was, and he looked at me and said, ‘To f——k!’ “I learned a lot that summer.”

Between his sophomore and junior years, Steve Jobs also discovered marijuana. “I got stoned for the first time; I discovered Shakespeare, Dylan Thomas, and all that classic stuff. I read *Moby-Dick* and went back as a junior taking creative writing classes.”

Steve marched to his own tune, and as the United States changed from the conformity of the sixties to the individuality of the seventies, he quickly assimilated the countercultural values that interested him—individuality, a refusal to follow the rules or be intimidated by them, and an enthusiasm for mind-expanding drugs. Steve managed to embrace all of this without embracing the hippie ethic of putting out the least possible effort.

Homestead High School was a low, squat school thrown up in the post-war boom that hit the valley. It sits hard by two freeways and is the kind of campuslike school that California specializes in. Land was never much of a problem, so new classrooms were just tacked on to the rest of the school. When classes began in September 1968, Steve Jobs and Bill Fernandez arrived as freshmen.

The two friends from Cupertino Junior High School shared their enthusiasm for technology, but both felt at a distinct disadvantage

because they didn't come from heavily scientific households. The school offered an electronics class—John McCollum's Electronics 1—and the pair determined to enroll in it together.

They became “wireheads.” The slang name that Silicon Valley high school kids gave to electronics club members had a hip connotation. The name combined the drug orientation of the time with electronics and avoided the bumbling connotation of “nerds.” In Silicon Valley, it was “cool” to be into electronics.

Four years earlier, Steve Wozniak had thrived under the authoritarian and practical regimen of the school's science department. He had become the prize student in the electronics classroom—the president of the math and the electronics clubs, a winner of science fair awards, and the designer of endless electronic schematics. For Jobs, the subject never quite caught fire, and as he went through high school, he grew less interested in science and more interested in other things.

“I only vaguely remember Jobs,” recalls McCollum. “He kind of faded into the background. He was usually off in a corner doing something on his own and really didn't want to have much of anything to do with either me or the rest of the class.

“But I do remember that one day he was building something and needed some parts that I didn't have, which were only supplied by Burroughs. I suggested that he call the local number for the company, talk to the public affairs people, and see if they wouldn't let him have one or two of the components for his school project.

“The next day he came in as pleased as could be and told me that Burroughs was sending him the parts, and they should arrive very shortly. When I asked how he had managed that, he said he had called the main office, collect, and told them he was working on a new electronic design. He was trying various components and was considering using theirs.

“I was furious. That was not the way I wanted my students to behave. And sure enough, in a day or so the parts arrived by air freight. I didn't like the way he had done it, but I had to respect his results.”

As his sophomore year came to a close, the fourteen-year-old Jobs started to drift in new directions. Electronics had begun to lose its appeal, and swimming team practice at the Mountain View Dolphins took up too much time, so he switched to water polo. But that was a

short-lived interest. He found that he just didn't have the aggressive killer instinct that it took to "be a jock. I was always a loner." He was looking for something to get involved with. Something interesting.

A shop in Mountain View called Haltek was full of abandoned, rejected, obsolete, and unsorted electronic components. In Silicon Valley, components could be rejected for any number of reasons: a flaw in the paint, too high an incidence of failure in a particular batch, or a newer design that renders obsolete an entire warehouse filled with perfectly good product. More often than not, these orphaned parts showed up at Haltek—and so did all the garage designers and high school kids working on their own projects or experiments. Steve managed to talk his way into a weekend job there during high school.

When Fernandez shared details about the computer that he and Wozniak were building, Steve was already employed at Haltek on weekends and had started to develop a nose for electronics components and their prices that would stay with him for years. The Fernandez-Wozniak project caught his interest, and Jobs started to spend more time at the Fernandez garage. A friendship began to flourish between him and Woz.

They bonded in part over their love for pranks. Woz would design a scheme, and Jobs, with his almost compulsive willingness to be an outlaw, was more than willing to carry it out. His friendship with renowned prankster Wozniak gave him a certain cachet among his peers.

