

## Chapter 8: The Ups and Downs of Entrepreneurship

Demand for COMPACT was increasing. By the following year, we had six employees. George began first grade, and Nanci frequently came downstairs to entertain us. She loved to sing to her captive audience and could not understand why I had to take her upstairs instead of asking for encores. Even though the children sometimes interrupted my daily routine, I was glad to be so close to the family during work. I felt that my presence made up for the times I had to travel.

I was fortunate to find key employees to share my workload and enhance our professional image. An outstanding programmer, Mike Ball, restructured COMPACT and added the much-needed comment lines. Chuck Holmes, one of the most capable engineers I have ever met, helped to lighten my travel schedule. He took over the program's in-house installation and training, leaving me with marketing and teaching the university short courses.

Instead of running ads in the trade journals, I submitted application articles to the publications. That did not cost money, and the articles served as concealed advertisements. I also encouraged our customers to publish their success stories. By the third year of our full-time operation, COMPACT was recognized as the industry standard.

The Defense Department had strict guidelines for exporting goods that might be used for military purposes against NATO. Most of the military communication and weapons guidance systems operated at microwave frequencies. COMPACT was often used to design the circuitry of those systems. Accordingly, the Eastern Bloc countries and other potentially hostile nations were on the blacklist. Although I was extra careful in screening the customers, there was one time the program ended up in the wrong hands.

A British trading company bought COMPACT and stated it would be used by one of their divisions. They transferred the funds to us, and we shipped the program to their address. They also asked for installation assistance, and I sent Chuck to London for the job.

Nearly a week passed without any news from Chuck. I became concerned and called London to inquire. "Your program was forwarded to one of our associates in *Yugoslavia*," the company's buyer informed me. "It was already running on their computer, but they needed help to tune it for maximum efficiency. Dr. Holmes has been working with them all week and should soon be finished."

Yugoslavia was not technically part of the Eastern Bloc, but the West did not trust Marshall Tito's<sup>1</sup> regime. He supported the policy of nonalignment between the two hostile blocs in the Cold War but conducted business with both sides. Even though the customer signed an agreement that the program would be installed only at one location, there was no guarantee that it would not be passed on to the Soviet Union. I faced a potentially serious dilemma.

Who knew the consequences if I told the Defense Department what had happened? They could fine me or quite possibly even shut down my company. I decided to do nothing and anxiously waited to hear from Chuck.

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<sup>1</sup> Long-time President and Supreme Commander of the former Yugoslavia. Although Tito initially sided with Moscow, in the late 1940s, he switched to an independent form of Communism called "Titoism."

A few days later, the head of the British company telephoned. He apologized for the extra time our employee had been required to stay and told me that Chuck was already on his way home. Their customer would, of course, pay us for the extended days required. He explained that he had been away when the decision to purchase COMPACT was made. In his absence, one of his subordinates had handled the arrangement. Supposedly, he was unaware that the end user was in Yugoslavia. I was furious hearing his flimsy excuse, but knowing that our engineer was safe and would be back soon was reassuring.

I picked Chuck up on his arrival at the San Francisco airport. On our way home, he described his adventures.

The morning he arrived in London, a customer representative met him at the airport. The man informed him that the work would be done near Belgrade at a non-profit research company. He had already reserved a first-class flight to Belgrade for Chuck later that morning. Naturally, Chuck was surprised about the change of plans, but the representative assured him it had all been cleared with me. Not wanting to call and disturb me in the middle of the night in California, Chuck boarded the plane and enjoyed the first-class treatment.

A Yugoslav army officer waited for him in Belgrade. After a long ride in a military vehicle, they arrived at an army base. The commander, a colonel who spoke English well, welcomed him, and they had dinner together.

During the meal, the Colonel explained the problem. Their base had been designing military electronics, and they wanted to use COMPACT in their work. Their programmers, however, could not install the program on their Soviet-made Ural-2 mainframe computer. That is why they had asked for someone from our company to come and help. "I expect you to stay as long as it takes," the Colonel emphasized. "We have very comfortable living quarters for you."

When Chuck asked if he could call me, the Colonel shook his head. "I'm sorry, but for security reasons, that's not possible. I'll ask our buyer in London to send a message to California." (I never received a message.)

After dinner, a soldier led Chuck to a nicely furnished apartment and locked the door from the outside. Peeking out through the window, he could see an armed guard standing nearby. Accepting his fate, Chuck went to sleep. The guard unlocked the door at the start of each day and locked it again every night.

Chuck was a runner and expressed his desire to jog every morning. The Colonel agreed. A soldier in a Jeep drove alongside, escorting him on the inner roads of the base as he ran.

The Soviet computer had an unfamiliar operating system. Many of COMPACT's functions required complete recoding. Chuck worked long hours with the help of several capable programmers. He told me that at the time, he was unsure if they would ever let him go. The Colonel and his staff honored him at a special celebration when the work was completed. The next day, he headed home.

Hearing how the British company had deliberately misled us made me extremely angry, but it was too late to do anything. For a long time, I lived in fear, dreading the consequences that might arise from that questionable sale. Fortunately, none did.

I promised myself to be more careful about future direct sales. After that incident, I modified our purchase agreement form to precisely show the location and detailed information about the computer on which the program was being installed.

*These days, the end user never receives the source code of a program. Instead, the software companies create executable modules from their computers. The user must register these modules through the Internet to prevent usage on multiple computers.*

*In my business, however, we did not own a computer and could not generate executable codes. In the 1970s, COMPACT was installed on the timeshare systems' mainframe computers made by IBM, Control Data (CDC), Honeywell, CRAY, XEROX, and Univac. For our in-house sales, depending on the type of computer the customer owned, I created a copy of the program's source code on punched cards or magnetic tapes.*

*The source code at the customer's site always required modifications because each timeshare company had its own customized operating system and programming functions.*

*I had no real copy protection other than trusting the buyer's integrity. Fortunately, software piracy in those times was not what it is today. Of the several hundred direct COMPACT sales, there were only two cases where I suspected unauthorized usage.*

### **Part-time soccer coaching**

The American Youth Soccer Organization (**AYSO**) was formed in California during the mid-1960s to offer the sport to 6-19-year-old children. They looked for volunteers to coach, referee, and administratively assist newly formed teams. Hearing that I had played soccer before, a neighbor asked if I could coach a team he was forming.

