An Interview with

SAM WYLY

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Conducted by David Allison

on

6 December 2002

Smithsonian National Museum of American History
Washington, D.C.

Charles Babbage Institute
Center for the History of Information Technology
University of Minnesota, Minneapolis
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Abstract

Wyly begins by recounting his childhood, and education prior to going to work for IBM's
Service Bureau Corporation, and then joining Honeywell as an area sales manager. He
discusses how he left Honeywell to form University Computer Corporation (UCC), a
firm that sold computer time, but transitioned into a software services business. Wyly
explains his growing focus on computing and telecommunications, his formation of
Datran, and his unsuccessful attempt to acquire Western Union. Much of the interview
focuses on ongoing developments at UCC, the eventual sale of this firm to Computer
Associates, his formation of Sterling Software, its acquisition of Informatics, the sale of
Sterling, and his ideas on the future of information technology. Throughout Wyly's
discussion of UCC and Sterling, he elucidates upon his leadership philosophy, and the
strategic, technical, operational, and financial management of these firms. This oral
history was sponsored by the Software History Center in conjunction with the Center's
ADAPSO reunion (3 May 2002).

Preface

As part of its preservation activities, the Software History Center (SHC) worked with Dr. David Allison of the Smithsonian Institution's National Museum of American History and Dr. Jeffrey Yost of the Charles Babbage Institute to plan and conduct a number of oral history interviews of early software company founders and other key industry contributors. On May 3, 2002, in conjunction with SHC's ADAPSO Reunion meeting held in Washington, DC, SHC arranged for 15 individual interviews by historians well qualified by their knowledge and interest in computing history.

The following people were interviewed together with the name of their interviewer:

Bruce Coleman, interviewed by William Aspray
Richard Crandall, interviewed by Paul Ceruzzi
Gary Durbin, interviewed by Philip Frana
Martin Goetz, interviewed by Jeffrey R. Yost
Bernard Goldstein, interviewed by David Allison
John Keane, interviewed by Martin Campbell-Kelly
Ernest E. Keet, interviewed by Philip Frana
Frank Lautenberg, interviewed by Paul Ceruzzi
John Maguire, interviewed by William Aspray
Joseph Piscopo, interviewed by Thomas Haigh
Lawrence Schoenberg, interviewed by Martin Campbell-Kelly
Charles Wang, interviewed by David Allison
Robert E. Weissman, interviewed by Paul Ceruzzi
Lawrence Welke, interviewed by Thomas Haigh.
Sam Wyly, interviewed by David Allison

Each interview was tape recorded, transcribed and edited by SHC, the interviewer and the interviewee to ensure clarity and readability without changing style or flow. The original tapes along with the edited transcripts were donated to CBI, which placed the edited transcripts on the CBI website.

David Allison: I am David Allison at the Smithsonian National Museum of American History on the sixth of December 2002 conducting an interview with Mr. Sam Wyly on the history of software and his personal role in that industry. Sam, what we've been doing in these interviews is starting by asking people about their background and education. Now you grew up in a small town and I wonder how that later came to affect your personal development and your going into the software industry.

BACKGROUND

Sam Wyly: Growing up I certainly didn't have a vision that there would be a software industry.

Allison: Well, how about business more generally.

Wyly: I grew up in a small town based on agriculture. Our economy was cotton and soybeans and cows. Historically, my people had been a part of the cotton farming world but were also educated people for a long time. At a time when most people didn't go to high school, my folks went to high school. At a time when maybe one in a couple of thousand went to college, they went to college; one of my grandparents was a doctor and another one was a lawyer. Going back through a line of Presbyterian ministers and educators there was a Sam Wyly who graduated from Princeton in 1836. His granddad graduated from Princeton in 1763 which was a little ahead of James Madison and Aaron Burr. Going back further, coming from Scotland, Katherine Cleeland landed in the Chesapeake area in 1657. So I heard tales of these folks who were part of the building of America.

Allison: So you were encouraged to be ambitious growing up. You were encouraged to go beyond your small town boundaries.

Wyly: Yes, I heard stories of folks who had helped build America and going back to a great granddad who wintered with George Washington at Valley Forge and a grandfather who fought with Andrew Jackson at the battle of New Orleans and Uncle Christopher who went down to Texas to help Sam Houston and died at the Alamo. So I have a thread of folks who were kind of a mix because you had the pull on the one hand between the Scotch-Irish warrior ethic that had the vision of "Manifest Destiny," but I was also very much a product of the more peaceful religious beliefs based on several different Protestant faiths and the writings of a nineteenth century lady named Mary Baker Eddy. She was born in New Hampshire and grew up at the time of the Emersons and Thoreaus and created a religion [Christian Science] which, at that time, spread rapidly across a lot of America. Just the day before yesterday I had the husband of a cousin pass on and so we flew back to Lake Providence, Louisiana for the funeral. The funeral was in the little Episcopal Church where my mother and father were married in the 1920s and where my great-great-grandmother and grandfather gave the land to start the church.

Allison: So you have a lot of roots in that part of the country.

Wyly: I've got a lot of roots; I've got a lot of stories. When I was in the first grade, the schoolteacher had an annual excursion over to Arlington Plantation to show the class the plantation house that was taken over by the Yankee army as they were marching towards Vicksburg. This was my great-great-grandmother's and grandfather's house on the plantation that they had created. They had both come from Ireland. He got down to Natchez in the 1830s. He had gone to Kenyon College in Ohio, which had been created by his Anglican older brother. When the Civil War came, another brother ended up on the Northern side and he [Edward Sparrow] ended up on the Southern side. It really was a brother's war, a cousin's war. And so I grew up imbued with the story of the Civil War and other stories of America. My grandfather Evans was a doctor who had graduated from the University of Tennessee Medical School in 1905. His stories were of Ben Lilly, the great bear hunter. Lilly was so well known that when President Teddy Roosevelt wanted to go bear hunting in 1907 he took the train down to the Tensas Bayou to go bear hunting with Ben Lilly. Just a couple weeks ago I saw in an auction catalogue the letter that Teddy Roosevelt wrote to his seven-year-old boy and it was dated Tensas Bayou. He drew little pictures of the campfire and stuff. This was where President Roosevelt spent the great crash of 1907 when JP Morgan saved the banks from going bust.

Allison: When you were growing up, what were you thinking you were going to go off and do with your life?

Wyly: I don't remember spending much time thinking about that actually. My parents told me that I was going to college. When I was in the first grade I was talking to an older boy in the front yard; he was getting out of high school and I asked him where he was going to college. He said, "I'm not going to college." Before that I thought that everyone went to college. Turns out everybody didn't go to college.

Allison: It was just your expectation.