By age sixteen, Steve Jobs wore his hair shoulder-length, and his appearances in school became more and more rare. He was on the periphery of a band of technologically savvy hippies who had discovered how to fool AT&T's long-distance switching equipment. Dubbed "phreaks," the youngsters had learned techniques for completing calls by playing certain frequencies of tones into telephone receivers.

One of the most infamous of these phreaks was a character nicknamed Cap'n Crunch, who discovered that a whistle included in boxes of the cereal could fool the phone company's computers. Steve wanted to meet him, so he tracked him down. Eventually Crunch showed up and took the two amateur outlaws, Steve and Woz, through the world of phone phreaking, spending an evening calling all over the world for

free. The two decided they would build their own electronic machine to do the same thing that Crunch did with a whistle.

One approach for doing this involved a homemade device called a blue box. After some research in the Stanford Linear Accelerator library and a number of false starts, Woz came up with a design for a better blue box than any that the other phreaks were using. For one thing, it needed no on/off switch but automatically came to life whenever one of the keys was pressed. This kind of innovation would characterize a Wozniak design for years to come.

“We were ecstatic,” said Jobs. “We thought it was absolutely incredible that you could build this little box and make phone calls around the world.” None of the phreaks considered the free phone calls a form of stealing—the only loser was the phone company, a synonym for “the establishment.” What, they reasoned, could be more honorable than that?

They showed the prototypes to friends, and the interest was obvious and immediate. Everybody wanted one, and the two Steves, now full-fledged phreaks themselves, garnered all sorts of attention.

Jobs, with the gift of persuasion he’d learned from his father, convinced Woz that they should start selling the units. With Jobs using his nose for bargains in buying the parts, their out-of-pocket cost for the first boxes was \$40 apiece. Woz, now attending the University of California at Berkeley, did the assembly work in his dorm room; Steve sold the units throughout the buildings on campus. They charged \$150 per unit but sweetened the deal with a guarantee of free repairs should any problems arise. As the machines became more and more popular, Jobs demanded as much as \$300 from people who looked like they could afford it. Students, however, still qualified for the original price.

His princely income was a major factor in Jobs’s declining interest in finishing high school. It was around this time that he met Chris-Ann Brennan, a fellow student working on her own animated movie who avoided any school supervision of the project by doing much of her work at night. In this rejection of authority, Jobs saw a like mind. Soon they were lovers, and he and Chris spent many afternoons taking long walks, drinking wine, and smoking pot. One day, choosing a wheat field as an appealing spot to take some LSD, Jobs recalled that “all of a sudden the wheat field was playing Bach. It was the most wonderful

experience of my life up to that point. I felt like the conductor of this symphony with Bach coming through the wheat field.”

Wozniak didn't understand any of this. His idea of a good time was to talk about esoteric points of electronics.

Their blue box venture had been fun at the outset, but the scene quickly began to change. The phone company took aggressive steps to combat the scam, and things turned dangerous. One evening Steve was making a sale in a pizza parlor parking lot when he felt a gun being pressed against his body as a crook decided to rip off the rip-off artists. “There were eighteen hundred things I could do, but every one had some probability that he would shoot me in the stomach. I handed over the box.”

Jobs's enthusiasm soon cooled. He was interested in expanding his vistas and making money, while searching for answers to something that smoldered inside him. They weren't answers he could discover with a blue box.

Jobs made the journey from Silicon Valley to Berkeley two or three times a week. The ambience in the heart of hippiedom was to his liking, as he traveled through the Bay Area, delving into ideas, practices, and people he rarely encountered in Silicon Valley. Jobs would soon be heading off to college himself, and what he saw in Berkeley profoundly influenced the type of place he chose.

The school that Steve Jobs decided on was Reed College in Portland, Oregon, the Pacific Northwest's premier liberal arts college. Private and expensive, it has always had a reputation for attracting and fostering brilliance and individuality. His parents were aghast—not only at the price, but at the distance from home. Still, “Steve said that Reed was the only college he wanted to go to,” recalled his mother, “and if he couldn't go there, he didn't want to go anywhere.” Once again, the headstrong boy prevailed over his parents. They bit the bullet, dipped into their savings, and sent him off to Reed.