In the 1970s, only a few AYSO coaches had played soccer. I felt that with my experience, I could teach new players the basics. In those days, children began playing on teams at five or six — now they start at age two. Son George had just begun first grade that year, and I thought it would be good for him to learn the game.

My wife and I were concerned about his face turning red after hard running. On a soccer team, the goalie rarely runs, so that was the position I selected for George. My only concern was that even if a goalie makes several spectacular saves, everyone remembers when he once missed the ball. Fortunately, George became a good netkeeper and enjoyed his teammates telling others about his performance. I was happy he could participate in a team sport without stressing his heart. Later, we learned that the murmur was gone, and we no longer had to be concerned about his health.

### **Dr. Max, the healer**

Somewhere, I had heard that when children suffer minor injuries, the fastest cure is to take their attention away from the pain. I found a successful way to apply that theory that always worked with our daughter. It also involved the neighbor's dog.

Beyond a chain-link fence at the bottom of our sloping backyard, a large German shepherd watched over our neighbor's property. His name was Max. One day, while Nanci was running too close to our rose bushes, a thorn pricked her finger. She began to cry so loudly that I could hear it inside my office.

After rushing out to investigate, she showed me the tiny drop of blood on her finger. My efforts to calm her did not work. She cried even harder. Max stood on the other side of the fence, watching the drama.

In desperation, I picked up Nanci and carried her down the slope. "Let's tell Max what's happened," I suggested. She immediately stopped crying. When we reached our side of the fence, I talked to Max. "Look at Nanci's finger," I said. "Could you make her feel better?"

Max wagged his tail, and I kept talking to him. Nanci also told him what that awful bush did to her finger. She completely forgot about crying. We said goodbye to Max and walked back to the bush. I spanked the bush for its crime. The matter was closed.

From that day on, I used the distraction technique successfully many times. It even worked when we were away from our house. Whenever she was hurt, I promised to tell Max when we arrived home. Of course, I always had to follow up on my pledge. Max was a sympathetic listener. As payment for his healing services, I sneaked to him daily treats.

### **My First Sales Representative**

A man speaking with an Asian accent called the office one day. "My name is Nobu Kitakoji," he said. "I'm the president of Tokyo System Lab and would like to represent you in Japan. May I come to your office to talk about it?"

I did not know how to respond. *He thinks I have a large company. I should not meet him in our house.* "Let me suggest a restaurant where we could talk over lunch," I said.

"Thank you very much, but if possible, I would also like to see your operation," he replied.

I could not think of any reasonable excuse not to have him visit us. I explained that my office was in my home. He sounded surprised but assured me it would not be a problem. Within an hour, he showed up at our front door.

Our visitor was slightly built, about five feet six inches tall, with a humble and polite demeanor. After bowing deeply from the waist, he offered to shake hands, contrary to Japanese custom. I introduced him to my wife, and we talked in our spacious living room. He apologized for interrupting my schedule. Next, he complimented us on our house and admired the magnificent view of the valley. Then, he revealed a gift for me—a beautifully framed picture of Mount Fuji. His courtesy was almost overwhelming.

After a few minutes of general conversation, he turned to business. He had heard that some of the companies in Japan were using COMPACT through timesharing and asked if we had sold any for in-house installation in that country. I answered, "No."

"Japanese companies will not buy foreign-made computer programs without having local representation," he told me. "With our established contacts in the industry, however, I'm certain we could sell quite a few programs for you." He showed me his company's customer list, which included familiar names like Sony, Fujitsu, NEC, NTT, and Toshiba.

In a short time, we verbally agreed for his company to represent us in Japan. A few weeks later, he returned with his vice president to finalize the contract. After we signed the papers, Compact Engineering had its first sales representative. The arrangement worked out exceptionally well for us.

When the Space Communication Group of Hughes Aircraft Company purchased COMPACT, they asked me to conduct weekly four-hour tutorial seminars during eight weeks. The company wanted their engineers to participate on their own time, so they scheduled the seminars from 4 p.m. to 8 p.m. on Wednesdays. I flew from San Jose to Burbank in the early

afternoon on those days and returned in the late evening. Hughes provided a driver to shuttle me between the Burbank airport and the plant.



**Meeting two officers of Tokyo System Lab in our house. From left to right: Chuck Holmes, Kitakojisan, me, and Kono-san.**

In 1978, the San Jose airport had only one terminal with about a dozen boarding gates. The short-term parking lot was just across the terminal. Security was almost nonexistent. With a ticket in my hand, I could arrive in my car at the short-term parking area 15 to 20 minutes before departure, walk to the gate, and board the plane. That specific Burbank flight always took off from the same gate. After the first few weeks, I was thoroughly familiar with the routine.

One Wednesday, as I sat in the plane taxiing toward the runway for takeoff from San Jose, a male voice came over the PA system. "This is your captain speaking. Let me welcome you on our flight to LAX..."

"Someone better tell the captain that we are going to Burbank," I said with a smile to the passenger sitting beside me.

"No," he replied. "We're going to Los Angeles."

PSA had switched gates that day. I was on the wrong plane!

Fortunately, we were headed in the same general direction. When we landed at LAX, I called Hughes from a pay phone and explained what had happened. I took a taxi and arrived at the plant just in time to begin the course. The students enjoyed hearing what an absent-minded professor they had, but it was not a mistake I wanted to repeat.

I always checked gate assignments after that day.

### **A New Business Opportunity**

In January 1979, a man called me. "My name is Wayne Brown," he said. "I am heading up a new project for Communications Satellite Company (Comsat) and want to know if we could make a special arrangement with you. Let's have dinner together to discuss it." We set up a meeting at Maddeline's in Palo Alto a few days later.

Although Comsat Laboratories in the Washington D.C. area was on our COMPACT user list, I did not know much about the company. However, the financial brochure our stockbroker gave me the next day provided more information. Comsat was the first international commercial satellite company, formed by the U.S. Congress Communications Satellite Act of 1962 and incorporated as a publicly traded company in 1963. It operated Intelsat and Inmarsat and was involved with the launch of Early Bird. Satellite communications were performed at

microwave frequencies, so we shared something. I was eager to learn what they wanted from me.