THE 1930S RECESSION

Wyly: I remember my mother and father reading *Gone With the Wind* to each other. It was a period of hard times because the price of cotton had gone to almost nothing and economics were tough and a lot of people were out of work. You read today about the crash of 1929 and then the Great Depression. But in the agricultural part of the country where we were, it had been going on much longer. I remember that before I started school, we sold our painted house in town to move into an unpainted shack on the land. We were trying to pay down the debts to the bank to save the land. My parents analyzed the psychology of the local bankers and felt that they would have a harder time foreclosing on the mortgage of the poor young family with the two little boys who were struggling to make it all work.

Allison: But your Dad was in the newspaper business, wasn't he?

Wyly: That was later, actually.

Allison: So, he was a farmer first.

Wyly: Yes. He was a farmer because he inherited 200 acres from his parents and bought another 200 acres from his sister. This land was a remnant coming down from the 2,800 acres that Anna and Edward Sparrow had in 1860. I looked in the 1860 census and they had 2,800 acres and they produced 2,800 bales of cotton and they were one of the top ten cotton producers in the south. In the local cemetery the confederate monument has General Sparrow's name on it.

So anyway, times were tough. A lot of people were out of work. I read Jimmy Carter's book about wanting to get to be twelve so he could put the harness on and follow the mule and plow and make fifty cents a day. I remember William Sewell who was a black man who made a dollar a day. A dollar a day was the going rate in the agricultural south. But there was mud and the mud was between you and the schoolhouse. First the car couldn't get through so you took the truck. Then the truck couldn't get through so you took the tractor. If the tractor couldn't get through Dad got a rowboat and rowed across the lake to school.

Allison: Did you like school?

Wyly: Of course my early schooling was at home. When we moved to the farm, the bathroom was outdoors and for water you went out to the back yard to pump. Heating was from a wood stove in the kitchen and wood burning fireplaces. My Dad ran a wire over the slough so we could have electricity to read by and to run a radio, which was important because the radio brought the news of the war. There was the build up, then Pearl Harbor. My older brother was a year ahead of me going into the first grade. He was off in school. My kindergarten was staying home with my mother who was making slipcovers at home and listening to the war on the radio. I learned geography before I got to school because she would spread out the maps and say here's Hitler going into the Netherlands or going into France; here's the German army going into Poland and Norway. So when I got to school geography was easy. History was easy.

Allison: So you liked history from a young age?

THE 1940s

Wyly: Yes. I'd heard verbal history for a long time and I'd heard literature, too. My father liked the tales of King Arthur and the stories of Mark Twain. We were on the Mississippi river so it was easy to feel like Tom Sawyers and Huckleberry Finns. Our little town was in Mark Twain's *Life on the Mississippi* because in a steamboat race we were a wood stop for the steam engines. So growing up, I had a lot of educating of all sorts. My folks did leave the farm in 1941 to take jobs in order to have cash earnings to hang onto the land. Dad worked for the Levee Board and Mama worked for the Welfare Department. Then a local older friend of theirs, Mr. Mitchner, was asked by the new reform governor in 1942 to manage the State Penitentiary at Angola. It was a large prison farm. The prison had to come close to balancing its budget in those days. It was an 18,000-acre prison farm that grew mostly sugar, but also vegetables, so it was an agricultural technology business enterprise. They were looking for people who were progressive farmers taking the knowledge coming out of the agriculture department and using better methods for better productivity. That was something that Mr. Mitchner and my Dad and others had been doing, trying to do it better, with better seeds and better techniques and better tools. I think an early perception of mine

of the computer as a tool came from comparing it to the tools used to help the productivity of the agricultural world that we were in. My Dad and Mr. Mitchner and others were always trying to make the farming business better using the latest knowledge. One reason why our family farm was in trouble was because they invested heavily in the new stuff, the seeds and tractors. But there are a lot of risks in growing a crop. Are you going to get enough rain for the seeds to come up? Are you going to get too much rain? And ultimately, what is the price of cotton going to be when you finally have a crop? In terms of investments, the first lesson I had in the commodity markets was that you could indeed hedge some of the price risk by selling your crop at the forward price six months out. You could actually sell what you were going to produce at the time you planted the seeds, rather than wait until harvest time.

Allison: So you got a lot of training in business just watching your family try to stay successful.

Wyly: Yes, just by watching them making a business out of the farm. And then we went to Angola and my mother was "Captain Wyly." She was Captain of "Camp D", the women's prison. She was the first woman in the state to hold this job. My Dad worked in what they called the Receiving Station. This is where you brought the prisoners in and you photographed them looking front-wise and side-wise and gave each one a number. You kept up with them administratively for paroles. You kept up with their behavior to see if they earned "good time" so they could get out early. As "reformers" you wanted to make the prison a more humane place and to work more on the redemptive end as opposed to just the punishment end. The best redemption was real work on the farm and in the shops and in the sugar refinery.

Allison: It sounds like you got a good dose of that too; work was a big part of your upbringing, right?

Wyly: Right. I was exposed to both my mother and my father as managers in this prison enterprise.

Allison: I guess you learned how to motivate people with punishment and reward; you got a lot of practical lessons early on.

Wyly: Yes. Dad's bunch also kept the bloodhounds. These were the dogs you used to catch the prisoners when they escaped. It wasn't easy to escape from Angola because it was 18,000 acres surrounded on three sides by the mile-wide Mississippi River. The fourth side was a very tangled, long, tough place to get through. Each prison camp (like Mom's camp D) looked like the POW camps of World War II. You had barracks type buildings with barbed wire fences curved in at the top. The guard towers had the guards with high-powered rifles and shotguns. It wasn't easy to get out of the camp and then you still had to get out of the farm. One time a prisoner didn't show up for count at the end of the day. The guards realized that he was gone. We could hear the dogs on the prison side of the Mississippi River. The escapee swam across the river. Then he heard the dogs on the other side so he swam back to the Angola side. Then he heard the noise there also so he got back in the river and swam back over to the other side. By then he was so tired he just gave up! You didn't have a lot of escapes. And most prisoners were earning good time and wanted to get out early.