Steve managed to leave his mark at Reed, not academically but through the sheer force of his personality. His studies came in a distant second to other pursuits. By autumn of 1972, Steve decided to abandon his experimentation with hallucinogens and opted instead for the philosophies of the East as a path to higher awareness. “I was interested

in Eastern mysticism, which hit the shores about then. At Reed, there was a constant flow of people stopping by—from Timothy Leary and Richard Alpert to Gary Snyder.”

His first-semester grades were poor, so, with his characteristic directness, he dropped out of school and got a refund of the tuition. Yet he remained on campus, living in dorm rooms vacated by other students who’d left to pursue other interests. Reed, being a good liberal school, didn’t mind, especially since Jobs had become friends with Jack Dudman, the school’s dean of students. “Steve had a very inquiring mind that was enormously attractive,” Dudman remembers. “You wouldn’t get away with bland statements. He refused to accept automatically received truths. He wanted to examine everything himself.”

Steve’s decision to drop out but live off the school’s bounty made him a celebrity. When the next school year started, he continued to live at Reed. “He very shrewdly perceived that he could get just as good an education without the credit,” explained his long-time friend Dan Kottke, who met him as a fellow student at Reed, “and who needs the credit?” Jobs was tired of being poor and idle and still felt like an outsider, even in his group of close friends. Something else was driving him.

“I think it’s clear that Steve always had a kind of chip on his shoulder,” said Kottke. “At some deep level, there was an insecurity that Steve had to go out and prove himself. I think being an orphan drove Steve in ways that most of us can never understand.”

In the spring of 1974, as both Watergate and the end of the Vietnam War played out, Steve was back at his parents’ house. While idly leafing through the *San Jose Mercury News*, he saw an employment ad from Atari, a company that, even in forward-looking Silicon Valley, was considered a bit outrageous. Because of the stunning success of the company’s landmark video game Pong—the game’s installation at one tavern in Sunnyvale caused block-long lines—Atari was in need of electronic technicians. In an ad that became famous in the world of high tech, the company offered the opportunity to “have fun and make money.” Steve Jobs applied and, to his shock, was hired.

At the time, Atari was experiencing an exponential growth spurt. Al Alcorn, the chief engineer, remembers, “We were used to folks showing up and saying, ‘Hi, I’m going to work for you.’ It was part of

the brashness of the Valley. Atari was growing fast, I'd hear what their skills are and more often than not I'd say, 'That's it, you're great, you've got a job.'

One day the personnel director came by and told Alcorn, "We've got this weird guy here. He says he won't leave until we hire him. We either call the cops or hire him." Alcorn replied, "Bring him in."

Jobs was brought in, "dressed in rags basically, hippie stuff. An eighteen-year-old drop-out of Reed College. I don't know why I hired him, except that he was determined to have the job and there was some spark. I really saw the spark in that man, some inner energy, an attitude that he was going to get it done. And he had a vision, too. You know, the definition of a visionary is 'someone with an inner vision not supported by external facts.' He had those great ideas without much to back them up. Except that he believed in them.

"I gave him to Don Lang, who said, 'Oh, no, what are you giving me this guy for? He has b.o., he's different, a goddamn hippie.' But we wound up cutting a deal with him. Jobs could come in at night and wouldn't bother anybody."

Steve was given a number of minor tasks. Then one day he came to Alcorn requesting to be allowed to go to India "to see his guru." At the time, the company was having a problem with its games in Germany. Alcorn decided that Steve could correct whatever problems the Germans had on his way East. So Alcorn gave Steve a quick primer on the situation at the German facility and sent him to the last place you'd expect to find a juvenile hippie who was en route to search for a mystic. Alcorn recalled, "Here are the Germans, you know, 'Snap to! Attention!' And here comes Jobs off the airplane, just scuzzy. [But] I had given him a two-hour course [and] he solved their problem in two hours."

Before leaving, Steve approached his friend Dan Kottke about joining him in India. Kottke was as unusual in his own way as Steve was. Soft-spoken, diffident, and gentle, with a cascade of frizzy, tangled hair that surrounded his head like a mane, he was a superb pianist (his cousin is the pop guitarist Leo Kottke) and was smart enough to have won a National Merit Scholarship. What's more, he wasn't a Californian but hailed from the New York area.