Mr. Brown and I arrived at the restaurant at the same time. The owner, whose son played on my AYSO soccer team, recognized me as we walked in. He led us into a small private dining room. At first, I thought that we were receiving special treatment because of my coaching, but later, I learned that our reservation had been made for that room.

The Comsat man did not waste time. As soon as we were seated, he told me that a few years previously, the Federal Communications Commission (FCC) had reclassified the company as a utility and began regulating the rates it charged its customers. As a result, Comsat's revenues and profits started to decline. To make things worse, the company's worldwide monopoly on satellite telecommunication was to end the following year with the new Open Skies Policy of the FCC. The new ruling encouraged competition. Comsat's management had decided to diversify and look for new business ventures. One of their ideas was to automate high-tech companies' engineering design and manufacturing processes.

"This is why I wanted to see you," he said. "The engineers of the large companies either use outside timesharing or their central mainframe computers. The first alternative is expensive and not fully secure. In the second case, they generally use a computer purchased for business instead of scientific applications."

I did not see where he was heading. "True, but are no alternatives," I said.

"Not yet," he replied. "Within a year, however, my group will develop a new design system running on minicomputers. We'll automate the engineering departments. Digital Equipment (DEC) and Prime Computer Company have recently introduced powerful minicomputers capable of simultaneously handling the needs of 30 to 40 engineers!"

I focused on mainframe computers in my business and was unaware of the minis he mentioned. All of a sudden, I became interested in his project. "Tell me more."

He would not go further unless I signed the nondisclosure agreement he had brought with him. I signed on the spot. Then, he outlined his ambitious business plan.

His group of 20 professionals had been converting various business applications, such as database management, word processing, and something new—an "electronic spreadsheet" called VisiCalc (the predecessor of Excel) to minicomputers. Next, he wanted to add COMPACT to the package. "We'll sell the entire turnkey system to military defense and telecommunications companies. You'll make more money because we'll market your program," he said.

He predicted that customers using their system could drastically reduce engineering administrative staff. "Right now, when you need a letter, you dictate it to a secretary who types it. If every engineer has a computer terminal and learns how to use it, there'll be no need for secretaries."

The man sounded like a visionary. The more I heard, the more excited I became. Under his proposal, Comsat would pay us generously for the conversion and sign a non-exclusive license to market COMPACT on the minicomputers. They had leased a large building in Palo Alto, and we could share the facilities with his local group and have access to their minicomputers.

The idea sounded attractive. Compact Engineering had ten employees then, and it was time to leave our home office. Using their building for six months would be ideal until the project's estimated completion. By then, I would have found a new office.

I gave Wayne a tentative positive answer. Back at home, I discussed the offer with Chuck, Mike, and my wife. All three thought it was an excellent opportunity to expand the scope of our business. Joyce was also happy to regain the exclusive use of our kitchen. Within a few weeks, I signed a contract with Comsat and moved into their building.

Our children did not like the change. Nanci had just begun preschool and would cry in class. "My daddy started to work, and he's not home anymore during the day," she told the teacher. When the teacher asked her how long I had been out of work, she said, "He's never worked."

A few days later, I met the teacher. "I'm so glad to hear you've found a job," she told me. "But apparently, Nanci does not like the change."

I was confused. "I've been working full-time since I turned eighteen. Where did you hear that I did not have a job?"

"Nanci said that you're no longer at home during the day," she replied.

I finally understood and explained to her that I began my home business the year Nanci was born. To Nanci, a dad at home during the day couldn't possibly be "at work" simultaneously!

### **Establishing a Closer Working Relationship with Comsat**

Many of the Comsat employees in the local group came from Hughes Aircraft. Most of them had programming backgrounds, although there were also a couple of engineers. They were highly competent, and we quickly developed an excellent working relationship with all of them.

Maintaining a program with over 20,000 lines of code had become difficult. We had the listings of the programs from about 60 on-site installations. When a customer reported a bug, we first had to determine if it was unique to that installation or existed in all programs. As the number of in-house installations increased, the required product support became unmanageable.

At that point, our direct sale revenues far exceeded our timeshare royalties. It was evident that once the program became available for minicomputers, even small companies could afford it. I decided to focus on that market. To differentiate the new program from the previous product, I assigned it the name Super-COMPACT. Our programmers placed clever software switches<sup>2</sup> into the code to eliminate the need to store the listings of all future customers.

Although we had gradually increased the program's price from \$1,500 to \$10,000, Wayne laughed when he heard the latter figure. "You've been giving away that program," he told me. Comsat's market analysts recommended selling Super-COMPACT on the minicomputers for \$60,000! I was horrified to hear that price, but time proved them right. I *had* been giving away the program!

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<sup>2</sup> Statements to separate program segments unique to specific customers.

Two months later, I proposed to Wayne that we expand the scope of their design system by letting my company add two other circuit design programs: SPICE from UC Berkeley and FILSYN, a major filter synthesis program. The SPICE program had been developed with public funds, so its source code was free. The filter program was owned by an individual I knew well, and he was open to joining us. Both programs were running only on mainframe computers. Therefore, they would require extensive conversions to run on the minicomputers.

Wayne liked the idea, but such a significant modification to our original agreement required the approval of a Comsat vice president. Our plan was accepted, and I added five more people to the Compact staff to work on the two programs. With 15 employees on our payroll, I had to pay more attention to personnel issues. I split our technical people into two groups to minimize my administrative workload. Chuck headed our engineers, and Mike was responsible for the programmers.

As our project completion approached, I read a lengthy article in *Business Week*. According to their prediction, office automation will become a five-billion-dollar business within five years. *IBM, General Electric, HP, and other giants will enter that business and squash Compact Engineering! What should I do?*

I called a conference with both our accountant and our corporate attorney. "Would Comsat be interested in buying your company?" asked the accountant after hearing my concern.

I had not thought about that, but the management style of Comsat did not appeal to me. The fact that the U.S. government had created the company had left its mark on it. Lower-level managers had limited decision-making power. Critics often referred to the company as a "government corporation."