I would go read their records. What did the juries and the judges say in the records that were kept in my Dad's office? Sometimes I'd go talk to an inmate to learn his side of the story. Usually it was a different story. A convict named Willy was the cook in our house inside Angola. Willy was from Winnsboro. He was a sweet fellow, with a deep black face, beautiful white teeth and happy eyes when he smiled. Apparently, liquor was not good for Willy. He came home one night full of liquor. His wife was in bed with another man and Willy took the meat cleaver to both of them. Since he didn't kill them, the judge said, "Ten years." After Willy got out, I used to go visit him. He worked as a carhop over in Monroe. So I got to know some of the prisoners. Today prisons have hired free people who are guarding the convicts. Back then we used convicts to guard convicts. You had your regular Big-Stripers who worked in the cane fields. Then you had Trustees and then you had Guards. Trustees wore the up and down little pin stripes and the Guards wore khaki. One Trustee was Dr. James Monroe Smith. He did typing for my Dad and for Mr. Carter, my Dad's boss. The reason Dr. Smith did typing rather than cutting sugar cane was that he had been president of Louisiana State University. He had been appointed by Huey P. Long. When they were building LSU he had the authority to issue bonds and take the cash to build a building. But he took the cash and speculated on pork bellies and soybean. He meant to pay it back. He didn't mean to keep it. He was going to make a profit and then he was going to pay it back. But he lost. He bet wrong. This was a good lesson for me later when people were talking about betting on commodities futures. I remembered Dr. Smith and I remembered my mother saying that that's not investing; it's gambling.

Allison: So you went off to Louisiana Tech?

Wyly: Right. I went off to Tech.

Allison: With what intention? What did you think you were going to be doing?

Wyly: I was going to major in journalism. By then my parents were publishing a weekly newspaper [*The Delhi Dispatch*] in Delhi, Louisiana and I loved to go to the press association conventions in New Orleans and Lafayette. I worked part time at the paper. My brother and I both worked doing everything you do on a small-town. You clean the press, sweep out, write stories, sell ads--you do everything. Although I liked journalism, I thought it was easy. I asked what were the hardest courses I could take. Then I checked to see who gets paid well. I found out that there were two good jobs, engineers (Tech was known for its engineers) and accountants. I figured engineers built bridges and I didn't want to do that, so I got a business degree.

I took a course in investments. I didn't have any money for a portfolio. We had a make-believe portfolio. The professor had us pick five stocks and research them and decide which we wanted to own. One of the five companies I picked was IBM. The reason I picked IBM went back to the newspaper business. The sharpest guy who ever called on my Dad at the newspaper in Delhi was the IBM salesman. He looked great; he had a navy blue suit and a white shirt. Nobody in town dressed that nicely. And he sounded smart. He was well-educated and he knew what he was talking about. The only man in Delhi who drove a Cadillac was the banker and this IBM salesman also drove a Cadillac. So he was impressive. His product was a device that squared up the columns for the paper. We had an offset press

with a photographic process but we still had to square up the print. When Tom Watson, Sr. ran IBM they had all kinds of business machines; they didn't just do punch cards. In fact, coming out of NCR to run IBM, Watson liked the future of scales better than the punch cards. So it was my impression of this man from IBM that got me interested in selecting the stock. I went to the library and studied their history back to 1919. The more I learned, the more I thought that this was a good business to be in.

Allison: They were successful as a business.

Wyly: Yes, the big businesses of the 1950s were cars and oil. I'd come out of the oil patch and the cotton patch. With IBM's approach, it looked like they could sell to any business in any industry. Pretty good thing to be, I thought. Gasoline engines power cars. What are you going to do if the car business slumps? If you make gasoline motors, you're out of a job. I was still somewhat affected by the fact that the price of cotton had dropped. I just had all kinds of good impressions about this company called IBM and what they seemed to be doing made sense to me. So that was my route into the world of computing and what later became software; it was through my impressions of a company called IBM and the sharp people that worked for them.

In our senior year, when it came time to interview, another thing that impressed me was that IBM said, "We don't talk to anybody who doesn't have at least a B average." So they were selective. Any of us could go work for Shell Oil. IBM had the best interviewers. Omar Harvey was the Shreveport branch manager and another interviewer was his boss from Houston. They had this good guy/bad guy thing. One of them told you how tough it was to get an IBM offer. And the bad guy was telling you that you probably aren't good enough to work here. Then the good guy was telling you how great you were, how wonderful you were, you're a champion. So they did a good job of selling you. I wanted to work for IBM and I actually accepted the job. But then I got a chance to get an MBA at the University of Michigan and I went there.

Allison: You said that you had the choice between going to work for IBM then, or going off to get an MBA. What was the precipitating factor in your making the decision?

Wyly: I had a professor at Tech who had been to both Michigan and to Harvard Business School. He talked about the benefits of a graduate education and got me interested in an MBA. But what really triggered me was a fellow named Dr. Paton from Michigan. Back in those days every CPA in America had a book on his desk named *Accounting Manual*, edited by W.A. Paton, University of Michigan. Dr. Paton came to make a speech during my senior year. Harold Smolinsky, my department head introduced us and said, "Sam is thinking about going to Harvard or Michigan." Smolinsky was more serious about me going for an MBA than I was because I was intending to go to work for IBM. Dr. Paton said, "No, he's got to come to Michigan and we have a new scholarship named for me and if you apply you'll probably get it."

Allison: Well that was encouraging.

Wyly: Yes. So I applied for and got the scholarship and I was off to Michigan. It was more serendipity as opposed to any great carefully planned process. Michigan was great for me because it gave me a different atmosphere and a different perspective.

Allison: There must have still been some sense of being a southerner in a northern school, even at the graduate level. Did you feel that?

Wyly: Oh yes, sure. In fact, I was constantly reminded by people from the Midwest that I didn't talk right. They all wanted to debate black/white issues, assuming that I must be prejudiced.

Allison: Was Michigan much different from what you had been learning at Tech?

COMPUTER BEGINNINGS

Wyly: No. I had a little sample earlier by doing a summer school at UCLA where I studied economics and money and banking. I went to UCLA to get some exposure to something outside my region since I'd never been west of Shreveport. I drove out with my brother and my mother. My father put enough fear in me to make me study. He said, "You know you're making all these A's down here, but this is a little state school. You're going where really smart people are." So I kept my mouth shut because the people in class did sound smart. But when the midterms came and I made the top grade in the class, I thought, where are all the smart people? The best part of going to Michigan was good professors. I took the first computer course taught there. They didn't know what to call it. The name, Computer Science wasn't invented yet so they called it statistics. A guy came over from the engineering school to teach it. I really liked having the engineering guy because he talked not just about the concept of the internal stored program but also how all this equipment worked.

We had a computer lab. At the time, we were transitioning from vacuum tube machines to transistors. We had an IBM 650. So the programming we did was on a 2,000 word drum-oriented machine with a 4.8 millisecond cycle time. You did not have a lot of instructions. We programmed a payroll program in machine language to learn how it worked. But we also studied other computers. RCA had a machine. Univac had a machine. There was a joint venture between Honeywell and Raytheon on this huge Datamatic 1000 that used tapes three inches wide. There were all these early companies that later became known as "IBM and the seven dwarfs."