Steve's devotion to the philosophies of the East seemed to be tied to his quests for other truths—the absolutes and the loopholes of science and electronics—and tied as well to his own identity. He was “totally determined to go,” said Kottke of the planned trip to India. “He felt some kind of unresolved pain over being adopted. That was the same period that he hired a private investigator to try and track down his mother. He was obsessed with it for a while.”

Steve's suggestion that Kottke be his traveling companion raised a problem. “I didn't have any money,” Kottke said. “He had this great job at Atari, and he had thousands of dollars. So he offered to pay my airfare, which was very generous. And indeed, had he not offered it, the trip probably wouldn't have happened. I was very dubious about it, and he said ‘Come on, I'll pay your way,’ because he wanted someone to travel with. So I called up my parents and told them, ‘I'm going to India with my friend, and he's going to pay my ticket.’ So, of course, my parents, who were worried that I would never come back, gave me a round-trip ticket and plenty of money.”

After the stop in Germany, Jobs arrived in India barefoot and threadbare. This was how he chose to dress, as an expression of a specific ideal or aesthetic. In India he was confronted for the first time with people who were poor—not the way California hippies were poor, by choice, but poor by fate. It was an eye-opener for him, as it had been for numerous others before him. The complete contrast with the material comforts of American life was intense and shocking, and it challenged everything he thought he knew up to that moment.

His clothes may have been ragged, but they were Western clothes, and he had something more than “going native” in mind. His idea was to make the journey as a mendicant—a spiritual beggar dependent on the kindness of strangers. He immediately traded his T-shirt and jeans for a lungi, a loincloth that is the traditional Indian garb for mendicants, and gave away everything else he had. Joined by Kottke, he headed north from Delhi toward the Himalayas, the legendary center of spirituality in India.

They slept in abandoned buildings and bought what food they could in the villages they passed through. True to form, Jobs bargained hard. “He looked at prices everywhere, found out the real price, and haggled. He didn't want to be ripped off,” recalled Kottke. His aggressiveness with

a woman who sold them watered buffalo milk nearly caused them to be run out of one town.

Completely by chance, the two lucked upon a guru and his followers in the mountains. As Jobs told the story:

“I was walking around in the Himalayas and I stumbled onto this thing that turned out to be a religious festival. There was this baba, a holy man, who was the holy man of this particular festival with his large group of followers. I could smell good food. I hadn’t been fortunate enough to smell good food for a long time, so I wandered up to pay my respects and eat some lunch.

“For some reason this baba, upon seeing me sitting there eating, immediately walked over to me and sat down and burst out laughing. He didn’t speak much English and I spoke only a little Hindi, but he tried to carry on a conversation and he was rolling on the ground with laughter. Then he grabbed my arm and took me up this mountain trail. It was a little funny, because here were hundreds of Indians who had traveled for thousands of miles to hang out with this guy for ten seconds and I stumble in for something to eat and he’s dragging me up this mountain path. We get to the top of this mountain half an hour later and there’s this little well and pond at the top of this mountain, and he dunks my head in the water and pulls out a razor from his pocket and starts to shave my head. I’m completely stunned. I’m nineteen years old, in a foreign country, up in the Himalayas, and here is this bizarre Indian baba who has just dragged me away from the rest of the crowd, shaving my head atop this mountain peak.”

Jobs was discovering his own truths. “We weren’t going to find a place where we could go for a month to be enlightened. It was one of the first times that I started to realize that maybe Thomas Edison did a lot more to improve the world than Karl Marx and Neem Kairolie Baba put together.”

The pair of traveling mendicants took off again after only a month in Kainchi. It was the summer high season when India is hottest. The dust was in their teeth and their hair, and they had grown weary of the poverty they saw everywhere. It would always be remembered by both travelers as a country of constant hassles. Kottke took up the narrative: “There’s a very famous story in India about a guru called Baba Ji. He’s

kind of like Davy Crockett over there. He's a well-known mystical yogi who keeps reincarnating and [he's] hundreds of years old.