Comsat was also quite formal, placing importance on titles and academic degrees. I had never liked it at Fairchild, where those with PhDs were always addressed as "Dr." by their subordinates. I preferred the style at HP and Farinon, where virtually all employees were called by their first names.

On the other hand, Comsat was a large company that could provide protection. Its worldwide sales and marketing organization could do a far better job selling our products than I could. The company wanted to diversify due to losing its satellite communication monopoly. I concluded that the good outweighed the bad and that exploring the possibility of selling Compact to them would make sense.

Our accountant recommended a two-day seminar titled "Selling Your Own Business." I attended the course in San Francisco the following week. It was an eye-opener and helped me to formulate a strategy for selling the company. That opportunity came faster than I expected.

Halfway through the Super-COMPACT installation on the DEC PDP-10 (VAX) minicomputer, Wayne and I flew to Washington, D.C., to present to a small group of Comsat officers. We met in the president's luxurious private office on the eighth floor of their headquarters at L'Enfant Plaza. The expansive windows of the office offered a spectacular view of the city's landmarks.

During the luncheon that followed the meeting, their vice president of marketing sat next to me. "At what price should I be selling Super-COMPACT to companies with a VAX?" I asked him.



He stared at me. "I thought we had an exclusive arrangement with you to market the product," he said.

"Your exclusivity only applies to bundled sales," I replied. "I have the right to sell the program without a computer."

The news must have spoiled his appetite. It appeared that he had the wrong information. "That's going to be a problem," he said after some thought. "Let me talk this over with Mickey Alpert." He stood up, walked over to the other side of the table, and began a conversation with another man. "Let's talk about this after lunch," he suggested when he returned.

Mickey turned out to be the vice president of mergers and acquisitions. He set up a meeting for later in the afternoon. "Would you consider a merger between Comsat and Compact Engineering?" he asked after I had answered several questions about my company.

I remembered the final advice given to the participants at a recent business seminar: *Let the buyer pursue you!* "I haven't thought about it," I replied, hiding my excitement. "Our employees like the small company environment."

"You could certainly maintain that environment. I know you operate differently in California. Don't let our ways here scare you," he assured me. "Think about it after you go home. Comsat's resources would help your company grow much faster." I promised to reply in a few days.

Wayne told me that he was asked to stay there for another day. After my return, I contacted Owen Fiore in Los Angeles to find out if he would represent me in a possible merger. He was one of the attorneys who had lectured in the San Francisco seminar, and I had been impressed by his presentation. "I'll be up in your area over the weekend," he told me. "We could talk about it then."

Wayne called my home the following evening. "Let me come over and tell you what Comsat plans to do." Knowing that it must be something important, I agreed. He was at our house in a few minutes.

"With my group's recommendation, Mickey has already been negotiating to purchase a small Texas company with an outstanding digital design program," he began. "When that acquisition happens, it'll fill the only missing link of our design system."

He was right. Our programs only handled the analog portion of a system. Adding a capable digital design program would make the Comsat package highly marketable. However, Wayne was not finished.

"If that deal goes through and you agree to sell, Comsat will set up a new West Coast subsidiary headed by me. It would have multiple divisions: the Compact group led by you and the digital group with its current president," he added.

It sounded like Comsat was serious. I told Wayne I was interested and planned to meet with an advisor over the weekend.

Owen Fiore spent Sunday morning with me. He agreed to represent me after looking at our financial records, tax returns, and customer list. In addition to expenses, his charges would be based on the time spent on the case.

As for the sales price, he felt it should equal our revenues from the past twelve months. Instead of cash, he recommended that we ask for a tax-free stock exchange. "When the news

that Comsat is entering into the office automation market reaches Wall Street, the stock price should go up," he said.

I phoned Mickey the next day to follow up on our conversation. He flew to California and stayed in our office for an entire day. Before he left, I signed a letter of intent to merge that he took with him to present to Comsat's board the following week. The ball was rolling.

During the following weeks, I visited Comsat headquarters twice. The first trip was mostly spent on technical discussions and planning. Owen also came with me the second time to discuss the financial terms. I was glad to have Owen there because he asked for many benefits that would not have occurred to me. By the end of our second visit, we reached a tentative agreement with Comsat that only needed their board's approval and a satisfactory audit of Compact's financial records. One of their business managers and a CPA were to come home with us to conduct the audit.

The terms of the agreement far exceeded my expectations. I would be a senior vice president of Comsat and president of the Compact Division, with an annual compensation of over \$100,000. In addition to a four-week paid vacation, I would be paid for an additional four weeks, during which I could teach university courses and keep the revenues received. The executive benefit package included fully paid medical and dental insurance for me and my family, life and disability insurance, and a company car. For retirement consideration, Comsat would give me retroactive credit for my employment with Compact. Along with our two key employees, Chuck and Mike, I would receive a five-year employment contract. Compact and Comsat were to each pay their legal expenses for the merger.

On the flight home, I reviewed my finances. The 35,000 shares of Comsat I would receive in exchange for my company's assets would pay annual dividends of \$2 per share. When I added everything up, my income and net worth would be higher than my father-in-law's! My yearly salary at Farinon had been \$30,000 a few years earlier, and we had lived well on that. Now, we would have so much more. Never in my life had I expected to achieve such wealth.

A few days after going through Compact's financial records, the Comsat business manager asked for a private conversation. "You must keep what I have to say between us," he began. "Comsat would fire me for disloyalty if they found it out," I promised complete confidentiality.

"Your company has high potential, but Comsat is not flexible enough to exploit it. Don't sell out now. Please hire me to be your business manager. We'll find venture capitalist financing and grow the company for a few years. Then we'll go public."

I was astonished to hear what he said. "How could I do that after already signing a tentative agreement?"

"The merger hasn't been finalized. You can always back out before the formal agreement is signed."

His proposal sounded unethical. After negotiating a deal with Comsat in good faith, how could I turn them away now? On the other hand, going public in a few years sounded lucrative. I called my father-in-law and Owen for advice. Neither of them wanted me to hold out.

I thought Owen was more concerned about the possibility of losing the additional revenues than the ethical part. On the other hand, my father-in-law agreed that I should not trust someone ready to "bite the hand that fed him." I valued his opinion and decided to go with Comsat as planned.