That was my early education in the world of computers. The business world itself was still an IBM punch card world. The business was IBM; it was rental machines and it was a 90% IBM monopoly. But it was going to become the world of computers and it was going to require both hardware and software. It didn't look then the way that you look at it today. One of the good things at Michigan was that we took some field trips. The Lazarus Department Store in Cincinnati was trying to do then everything that we're doing in Michael's Stores today to automate supply and distribution. They had a concept of what later became known as integrated systems. I really liked that part. The engineers teaching the courses were very much into, "How does the machine work?" My hunger was for, How do you turn it into

something useful?" It's a tool. A tool to do what? It was like the farming tools– what do you do with them? How is it worth something? The field trips were good for that.

Allison: So it sounds like your interest stayed in computers. You had almost gone to work for IBM but went to Michigan; but you didn't start looking seriously at automobiles or at something else. You stayed with your interest in data processing and that stayed with you throughout your years.

Wyly: Yes, I looked around a bit but basically I was sold on going to work for IBM and computers were the new thing. I did interview with Proctor & Gamble and flew down to Cincinnati to talk to them, but my heart was with IBM. My brother was at IBM. He was already married and had a child so he was exempt, but I had to think about my patriotic duty, my military obligations. He didn't have to think about that since he had dependents. He couldn't afford graduate school because he had to feed those dependents. So he went to work for IBM right out of Louisiana Tech. He was a beneficiary of the consent decree that was busting up IBM. The 1956 consent decree said that IBM had to separate its service bureau business. Normally you took eighteen months of training and Charles had only done six months. But they had to make this internal spin off of the Service Bureau Corporation and they needed people to man it as a totally separate corporation. This was to solve the problem of IBM being overly competitive with the other service bureaus. And the big thing at IBM was to get a sales territory because that is where you make the bucks. So instead of training for eighteen months, they sent Charles to Poughkeepsie after six months and then he got a sales territory in New Orleans. Quickly he was making triple what we were offered out of college.

Allison: That got your attention.

Wyly: Yes, but I was sold anyway. IBM was the place for me. But before starting to work, I had to make a decision about the military. I'd been deferred while at school. Now the choices were two years in the infantry, four years as an officer and a gentleman, or six years in the National Guard as an enlisted man.

Allison: I'm trying to remember the chronology. When is this?

Wyly: In 1956 I got out of Tech and in 1957 out of Michigan. I found a National Guard Unit in Texas. For ninety days of active duty in boot camp, I got screamed at by the drill sergeants. But then I only had one Saturday and Sunday a month and two weeks summer camp for six years. We weren't at war at that time. Actually, while I was up in Michigan, my genetic Scotch-Irish belligerence came out. There were these poor guys in Hungary who were trying to fight the Russian tanks with Molotov Cocktails [the Hungarian Revolution of 1956]. I wanted Eisenhower to declare war and if he had, I would have volunteered to help throw those Russians out. But that passed quickly. Eisenhower didn't do it and I was happy again to be a non-belligerent. If we were going to have any wars in the next six years then I would go. That was basically what the National Guard deal was. So I was doing my patriotic duty while not losing any working time.

STARTING AT IBM

Allison: So you went straight to IBM when you came out of business school, is that right?

Wyly: First I went to Lackland Airforce Base for boot camp. Then I went to work in Dallas in February of 1958 for IBM in its Service Bureau Corporation.

Allison: How did that happen? Did your brother give you a hand there or did they keep track of you because they had already interviewed you?

Wyly: I feel sure that Charles' success helped. They had already interviewed me for the hardware division and they just passed it over to the service bureau people. They were trying to recruit people for SBC but experienced IBMers were skeptical – what is this new animal? It was a great thing for the younger guys just coming in because the older guys saw risk in this new spin off.

Allison: An unnecessary risk for them.

Wyly: Yes. But for us it was an opportunity to get to do real work quickly. I started out as a trainee and went to IBM school to learn to use their plug board equipment. You didn't have a stored program computer. You learned to do the plug boards for the 602 calculator and the 604 calculator and the 407 printer and the sorters. Everything that you now do electronically you did step-by-step with the punch card machines. I already had the IBM 650 computer part of it, but that wasn't what everybody was being taught then; that was not the mainstream.

Allison: Computers were still too expensive for most people?

Wyly: Yes. I think the best training in SBC was doing projects in which we had clear revenue targets and an estimated cost for the project. You bid on it and you did the job.

Then bad news hit! My boss called me in after I'd been there about six months and he said, "We've having an oil patch recession, we're behind quota and revenue is down. The oil companies are not buying and we're going to cut out the training program. We're going to make you a machine operator in Fort Worth."

Allison: That didn't sound like a good opportunity to you.

Wyly: I said, "I don't like Fort Worth; it's a big hick town. I have a nice garden apartment in Dallas and I don't want to move. American Airline stewardesses are hanging around the pool; this is a nice place here. I don't want to go to Fort Worth. Besides, what's a machine operator – I'm supposed to be a sales rep." And they said, "Well, there are four of you, two of you are going to be fired and the other two are going to Fort Worth." So I said, "Fort Worth is sounding better all the time." So I went to Fort Worth and it turned out to be the best thing that could have happened to me. As a machine operator you had a job to do and you had a guidebook that took you through it. Someone had already planned it out

and it was already working. You had real customers to deal with and you had clear costs and you had specific revenues. It was one of the better things I did in terms of actually understanding the use of these data processing tools to do real work.

Allison: How long did that last?

Wyly: It lasted about six months. I was soon able to work out a special arrangement with my manager. We had this oil royalty job that came in from West Texas and it took about four or five days to run, but it was actually only about forty hours of continuous work. I went to my manager and said, "I will run that job continuously starting on Monday, but once I'm done I want the rest of the week off to go back to Dallas." And he said, "Well, that's not legal because of wages and hours law; we have to pay you overtime for over eight hours a day." And I said, "I'll tell you what. I'll fill the card in, it'll be eight hours and you don't worry about it and I won't worry about it, and the customer will love the quick turnaround." So I was back in my apartment in Dallas for half of each week. At the end of the year, the oil recession was over and I got back my full time job as a sales rep in Dallas with my own accounts.

During the schooling part of this interview one of your questions was about Ross Perot. I think Ross was about a month ahead of me at the IBM school in Dallas. The first time I met Ross was when we had a 407 panel with about 400 red, blue and yellow wires plugged into its back. He came up to me and said, "Hi, I'm Ross Perot, Texarkana." He'd been four years in the Navy. He was training for the hardware division and I was training for the service bureau division, I liked him instantly and I could see that he was a real winner.

Allison: A driven man.

Wyly: It was perfect for Ross to go from Naval officer to IBM. We both bought into the elite corps story that Tom Watson senior had created. We were both proud to be IBMers.

Allison: Proud to wear that tie and that white shirt.

Wyly: We felt that was a great idea. The basic culture of IBM then said: "There are those of us fortunate enough to work for IBM and then there are all those other unfortunate people in the world."