"Well, presently he was incarnated as this guy Harikan Baba, and we decided that we would go visit him. And that was a real quest. It was a ten-mile hike up a dry desert riverbed, over boulders and along a trail that was almost impossible to follow, and our feet were rubbed raw from the sandals, and all we had on were the lunghi, so the sun was merciless. And finally we found this cliff, with a stairway up, and it was the ashram.

"We'd been going so long, and put so much effort into it, we weren't about to go away. Even though when we got there we both thought the guy was a bit of a bozo. After a couple of days we had had enough. I'm sure he was a very far-out guy, but he was very much into wearing colorful saris, he was really into his wardrobe, changing his clothes all the time. And he was very flowery with his language too. All 'the essence of existence is so and so.' Which did not impress us one little bit.

"We had no idea what we were doing. So when we left, even though we knew it was a long journey, we did so in the afternoon. Then that night, as we were sleeping in the dry creek bed, along came a thunderstorm. And I mean a real thunderstorm, like nothing I'd ever seen before. There we are in our flip flops and thin cotton shawls and the rain is beating on us, and the thunder is roaring, and the lightning is breaking all over us. And it got so intense, and the two of us were both so kind of out of it, that we decided to cover ourselves in the sand.

"There we were, wearing next to nothing, and I remember us hunkering down in the sand trying to defend ourselves from the rain pelting down, trying to dig a hole that we could crawl into so that the rain wouldn't destroy us. I'm sure that was the high point of the trip, because I remember us praying. Out there in the dry creek bed, in the middle of India, completely disoriented, all our rhythms and beliefs shattered, where we were sure a flash flood would come through any moment, the two of us praying to any god that could hear us: 'Dear God, if I ever get through this, I'll be a good person. I promise.'"

They survived to continue their journey. They ate food in bazaars. Kottke finally cut all his hair, not out of some inappropriate fashion statement but because the lice and the fleas and the filth drove him to it. They wanted to see Tibet, so they headed up the mountains. Each

contracted scabies in the town of Menali, the site of a famous spa, to go along with the dysentery they'd had for a while. But Kottke also had his traveler's checks stolen. This was the end of the journey. When he went to the bank in New Delhi, it refused to refund the checks to him. Jobs, who was leaving in a few days, gave Kottke all the money he had left—\$300.

The whole experience in India had been intense and disturbing. It had been entirely different from anything Jobs had expected, anything he had known in booming Silicon Valley. But it had not been the answer. The inner fire wasn't satisfied. Jobs came back determined to work toward the root of things in a different way.

When Steve returned, he was rather distant and very spaced out. Wearing saffron robes and sporting a shaved head, he drifted into Atari and asked for his job back. This blissed-out kid in an orange toga might have prompted most companies to call for security as soon as he approached the door, but this was Atari, in California, in the 1970s. Atari said, "Sure."

Steve's return to Atari found him torn between the memories of his search for truth in the East and the new reality of electronic game playing and engineering. He remained true to the hippie aesthetic, which was easy enough because Silicon Valley was so close to the hippie meccas of San Francisco and Berkeley. He renewed his relationship with Woz, though soon he slyly began to redefine the relationship, trumping Woz's technical knowledge with his own business skills.

Woz, now working at HP, took advantage of his friend's being back at Atari. The company had put out a game called Gran Track, "the first driving game with a steering wheel," explained Jobs. "Woz was a Gran Track addict, so I would let him in at night and let him onto the production floor, and he would play Gran Track all night long. Then when I came upon a stumbling block on a project, I would get Woz to take a break from his road rally for ten minutes and come and help me. It was a great way to get terrific engineering for free."

It worked like a charm. Woz had no hunger for glory; all he wanted was to do something neat, like design a computer or play more video games. Jobs was the hustler, the man with the plan, the man who knew how to generate the income.

. . .

There was something about Jobs that Nolan Bushnell, the founder of Atari, responded to. “When he wanted to do something, he would give me a schedule of days and weeks, not months and years. I liked that,” said Bushnell.