It took about a month to finish the transaction. Just before Christmas 1979, we signed the final agreement. Comsat established a new subsidiary called Comsat General Integrated Systems (CGIS) and changed the name of my division to Compact Software. They purchased land near the intersection of San Antonio Road and Hwy 101 and built a new facility for the subsidiary. Our plant included a central computing center with a Digital Equipment VAX, a Prime 450 minicomputer, and an interactive terminal on every employee's desk. The recently purchased Texas group also became a part of CGIS. We began an aggressive hiring campaign to build a company that would automate engineering departments worldwide.



**Our new building was in Palo Alto. Comsat built it to our specifications, although it took some time for them to agree to have a bicycle storage room!**

When we released Super-COMPACT in 1980, the demand for the program was overwhelming. Our advertising campaign emphasized that it would be offered only on the VAX. The key selling point was decentralizing engineering departments by providing a smaller computer center dedicated to scientific applications. Our motto was to have a computer terminal on every engineer's desk. In 1980, that was a revolutionary new idea!

A week after the program's release, I received a call from an angry executive. He was the head of a division of Hughes Aircraft. "We are one of the most important defense contractors in the United States," he shouted. "Who are you to tell me that I need to buy a minicomputer to use Super-COMPACT when we have a multimillion-dollar IBM mainframe in our central computing center?" He demanded that we make the program available for his computer.

I had learned at HP that "the customer is always right"<sup>3</sup> and gave in to his demand. We converted the program for his IBM system. Soon after, General Dynamics wanted it on their CDC mainframe, and the Naval Research Lab wanted it on a Cray. We gave these companies what they wanted as well. Within six months, the program ran on five different computer operating systems. Although that made our support and maintenance more complex, the customers were satisfied. Our business was booming.

Japanese companies that previously had not trusted a home-based operation also wanted the program from a Comsat division. I frequently traveled to Japan to speak at conferences

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<sup>3</sup> That was true in those times.

and promote Super-COMPACT at trade shows. On my first visit, Kitakoji-san introduced me to eating sashimi—something I still enjoy.



**Left: Compact Software booth at a Japanese conference center. Right: Participating in karaoke in a Tokyo bar.**

Back in California, the head of UCLA’s Continuing Education Center resigned and formed his own business. His company, Continuing Education Institute (CEI), offered short courses in the US and planned to expand to Europe. He asked if I would teach for his company at major industrial centers that would not compete with UCLA. I agreed to do it at two locations: in the Boston area and Palo Alto. I especially liked the second one because it did not require travel.

A Stanford-educated Swedish entrepreneur, Birgit Jacobson, partnered with him to form an overseas group, CEI Europe. Her philosophy was offering courses at popular tourist locations where engineers would take their families for vacations, like Nice, Barcelona, and Davos. She asked me to teach in Europe, too. I consented because those trips would allow me to visit my mother in Hungary.

Engineers who had taken our introductory design course asked for advanced-level courses. Since I didn’t have time to conduct more courses, I found other lecturers and designed a class to follow the one Bob and I taught. The two five-day courses formed a strong foundation for high-frequency circuit designers. Decades later, updated versions of those classes are still being offered.

In 1980, American Airlines began a passenger loyalty program called AAdvantage. United soon followed with its Mileage Plus program. I flew frequently on both airlines and soon became a member of their elite classes, which enabled me to be in first class on most trips. That year, I traveled about 30 percent of the time, so accumulating mileage in the programs was easy.

### **Trying to Balance Family Life and Business**

At home, I often performed “magic” tricks for our children. My favorite was to “change traffic lights.” When we arrived at a red light, I stopped the car and looked at the traffic light for the cross street. As soon as I saw it change from green to amber, I would say, “*Abracadabra Kalamazoo, red light change to green!*” The children, who watched only the lights facing our direction, observed the red change to green. They were always impressed by my “magic power.”

Our three-year-old Nanci was invited to a weekend sleepover at a friend's house. "Daddy, can you really change the red light to green?" she asked me after returning home.

"Yes, of course," I replied. "Why do you ask?"

She told me her friend's father had taken the girls out for breakfast. On the way to the restaurant, they reached an intersection with a red traffic light. Nanci asked the dad to change the light.

"I can't do that," said the father.

"My daddy can do it," Nanci told him. "Perhaps he could teach you, too."

I had no choice but to admit the truth. It took quite a while to regain her trust.

After buying a truck and a camper, my in-laws invited us to camp out for a weekend at a lake near Nevada City. The vast pine trees blanketing the area and the clear blue sky reflecting in the water presented spectacular scenery. Joyce and I fell in love with the area and purchased a large lot only a block from Scotts Flat Reservoir.

My father-in-law thought of a joint project for our lot. He would buy a log cabin kit if I assisted him in building it. Joyce and I thought it was a great idea and agreed. After the lumber was delivered, we all took a week off to start the construction. My brother-in-law, David, also came with us. A local contractor provided guidance and directed our work.

I had never used a hammer for longer than a few seconds at a time. Hammering the large nails into the logs for a week led to a painful elbow. I had trouble controlling the ball while playing tennis the following week. When the pain persisted, I went to see a sports doctor. He diagnosed a severe case of tennis elbow—which developed during my week as a carpenter. It was several months before I could return to playing tennis.

My brother-in-law and one of his college friends spent their entire summer vacation working on the cabin. After it was completed, my father-in-law purchased a powerboat and water skis. We all learned to water ski and spent many weekends in that area.

Joyce had grown up with her family having horses. She wanted to get back to riding, and she also wanted to teach our kids how to ride. One day, she hoped to take them to compete at horse shows. Los Altos Hills allowed its residents to keep farm animals, so she proposed that we buy two horses.

The only time I had been near these hooved creatures was in Budapest. A brewery that made deliveries by horse-drawn carriages parked their wagons and stabled the horses in the courtyard of the building next to ours. My contact with the animals had been limited to passing by the front gate of their structure; my only memory of horses was smelling the odor of manure. As a result, I had never been attracted to them. However, seeing how much Joyce wanted to have the animals, I agreed.