Allison: Just like the Marine Corps, you were the few and the proud.

Wyly: Yes. Like the Marines, we will capture the hill. All the business belonged to IBM and that was almost divinely intended to be. That was our story and we believed it.

Allison: Did you even learn the songs?

Wyly: They had just quit singing the songs at our location. My brother learned the songs in Poughkeepsie and even had the IBM Songbook. But I didn't know the songs. At my first 100% club we had Tom Watson Junior there at the Beverly Hills Hotel in California, [my second trip to California] and he was changing things. Tom Watson Senior would fire

you if you took a drink. Being a teetotaler, that was OK with me. I didn't want drunk guys on my team. But still and all, Tom Watson Junior was changing things. He made a speech to say if you have a cocktail at lunch (a martini was the thing then) use gin, don't use vodka, because I want our customers to know that you're drunk not stupid. So he was saying we won't fire you but we don't approve of this. There was a lot of drinking at business lunches. I remember going to lunch with some Univac guys and they were under the table. You don't see that today.

Allison: No, it's gone; it's a different culture.

Wyly: Anyway, Tom Watson Junior was changing things, even some that had been great winning things, but still things that had to change for IBM to fit with a more relaxed America. Pretty quickly they made me the computer specialist in the SBC Dallas office.

Allison: Were you already thinking about maybe going out on your own? Seems like you would have been happy with IBM.

GOING TO HONEYWELL

Wyly: I was not thinking of going on my own. Back then I thought that I would work for IBM forever. Maybe be president of IBM – that was my thought then. Actually, it was three years later when they hadn't even made me a branch manager. Then Honeywell came along. I had just one little piece of Dallas for my IBM territory and Honeywell said, "We'll give you two and a half states; we'll make you the area manager and you will get to hire the first sales people and hire the first programmers and you will be in charge." I asked, "Where will my boss be?" They told me that he would be in Chicago. I thought that was great, to have a boss who was not even in town, but I also thought that leaving IBM would be a little traumatic because I would have to change my belief system and stop thinking of the industry as "IBM and the Seven Dwarfs."

Allison: Did you think that IBM was weak then? Although you talk about some of the strengths of IBM, in going to Honeywell did you see some IBM weaknesses you were hoping to attack from a competitive point of view?

Wyly: I thought that Honeywell had a good product. The Honeywell 800 was a 48-bit word machine and I was very much intrigued with that. But they didn't actually have a deliverable product. They were building the product. Actually, I was young and naïve. I didn't understand the difficulty in going up against somebody with a 90% monopoly with a new product. I learned some lessons in that. I would go around and say, "I'm Sam Wyly and I'm from Honeywell and we sell computers." And they would laugh and say, "Nah, Honeywell sells thermostats, IBM sells computers." It was not easy but I loved it. Honeywell sent me to Wellesley, Massachusetts; I'd never been to Boston. I'd never been around houses that were 200 years old. I had never ridden on a train before. I was in the city and taking the train out to the suburban office. I had a per diem and they paid for my hotel, which was kind of neat!

There were smart people teaching the courses. I was learning how to program in a language called Argus. It was the language you used to run the Honeywell 800. Another product was

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the Honeywell 400 and it was going to be the IBM 1401 fighter at the small end of the market. The 800 was at the big end of the market and it went against the 7000 series. IBM had two types of machines; you either had an engineering machine or you had a business machine. But Honeywell had a machine that went both ways. The engineers loved it because it was 48 bits and had floating point arithmetic and they had Fortran. For the business user – this was before COBOL – Honeywell wanted to have the first English language compiler. It was called FACT and it sounded wonderful in the class. But as I hung around and listened to the guys who'd been there awhile, I learned that they were having real trouble making the software work. It was a great idea, but I learned that they had started with about twenty guys doing it and then they were getting behind the schedule and the tests weren't working right and so they had to put sixty people on it. By the time I got there they had about three hundred people on it. The real truth was that it was something maybe thirty people could do, not in a year and a half but in three years. But three hundred people could never do it. Later we had to deliver the message to the customers who had dozens of people writing in FACT, that it will never work. This was a good lesson in the huge commitments that the customers made based on the manufacturer's promises.

I had two good years at Honeywell in Dallas. We sold the first computers for Honeywell there and we built the sales team up to five people. We had better sales than some big cities that had thirty-nine man teams. We had a good record and it was fun, particularly because I realized how tough IBM was and I was able to go back and beat them. One of my big wins was with Republic Insurance, which I loved, because it was just one block away from the IBM office where all the guys that I knew were located. There was one old friend of mine on the account and I went to see him because back then IBM's practice was if you lose an account you're fired. So I went to this fellow and told him he had to get off the account because he was going to lose. He said you're crazy; nobody is going to buy Honeywell. It turned out that he was right for a while, because the computer committee met and voted four to two to turn down Honeywell and go with IBM. But I went to Russell Perry who was the president because I knew that IBM had screwed Perry earlier. I found out in earlier conversations with him that IBM had told him it was an eighteen-month delivery but he had traded deliveries with another customer to get a sixty-day delivery. IBM had screamed bloody murder; he had ruined them and been a bad guy. It ticked Perry off that they would talk to a customer like that. So he voted one to nothing for the committee to take another vote. And Honeywell won.

Allison: A little lesson in executive management too.

Wyly: Right, right.

STARTING UCC

Allison: Let's talk about going from Honeywell to starting your own business.

Wyly: Well, after being at Honeywell for a while I realized that it was really going to be like IBM for me and I was not likely to be made president of Honeywell. I was more likely to be fired for insubordination. Part of the problem was that they kept changing my boss. The chain of command above me at Honeywell turned out to be just like IBM. I thought my first manager at IBM was a genius, but after that it went downhill. The second

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one was really fine too, but by the third one it was not so good. Anyway, it became clear to me that if I really wanted to be independent and control my own destiny I couldn't be with any big organization whether it was Honeywell or IBM. I really needed to have my own business like a good cotton farmer does or a good newspaper publisher does.

While I was growing up we actually had three different businesses. We had the newspaper business, the Western Union Telegraph franchise, and an insurance agency. It was a small town and my folks had to have more than one business to make a living. So the world of creating your own business was not foreign to me. My family had a tradition of entrepreneurship and ownership and operating independent farms and businesses. I tried to be a good company man but it just didn't work. So my basic motivation in starting my own business was to be independent of the big organizations.

Allison: Now remind me how old you were.

Wyly: I was twenty-eight. When people asked me if I started my own company to get rich, I tell them I didn't. I had a vague notion that you could acquire wealth but that was not really my purpose. My purpose was freedom; my purpose was independence. I was already making far more money than I had ever thought possible when I was in college. In fact, I had figured that the most I would need to make was $10,000 a year and I was already making $30,000. So it wasn't about money. I began to shop around to see what you could do and was intrigued with these guys I'd heard about in Massachusetts who were coming up with something called a mini computer. This was the Digital Equipment Corporation.