One day, according to Alcorn, Bushnell “grabbed Jobs and made a deal on the side. On his blackboard, Nolan defined the game of Break-Out, how the game would work, the details. Then Alcorn, the head of engineering, took over with the logistics—Jobs could build it as long as he worked at night when none of the other engineers were around. “He said that for every [computer chip] under fifty—or some number—I’m going to give you, like, a thousand dollars or something as a bonus to salary.”

In Break-Out, the player would constantly fight a brick wall, trying to “break out” of it to win. Mastering the game turned out to require total concentration upon the task at hand, determination to succeed, and a driven attitude—all of which Jobs and Woz had in their blood.

The design for Break-Out was completed in one forty-eight-hour stretch. The company thought Jobs was designing it, but it was entirely Woz’s work. “Steve’s role was to buy the candy and cokes while Woz did all the design,” said Randy Wigginton, a very young camp follower who would end up at Apple.

True to his past achievements, Woz managed to do the work using a ridiculously small number of chips. Alcorn was impressed and paid Steve the \$1,000 he had offered. But Steve went back to Woz and said that Atari had paid only \$600. He gave Woz his “half.” So Woz, who had done all the work, ended up with \$300, while Steve Jobs pocketed \$700.

Afterward, Alcorn found that he had a problem. “We could not understand the design. And since Jobs didn’t really understand it and didn’t want us to know that he hadn’t done it, we ended up having to redesign it before it could be shipped.”

Woz didn’t learn the truth about that transaction until a year later, and the story became a wedge between him and Jobs. On an airplane, Woz spotted Al Alcorn and went over to talk to him. Enough time had passed that Woz thought he could admit that he was the one who had designed the circuitry for the Break-Out game that had used so few

chips. In that conversation, Alcorn made a passing mention of the \$1,000 he had paid for the design. Woz realized that his friend and partner had shortchanged him. The knowledge was so painful, one source said, that it made Woz cry.

According to Alex Fielding, a longtime friend of both Steves, when Jobs read that story in *On the Firing Line* by Bill Simon (co-author of the present volume), he was highly annoyed and called Woz to complain. “I don’t remember that,” Jobs insisted, as if “I don’t remember” meant “It never happened.”

Steve used the money from Atari—whatever the amount—to afford a break, heading for All-One, an apple farm in Oregon where his New Age buddies from Reed hung out. Steve Jobs was in a fantastic frame of mind as he headed north. He was working in the electronics industry, realizing his lifelong dream. Finally, he was actually doing something, actually helping to build something. With his nose for component prices—the result of his time at Haltek, the blue box period, and his father’s example in rebuilding and selling cars—plus Wozniak’s uncanny abilities, they had a good thing going. They’d done it once before with the blue boxes, so it seemed as if they could probably build something else and sell it. But what should it be?

With the publication of a *Popular Electronics* article in January 1975 announcing the introduction of an Altair computer kit, the first arguably “personal” computer had appeared. All it did was light up a string of bulbs across its front to demonstrate the answers to binary arithmetic questions that had been laboriously hand-coded into the machine’s memory banks with a series of switches. But one local teacher with foresight, Bob Albrecht, decided with some cohorts that it was time to issue a call to form a club. Menlo Park was the hub of the “Free University” movement, which Albrecht had spearheaded, developing it out of the offices of the *Whole Earth Catalogue* (a kind of New Age manifesto and how-to guide to the back-to-the-earth sustainability movement). Together with a few like-minded enthusiasts, they put together a computer hobbyists’ group to share tips and information, calling it the Homebrew Computer Club. Because of the hefty price tag the kits carried, the members decided that people who already had machines would share them with others who were not so fortunate.

Membership quickly ballooned from the original thirty members to more than one hundred enthusiasts, and the meetings were moved from an alternative school housed in an old mansion in Menlo Park to the Stanford Linear Accelerator Center's auditorium on the edge of the Stanford University campus.

In early 1975, as more of the kits appeared, Steve Jobs was already thinking about how he and Wozniak could profit from this new field. He had to find an angle. When he discovered it, the magic came about pretty much by chance.