In addition to owning horses, Joyce also thought that having a swimming pool would allow our children to learn to swim and be safe in the water. However, our hillside location was unsuitable for a pool or horses. As wonderful as it had been, our house no longer worked for us. Giving up our beautiful three-level home was difficult, but I compromised to keep the family happy. We began the search for another home with enough flat land and found a suitable place near Magdalena Road on the southwest side of Highway 280. We moved there in January 1981. The one-acre lot already had a nice pool and a stable for horses. In a short time, we also purchased two horses. We had taken the first steps toward a semi-rural lifestyle.

Shortly after we moved in, friends asked if they could leave their pony with us for a week while they were on vacation. We agreed, and they brought the pony to our stable. Late the next afternoon, while Joyce was away from the house, an excited George called me at work. "Daddy, the pony escaped into the street."

Fearing that a car might hit the animal, I rushed home. Driving around in our immediate neighborhood, I could not find it. I returned home and called the police, explaining what had happened. The dispatcher told me that someone on Summerhill Road had reported a loose pony just a few minutes earlier. The place was about a mile from where we lived.

I jumped into my car and quickly drove to the reported address. A woman stood in the driveway, holding the pony by its reins. Her family also kept horses, and she had found the pony standing next to their fence. I thanked her profusely and proceeded to take charge of the runaway. The little beast sprinted to the road as we exchanged holds on the pony.

Frustrated with my failure, I gave chase with the hope of a quick capture. Being a former runner—an award-winning one, at that—I was confident I could catch him. To my dismay, however, the distance between us was rapidly increasing. After running about 100 yards, I had to accept defeat. My two long legs were no match for his four short ones. Huffing and puffing, I went back to the car to follow him.

Fortunately, the pony stopped half a mile away, next to two children. I yelled to the kids and asked them to hold on to him. This time, I succeeded in transferring the pony to my grip and walked him back to our house. My children were relieved, and we ensured that the gate was securely shut from then on. We never told the pony's owners about the incident.

Our first dog, Tarzan, had developed a fatal disease and did not live long. I was eager to have another dog, and the large backyard of the new home was ideal for one. We bought a cute German shepherd puppy, and Nanci gave her the name Princess.

During puppy training, we quickly realized that Princess was not as bright as we had hoped. I was determined to train her properly and looked for professional help. Someone recommended a two-week live-in obedience program at a Sunnyside dog kennel. After introducing our dog to the owner, he guaranteed success. We left Princess with him.

A week later, the man called us. "Please take your dog home," he said sheepishly. "I am afraid she is not trainable."

When we picked up Princess, the trainer apologized, explaining that it was the first time in his career that he had failed to teach a dog the basics. For consolation, he gave us two large bags of dog food. We had to accept that our beautiful dog was not a mental giant. We loved her regardless.

Nanci was a light sleeper and often became scared after waking up at night in the new house. When that happened, she would come into our master bedroom and crawl into bed with us. I walked her back into her room and held her hand until she fell asleep. An hour or two later, she was again in our bed, and the cycle repeated several times. Keeping a low-level light on and playing soft music in her room did not help. I did not get much sleep on those nights.





**Upper row, left to right: In our new home with wisteria blossoms; Nanci and Princess; Halloween outfits; The pony I tried to catch. Lower row: Riding prizes won by our kids.**

Finally, I had a brilliant idea. When I put her into bed in the evening, I tied one end of a long string around her wrist and the other around mine. I told her to pull the string when she woke up at night. I would respond by pulling it at my end. That way, she would know that I was near.

The low-tech communication system worked. Whenever the jerk on my wrist awakened me, I pulled the string until she felt it. Being assured that I was there, she went back to sleep.

George's room was located farther from our master bedroom. He had no problem sleeping there as long as I ensured his closet door was closed—so the monsters could not come out at night.

I had an established bedtime story with the kids from the time they were very young. I made up individuals who invented various things to please a king. The inventions had consistently been named after their inventors. For example, Mr. Softdrink invented soft drinks, Mr. Utensil the utensils, and so on. The children loved them, and I often had to be highly creative to develop believable ideas.

### **Increased International Travel**

I enjoyed playing with my children at home, but my work required me to travel frequently. In mid-February, Kitakoji-san asked me to participate in the TokyoCom conference scheduled for the newly constructed convention center near Tokyo's harbor. "I arranged a TV interview for you," he informed me. "It'll generate a lot of publicity for your company."

I knew he had arranged a booth for us in the exhibit area but had not planned to attend that conference because Joyce was unhappy about my frequent travel. However, the idea of being interviewed on Japanese television appealed to me. Even with the short notice, I agreed to go.

I arrived in Tokyo amid one of its most severe winters. To make things worse, the heating system in the new convention center exhibit area was not operating. Standing in our booth wearing only our business suits was uncomfortable, but warm coats would have been culturally inappropriate in appearance-conscious Japan. I hadn't thought to bring layers of long underwear. Our representative brought small chemical heater pouches that we could place into our pockets, but keeping our hands in our pockets was not polite. The only option was for us to stand shivering in our booth with forced smiles.

Although I had participated in other conferences in Japan, the TokyoCom was the largest and most interesting I had ever seen. The employees of the various large companies wore identical bright-colored business outfits. Most of the exhibits had high-power PA systems blasting their messages. Pretty young women stood before each booth, politely handing out company literature and gifts. Thousands of visitors strolled through the crowded aisles.

The five-minute-long TV interview in the exhibit area was fascinating. The reporter asked questions in English, repeated them in Japanese, and also translated my answers for the viewers. In my hotel room that evening, I watched his report on TV during the evening news. Due to the chilly environment, I did not look comfortable during the interview. However, it was great publicity for our company.



Left: Sampling Japanese snacks during the TokyoCom opening ceremony. Center: Setting up for the TV interview. Right: Demonstrating Super-COMPACT a month earlier at the European Microwave Conference in London.



Left: A cover page article of *Microwave System News* about the CGIS design system. Center and right: Two Super-COMPACT advertisements. The one on the right shows me in the photo.



I spent much of the flight from Tokyo planning my family's future. I felt I had already surpassed all my professional goals and did not want to stay in the "rat race" much longer. After fulfilling the five years of my employment agreement with Comsat, I intended to retire at 49 and leave the high-tech world. With the dividend income from our stock and the retirement benefits from Comsat, I calculated that we could live comfortably for the rest of our lives without any financial concerns.