Allison: Did you meet Ken Olsen or any of their people?

Wyly: I did not meet Olsen. I was just looking at their literature and the ads and the stories touting their $100,000 machine which could give you $1,000,000 worth of computer speed. They were using manufacturer's reps so I looked at being a manufacturer's rep for marketing and servicing hardware. But I also had another notion from my service bureau experience with IBM. Somebody at IBM had studied the economics of creating a service center that was focused on the engineering market as opposed to the business market in north Texas. There were a lot of business-oriented service bureaus then, but this would basically be a Fortran system using an IBM 7090 that cost three million bucks. IBM concluded that the economics just simply didn't support it.

But I started poking at it intellectually. I thought that you don't have to do it with a $3,000,000 7090. Seymour Cray at Control Data had just created the CDC 1604 and it sold for a million and a half dollars. That's half the price of the 7090. My folks had started *The Delhi Dispatch* with a second-hand printing press because a new one cost too much. These 1604s were even sold second hand. Even though the 1956 Consent Decree had said that IBM equipment could be sold second-hand, that wasn't done much because IBM still controlled the second-hand market. Poking around I found a company called CEIR, out of Washington, DC, which had gotten into this large computer stuff. They were doing body shop-type programming and they were also in service centers. They had acquired 7090s and 1604s but they had expanded too fast and were losing money. They had a 1604 that they had paid a million and a half bucks for and were selling it for $600,000. I saw that and realized I

could get my cost down. If you cut your capital cost from three million to six hundred thousand you get your break-even point way down.

So I looked around for some big customers and the biggest one that looked sellable was Sun Oil Company's Research department. They used big Fortran machines for simulating oil reservoirs and they needed a lot of memory and they needed a lot of speed. They were an engineering customer; they were not a business-oriented customer. They didn't have high-speed telecommunications then; you got in a car in Richardson, Texas and you drove out to Grand Prairie to use the big 7090 at Ling Temco Vought Aerospace. That's what the engineers did. I said to them, "How would you like a shorter drive and how would you like to save some money? And would you like to help out Southern Methodist University?" SMU had this ancient Univac 1103, an old vacuum tube computer, but the University didn't have any budget for new machines. SMU was interested in any transistorized machine. It didn't matter if it was IBM or Honeywell or Control Data. So I negotiated with SMU to put in a machine that they could use part-time. I would sell the prime time to Sun Oil, Texas Instruments and other commercial customers. Students and professors would have to run nights and weekends. They thought that this was a great deal so I got free space and free electricity and SMU shared the maintenance costs. Between those two contracts the really big one was Sun Oil, but the next big one was SMU.

Allison: I'm going to probe this a little bit now. Did you have this business plan before you left or did you go out and then develop the plan? Entrepreneurship is an interesting topic to us so I'm just curious as to how you really made that move. Did you stay up nights reading about it? Did you figure out this computer solution before you actually launched the business?

Wyly: I did a lot of staying up nights, reading about it and figuring out different things. I had an idea, and a corporate charter and various conversations working, but I did not have the capital committed. I did not have it all put together when I quit Honeywell. I was looking at the Digital Equipment approach. I was considering different ideas to see what I could make work and what I could get capital for. I had saved just $10,000 to start my business and I needed $600,000 so I was a little short. Being a manufacturer's rep would have been much easier.

Allison: Who else was involved in getting you started?

Wyly: There were several people who were important – some were hugely important. Probably the biggest was Sun Oil Company's research group as the biggest customer. But the one with the biggest possible market was Texas Instruments. I had promises of business from engineers out of Texas Instruments but no contracts that a banker could believe in to close the gap between my $10,000 and the $600,000 I needed. As I went through different iterations of this I walked the streets of Dallas looking for a banker with imagination. I knew it was a tough sale from my own business school training, but I'm always an optimist. I started with the biggest bank in town and got a "no" and then went to the second biggest bank in town and got another "no." On November 23, 1963 the President of the United States was coming to town. I said to myself after I go to the third biggest bank I've got to see the parade at noon when Jack and Jackie are coming to town. So I set my Mercantile Bank meeting for 11:00 AM, they can give me my "no" and then I can

go to the parade. I knew there would be a big crowd, and it would be hard for me to get close enough to see the parade, but the bank is right across the street from the Neiman Marcus building and I can go up in the store and watch from the third floor. And after I got my "no," that is what I did. The Kennedys and Connallys had just gone by in the open car and I left. I just had time to walk down the stairs and across the street to the parking lot when the cashier looked up. She had the radio going and said that the President had been shot. I got in my car and by this time the sirens were screaming, the cops were coming out. They were coming out right next door at the place where a couple of days later Jack Ruby shot Lee Harvey Oswald. They were coming out of that same ramp that Ruby later walked down to put his pistol in Oswald's belly.

I'd had a meeting scheduled with the SMU people and I went up there but we couldn't talk. We all went home. We were just devastated about what happened to Kennedy and I guess I did what most Americans did: watched TV continuously. It was probably the first time we all really started to get our news through TV. It was a tough time, but life goes on and you have to put yourself back together.

 Someone said to me, "Well, we have a leasing company and we can add a little credit to this deal and then you can pay off the bank loans to us; we will buy the equipment for you and take it for collateral but you still have to sell the bank." So I went back to the Sun Oil Company and said, "I can get the bankers in on this if you guys will prepay part of your five year contract." They agreed to pre-pay $250,000 and I could show a balance sheet with my $10,000 and their $250,000 even though I didn't have much net worth. The Sun Oil engineers were all for that arrangement because they were getting a great deal. They were getting computing at a third of the regular price and it was more convenient. They even got to hang around the professors at SMU. This was all good stuff for the Sun Oil researchers.

However, the engineers had to deal with the beady-eyed controllers at Sun Oil downtown who said, "Well, what if Sam's business goes bust and we don't get what we bought, how do we get our cash back?" I was pondering this problem when a guy walked in. He heard that I was getting this big computer and he wanted to sell me property insurance. I understood that because my parents used to be property insurance agents. I told him, "Yes I'm going to need insurance. However, I have to get into business first" and I explained the problem to him. He said, "Oh, this is easy. All you need is a performance bond. We sell those too." And I said, "What do you charge?" And he said, "We charge 2% of the original amount and then 1% of the declining balance as the risk goes down. It's just like a contract for construction bonding." I told him to bring me the bond because Sun Oil wanted a bond as insurance on the deal. They either wanted the computer service or their money back. This agent represented the New Hampshire Insurance Company that provided the bond. There was another company called Diversa that added a guarantee to the lease. By the end it wasn't a big risk but Diversa still got half the business for the guarantee. So that's how we were able to get started.