The kids especially missed me during business trips, although they liked it when I visited Japan because of the unique gifts I always brought home. George turned nine already, and Nanci was nearly five. During the previous year, not only had I moved out of the home office, but I had also traveled all over the world without them. To make up for the time I had missed with the family during my business trips, I was eager to devote myself to them fully. After retirement, I planned to coach both track and soccer. Perhaps I could also teach courses occasionally.

### **An Unexpected Change**

To my dismay, my optimistic plans were not to be carried out as I had envisioned. Within a few days of arriving home from Japan, I learned my wife was in love with our 25-year-old handyman. The possibility of a divorce loomed, and I desperately searched for a way to prevent it. Our close friends and relatives were puzzled by the news as I was. Joyce and I seemed to be one of the model couples in the community.

I naively thought perhaps one of the issues between us was the nine-year age difference, so I tried to look younger. I noticed my hair loss, so I had permanent waves added. Cosmetic surgery was the last step. None of those physical changes brought any positive results in my marriage. It seemed that there were deeper problems of which I had been unaware. Marriage counseling did not provide any solution as to what I could do. Joyce was determined to end our 13-year marriage.

I could not help but think of my marriage breakdown in terms of a hurdle race. My track specialty was the 400-meter hurdles, an event with ten hurdles to pass over. During my racing career, I felt relieved every time I reached the last hurdle because there were no more obstacles on the way to the finish. Now, in my life's race, I felt as though I had passed over the last hurdle, only to find that someone had unexpectedly snuck another one in my way. I felt devastated.

As if my marital problems were not enough, difficulties with a colleague began to interfere with our progress at work. For several months, our vice president of engineering, Chuck, had disagreed with the company's business plan; he wanted to add new features to Super-COMPACT before its release. The sales department wanted to sell what we had and market a new version later. Chuck's stubborn stance created tension between engineering and the rest of the company. I had private discussions with him, but his attitude did not change. The president of CGIS recommended terminating Chuck's employment.

I was torn between my loyalty to Chuck and concern about the company's continued operation. He was the second engineer I had hired, significantly contributing to our success.

He had always been a dedicated worker. To complicate the case, he still had almost four years left of his five-year employment agreement with Comsat.

When I presented the problem to our legal department, one of the attorneys made an interesting revelation. “We had serious personnel problems with an employee last year,” he told me. “Instead of firing him, we sent him through a program called *Lifespring*. In five days, he became a different person. He is still with the company.”

“What’s Lifespring?” I asked.

“It’s a humane version of EST<sup>4</sup>.”

I had heard that EST was some mind-control process. Participants were locked into rooms for hours without even being allowed to go to the bathroom. If Lifespring was similar, I did not think Chuck would like it. I asked the attorney to find a legal solution to our problem.

That evening, I met with our daughter’s kindergarten teacher. Through the parents’ grapevine, she had heard about my marital problems. She asked if she might offer a possible solution. I was eager to listen to what she had to say.

“The parents of another of my students were recently considering divorce,” she began. “A mediator recommended an awareness course. After completing the program, they worked out their differences and stayed married.”

“What kind of course was that?”

“Lifespring. They took it together in San Jose.”

Two different people had recommended the same thing to me in one day. *It cannot be an accident! Perhaps it could help me find the solutions to my problems.* “Thanks, I’ll look into it,” I told her.

The following day, I called Chuck into my office. He seemed nervous and was probably expecting to be fired. I began as gently as I could. “We both know about the serious disagreement you have about the release of Super-COMPACT, and I also face possible divorce. I’ve heard about a course that might help both of us. Would you go through it with me?”

He wanted to know more about the course. I told him the little I knew. He asked me to give him some time to think it over. An hour later, he came to see me. “Let’s do it,” he said.

The Basic Lifespring Program<sup>5</sup> was five days long. From Wednesday through Friday, they held evening sessions only, but Saturday and Sunday were full days. Chuck and I drove to the Holiday Inn in San Jose for the first session. Approximately 300 people were eagerly waiting outside the closed doors of the ballroom. When the doors opened, the Lifespring staff ushered us inside.

Promptly at 5 p.m., the trainer introduced himself after everyone had been seated. Then, he asked if we knew the lowest form of awareness. “Not knowing anything,” offered one of the participants.

“You’re close but not right,” the trainer replied. “Realizing that you don’t know, you’re already at a higher level. The worst case is when you don’t know that you don’t know.”

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<sup>4</sup> [http://en.wikipedia.org/wiki/Erhard\\_Seminars\\_Training](http://en.wikipedia.org/wiki/Erhard_Seminars_Training)

<sup>5</sup> <http://en.wikipedia.org/wiki/Lifespring>

My interest perked up. I had never heard that reasoning, but I agreed with him. *This might be an exciting program. I'm glad we came.*

The trainer went through the ground rules, and some of them generated heated discussions. "The course will only start after you all agree to the rules," he declared. "You must be seated every day at the agreed time. No one will be admitted late," was the first rule.

"What if I'm held up in heavy traffic?" "What if I can't find parking?" participants asked.

"Figure out how to deal with those possibilities. Just be here on time!"

Some of the other rules were:

- Have an open mind.
- Unless it is an emergency, stay in the room until the break.
- No eating or drinking during the sessions.
- No smoking and no use of any non-prescription drugs.
- No side talking.

The leader encouraged participation. "Raise your hand when you have a question or want to share," he said. "Wait until I call on you to speak."

It took over two hours for everyone to accept the rules. Those who disagreed were asked to leave. Finally, the process began. Small-group discussions and exercises followed each one- to two-hour lecture. Each session was designed to handle a specific personal issue.

At the beginning of the first small-group session, the leader asked everyone to describe briefly what brought us to Lifespring. Like me, most people came after some traumatic experience in their lives—losing a loved one, having domestic problems, being fired at work, being sentenced for a crime, or just not fitting into society. One man came to overcome his fear of water. Our socio-economic backgrounds were varied; participants ranged from the unemployed to corporate executives.