Allison: That's how the deal got made. And it was basically you doing all this. I mean it wasn't a small group.

Wyly: Yes, it was basically me.

GROWING UCC

Allison: And how fast did your business start to grow then?

Wyly: We had a little revenue at the end of 1963 [$67,000] and then we had a good year, a profitable full year in 1964. We had about $700,000 in revenue and about a $100,000 in profit the first full year. At first I was going to name the company Mustang Computing because we were doing it at SMU but then Rosemary, my wife, said, "You know, you could do the same thing in some other places." I agreed and decided to call it University Computing Company so it wouldn't seem to be limited just to Dallas.

About a year later in Tulsa we made a deal with the Sunray Oil Company basically in the same way as in Dallas. As I was putting that together, I came across a man named Ben Voth who had sold his company and retired from the insurance business. He owned an empty building across the street from Sunray, which would be a convenient location for us. He then brought up the idea of investing in my company. Later on Ben wrote a book saying he invested $100,000 for 10% of my company, which turned into $20 million in five years. I invited him to come on as chairman of UCC. Ben was the first outside investor. After that we felt that if we could do this in Tulsa we could do it in Houston or LA or London, if there was enough capital available. There was a public market interest in fast growing companies. While the market had soured on companies called "tronics" after the crash of 1962, companies with "computers" in their name now seemed to be exciting to people. So AG Edwards did an underwriting for us on September 9, 1965.

Allison: Was your business still just selling computer time or were you really providing additional services by then?

Wyly: Initially we were just selling time. The first software we did was with an independent consulting firm, D.R. McCord Associates, who had a model for the petroleum business. We thought that if we owned the software, instead of just being a service bureau, we could multiply our business and become known as folks with the model for the petroleum reservoir software. We acquired McCord and we were then in the oil industry software services business. We were also looking for other ways to add technical expertise to our business.

Allison: And from the outset you saw it as something to purchase rather than something to build. Is that right? That has been something that people have brought up that has been interesting about your business models as to what you create and what you procure.

Wyly: We were going to commit to bringing in hardware systems. We needed revenue soon and we couldn't invent the software in less than a year and a half. That is probably what pushed us into the acquisition mode. Later we started developing our own software but acquisitions made sense at the outset because there was synergy with what we were doing in computing. Basically our niche was the Fortran niche and the engineers. We

were looking for anything that fit that niche. Later on, we got into manufacturing software and into system control software.

I think the big idea that we came to pretty quickly was to be right where the computer meets the telephone. We saw that if businesses could support customers over the phone lines, then they wouldn't have to get in their cars and drive to their customers and back. The input was not done as it is with today's PC, it was punch card input. We looked around to see who had a good tool for input. The one that looked like the best for engineering was the Univac 1107. Univac also had different terminals. They were jury-rigging their machine, which was competing with the IBM 1401, to create a cheap batch processing "terminal" to connect to an 1107. We were intrigued with that and were wondering how to get it, because the Univac had most of what the engineers needed. The 1107 wasn't like Control Data's 64-bit word machine but it looked like something that you could market in both worlds. It didn't seem that IBM had anything like it. We had the opportunity to acquire an 1107 system in LA where we were already beginning to serve several of our customers in the petroleum and aerospace markets.

So we acquired the machine from Univac and picked up some services business from Computer Sciences. Computer Sciences had contracts to develop the operating systems for both Univac and Honeywell. That was the business they wanted to be in. Computer Sciences was founded by Fletcher Jones, but he had just brought in Bill Hoover to run the company so we made a deal with Hoover and Univac.

And then we decided that we needed to sell convenience. We needed to make it convenient for the corporate customer. We needed to make it convenient for the engineer to the degree that we could sell him anything, and the controller, too. The engineers were easier to sell because they wanted the machines but the controllers decided who got to use them. The engineers had to stand in line. Therefore, our initial route to business was through selling the scientific and engineering side of the house. We could quickly see that we could sell them convenience and quick turnaround by serving them over the phone line instead of them having to go to the batch center. If we could do this, then we would be the leader.

Our tool was the Univac 1107 with its related batch processing devices for remote entry. So we were immediately faced with saying, "How do you get more through that phone line? How do you get the cost down? How do you make it more reliable?" We had a phone line that was set up for voice so it was analog. It was controlled by the AT&T monopoly so it was priced at $2,000-$3,000 a month for a private line. But the computer was made for a digital world. It didn't fit well with the analog phone system. So we had to have digital-to-analog and analog-to-digital conversion devices on both ends. We immediately questioned how could we get this faster, how could we get it cheaper? We needed to know who was making what and where we fit in and how we could have something proprietary so that we could make a good margin. Something that later became a huge threat, but that we saw initially as a help, was what the Digital Equipment minicomputer people were doing. We found that these PDP 8s, and later the other PDP models, could be used as front-ends since they were very low cost even though we had to write our own software. We went from a $3 million IBM 7090 computer to a $1.5 million new CDC 1604 computer to a $600,000 second hand computer. But here was Ken Olsen making a $100,000 computer. That was a huge change. We didn't know that later the boys from Apple would bring out a $5,000

computer, which would go down to $500 today. We were already on the Moore's Law cost reduction curve.

Allison: Let me ask you a little bit about the business climate at your company. When you were analyzing the field and looking at the growth opportunities, was that a brain trust, or was that you doing your own study? I'm trying to get a sense of how the thinking in your company was progressing in this period because we are looking at a pioneer era of what the entrepreneur does. It sounds like you were as interested in the technical side as you were in the business side.

Wyly:
I had to learn or know something about everything, but it was changing fast so you had to make assumptions and go on them. It was always a competitive marketplace with whatever you offered. I remember picking up the Chicago yellow pages and noticing that of the people who were classified under service bureaus or computer services, 33% of the names dropped out every year. The list was getting longer but a third were dropping out so it was clearly survival of the fittest. Business planning was a mix of trying to understand the technology and then trying to understand how the economics of the technology were changing. I went to the announcement meeting of the IBM System 360 in 1964. Our technology was the Control Data 1604 and then the CDC 3600 and CDC was announcing their 6000 series. Univac had the 1107s and they were going to have an 1108. GE was coming in with the 225 and they were pushing timesharing. This was a new competitor. You had the PDP 8s as front-ends and some people were trying to use them as full systems (that's what Bill Gates used to learn to program). One big problem, as hardware became faster and better and cheaper, was compatibility. You programmed on one machine and you taught all your people how to do that. Then somebody else came along with a new Gee-Whiz something that was incompatible with the software system in which you had invested so many man-years.