I had never participated in a course dealing with interpersonal issues, and the events of the next five days profoundly affected me. Neither the trainer nor the staff had an academic background in psychology, but they possessed special skills to zoom in on the real causes of our problems quickly. One man shared that he had held several jobs but had been fired from each one after only a few months. In a short time, it became apparent to all of us—except him—that his excessive drinking interfered with his job performance. Only two days later, after one of the group exercises, did he recognize the actual cause. I heard later that he joined Alcoholics Anonymous (AA) and eventually became one of the leaders of that organization.

The trainer instructed us to make direct eye contact while talking with someone. He also emphasized using the pronoun "I" instead of "you" to acknowledge accountability. I was amazed to hear how often the participants switched to "you" to avoid responsibility. For example, a man who often beat his wife explained his reasoning, "...when you lose your temper..." instead of "...when I lose my temper..."

Lifespring also frowned upon using the phrase, "I'll try." Instead, they recommended giving a firm commitment by saying "I will" or being honest and say, "I will not."

The question, "Do you want to be right or do you want to be happy?" came up frequently. One of the participants stubbornly argued for performing a task just because he wanted to be correct. "Sometimes, it is more important to be happy, even if it means sacrificing something," emphasized the trainer. "You don't always have to be right!"

During the lectures, we sat in wide rows. One of the presentations focused on being empathetic with others. Before the break, the trainer asked us to remove our shoes and pass them to the second person of the same sex on our left. "To experience how it feels to be in someone else's shoes, for the rest of the evening, you must wear what was handed to you," he instructed.

My feet are size nine. The loafers passed to me must have been three or four sizes larger, and I had to be careful not to lose them while walking around. The exercise helped me realize that I could never truly understand someone's difficulties until I had personally experienced what it was like to be in their circumstances. At the conclusion, the trainer reinforced the idea by saying, "Don't judge someone until you've walked a mile in their shoes."

Around 10 p.m. on the second evening of the course, we were paired up and instructed to stand and face our partners. Our assignment was to tell our partner about an incident from our lives when we had been the helpless victim of someone else's wrongful action. When the partner was satisfied that the other person could have done nothing to avoid being victimized, we had to switch roles. The couple could only sit on the floor when both sides were finished.

Both my partner and I told convincing stories. I was pleased to see him agreeing about my being the victim in my upcoming divorce. We figured that was the end of the session, and we could go home. We were wrong!

"Now I want you to tell the same story to your partner, except this time, blame yourself," the trainer said. "Bring up everything you could have done to prevent the outcome."

The participants burst into moans. "That's not possible," someone said after raising his hand.

"I'm convinced it can be done," the trainer replied. "We're not leaving until everyone is done."

To my surprise, after lengthy, sincere soul-searching, I came up with possible solutions that could have prevented the failure of my marriage. Joyce and I had already had a lovely home and comfortable life in Los Altos. Nobody had forced me to start a business that required long working hours and frequent travel. *If I had been satisfied with being just a design engineer, I might not be facing a divorce now.*

My partner was also successful in finding a solution to prevent his problem. We learned a powerful lesson that evening: when we feel that bad things are done to us by someone else, it is not always entirely the other person's fault.

At the graduation ceremony, Chuck approached me. "Les, I realize that my stubbornness has been getting in the way of my working well with the other employees," he said. "You don't have to worry about me anymore. I'll fully cooperate with the group."

Chuck kept his promise. He spent the next day at work making peace with everyone. From that day on, he became a model employee and continued to be my close friend. A month later, we both went through Lifespring's Advanced Training session. The lessons I learned from the courses stayed with me throughout my life and helped me make better decisions. Unfortunately, as helpful as the Lifespring courses were to me throughout the rest of my life, they did not save my marriage; Joyce was determined to start a new life with another man.

Having grown up without a father or a male role model, I assumed that the most crucial task of the husband and father in the family was to provide a safe and secure environment for

his family. My academic courses have taught me how to troubleshoot technical problems and how to solve them, but I was unaware of the domestic issues I faced at home. Without any obvious warning sign that my wife was unhappy, I was unprepared to face the inevitable. No matter how much money we had or how clever I thought I was, the frustrating truth remained that our marriage had ended.

Although I could not prevent the divorce, the Lifespring experience eased the impact. My wife and I agreed to handle it through mediation without hiring two adversarial attorneys. We set a goal of completing the required legal procedures by the summer of 1981.

I did not want to be a typical divorced father who sees his children infrequently or never, so I asked for joint 50-50 custody. Joyce disagreed, saying such an arrangement would not be feasible with my busy corporate role. Not having any other choice, I decided to resign from the company. Coincidentally, while I was contemplating how to break the news to Comsat, our president, Wayne Brown, announced that, due to health reasons, he planned to leave by the end of the year. Being second in command at CGIS, I was supposed to take over his role.

The meeting with the Comsat brass in Washington did not go well. "Several of our employees have gone through divorces, but they still function fully in their jobs," one of the Comsat VPs told me when I gave the reason for my resignation. I explained my desire to have joint custody of my children, but he was not sympathetic. When I did not change my mind, I was threatened with a lawsuit for breaking my five-year employment agreement.

Fortunately, in California, such contracts exist mainly to protect the employee. By giving up all my perks, I reached an amiable compromise by agreeing to stay part-time for a year until our sales manager could be prepared to take over running the Palo Alto facility. After Wayne's departure, the head of the Texas division became the new CGIS president.

My last primary official task was helping to host the Comsat directors in California at their board meeting, who came from all around the country. I made elaborate plans about what to show them. Among other things, we demonstrated our concept of an automated engineering department. For fun, before the demo, I asked them to guess four critical component values of a microwave amplifier, which we were to design with our system.

One of the board members, a well-dressed lady, turned in the winning estimates. Even though she told me she was not an engineer, her numbers were extremely close to the actual values. I asked if she would consider working for us.

"How much would the job pay?" she asked.

"About \$50,000 a year," I replied.

She politely declined my offer. Later, I learned she was an heiress with over \$100 million net worth.



Photo of the Comsat officers, board members, and the CGIS officers. Joseph Charrick, Comsat's president, stands in the front row, behind the letter "m," wearing a light-colored jacket. I am in the back row, second to his right. The only female board member stands next to the sign on the left. She was our design contest winner.



Photo of the Comsat Research Laboratories located in Bethesda, MD.