The IBM System 360 was sheer genius. IBM said we are going to have top to bottom compatibility. And the system will work for both the engineers and the accountants and it's going to solve all of these compatibility problems. I thought, "This is gorgeous; it's a great idea." But I'm watching all of the IT guys in the audience squirm, because everybody had some other machines, including more than one kind of IBM system. They had 1401s and 7070s; they had all these different computers. The high-level languages had promised that all you would have to do would be to plug in the new machine. But this idea never worked; it was a great theory but you always wrestled with the practical stuff. Our niche was at the confluence of the telephone world and the old data processing world, which we were beginning to call computers. Data processing was the interim word between punch card accounting and computing. When IBM was recruiting Charles and me at Louisiana Tech they were hiring for EAM [electric accounting machines] and we "computer experts" were using EDP [electronic data processing]. Gradually the words changed. I believe Fletcher Jones was the first one to use the term computer science. Later many universities called their departments Computer Science.

Allison: And there's still a lot of debate over whether it really is or not.

STARTING DATRAN

Wyly: Yes. I've always been intrigued with the words people use and what they call things. I noticed that my doctor grandfather had his own jargon. The engineer who taught computers had his own jargon. Later, programmers developed their own jargon. So you have all these words and then you have some people who are trying to understand the whole business and they create their own category.

For instance, we used the phrase "computer utility services" to describe delivering the integration of the computer and the phone line. We were doing things to work around the analog phone lines and the phone company monopolies. We could see that we as the computer folks were in a very much different timeframe from the phone folks who thought in terms of forty years to write off their equipment investment. They thought in terms that nobody had competitive choices: the customer had what AT&T told him was good for him. AT&T had a government granted monopoly for most local as well as long distance services. AT&T was regulated on revenues but they had a bookkeeping department to deal with that.

Allison: So this is getting up to when you started Datran.

Wyly: Yes, but long before we started Datran there was the problem of how do people in the digital world, computer people, adapt to using telephone capability for computers. The computer "language" was totally alien to what was in place for people to talk to other people. We were wrestling with that problem all along. If we could have a phone line that cost only $300 a month instead of $3,000 a month, we would have a lot more market. We needed lines that were not full of errors, because we were trying to send digital signals through a system designed for analog signals. The quality of the analog system was not bad; it was good quality for phones, but it was bad quality for computers. Computer folks were trying to do something next week and the phone folks were trying to do something two years from now. It was a different way of thinking. The computer folks had to survive in the competitive marketplace while the most important mission of the phone folks was to convince the lawmakers in fifty different state capitals not to bother them and to give them a 12% return on a government quality bond.

Allison: So how did you start working this problem? Is this something that you started to talk to other people and other companies about or were you negotiating with the phone companies; what was the process you used to try to make progress?

Wyly: All of the above. Making an installation meant having to deal with the phone company folk. Actually, when I went to Italy and saw that it took two years to get a phone, I thought Southwestern Bell was not so bad if they took two months. But you know I'm a computer guy and if my customer wants it next week then two months is awfully long. But the phone company doesn't care, they have no penalty, they're not going to lose the customer. They have no price to pay for being slower or for having more errors except that somebody might write a letter to the Public Utilities Commission; it's just a different world. So, we did a lot of things before we started Datran. We spent some time building the Cope 45 – short for Communications Oriented Processing Equipment – "the fastest terminal in the West." We engineered the product to push data through the lines faster, giving the customers faster turn-around and higher quality service at a lower cost. We were working on

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the cost of the line and the cost of the terminals. We were using whatever digital equipment and anyone came up with to provide a better answer than what we had. We were more innovators than inventors because we weren't starting from scratch.

We had to take what was there and figure out how to use it smarter and quicker and better at low cost, we were wrestling with those problems. We had some smart people, guys like Gene Scott who came from the development world in Arizona with General Electric. Gene's technical team produced the GE operating system and they were embedding communications in their 600 series and their 225 series. They were focused on what they called timesharing, a word that I never liked.

Allison: Why is that?

Wyly: It sounded like real estate. They named Ross Perot's business "facilities management;" that sounds boring and not very digital. It's just words, but mainly we were in the communications business. By just being in the computing business, we had to be in the communications business and we were dealing with ways to handle digital traffic. The way we got into Datran was the same way we got into business in Dallas through Fortran. We used a trial and error process. Probably the first step toward what became Datran was my recruiting Sy Joffe, a great Univac salesman in Houston, to market what we were doing. And Sy said that the smartest guy in Univac that he knew was Ed Berg who had come out of the Navy. Ed was much of the brains behind what Univac had done with the 1107s and 1108s, particularly their front-ends. This was the part that married computing and communications. Datran was really Ed Berg's creative thought. He had the big idea that there wasn't any way to make the analog facilities from a telephone company provide effective communications for computers. What you needed was an all-digital network with a digital switch. It was out of all of his work that we said that we would make the first digital switch work. We said we would put in place a digital highway for computer folks, just for data. The phone folks can be the phone folks. We will be the data folks and we will do it all digital and we will do it switched. It was really Ed Berg's engineering thought that created the idea of Datran.

TRYING TO ACQUIRE WESTERN UNION

Allison: This is late 1960s now?

Wyly: Yes, this is the late 1960s - around 1967 when we were starting. For competition we not only had Southwestern Bell, but we also had AT&T. There were both state regulation and federal regulation. You had two different markets, the local phone market and the long distance market. How did this happen? Did God give AT&T this monopoly? Of course not. First came the telegraph wires that went along the railroads' rights-of-way. Then Alexander Graham Bell said here's the phone, but Western Union didn't want to accept it. So the phone companies were created. These understandings were made to get around federal monopoly laws. Congress never passed a law; it just kind of became the way things were done. The first big idea we had was that even though AT&T controlled all the local phone companies and the long distance business there was one avenue around their monopoly: the old telegraph routes, the old telegraph right-of-ways. In terms of the law, it wasn't just what was there physically, but what was there legally. The telegraph franchise was a legal loophole to the phone company monopoly. It was intriguing to see how the body of

law built up. There was the telegraph law and the telephone law but after reviewing it, it became clear that the guys who were sitting on what seemed to be a mother-lode of rights-of-way and a mother-lode of legal rights and copper wire connections was Western Union. So in April 1968 we made a tender offer for control of Western Union. But we were stopped by a New York State law that said that no one could buy control of a telegraph company in the state of New York without the approval of the legislature in Albany. And that stopped us.

Allison: How big was your company then? What you were trying to do was a pretty big idea.

Wyly: We were bidding for a company ten times bigger than we were and one that had been around for a long time

Allison: But it wasn't doing all that well even then.

Wyly: It wasn't. It was not doing well in the 1960s. It had never adjusted to AT&T.

Allison: This is five years after every banker had turned you down in starting UCC.

Wyly: Yes. But we were a public company and we had public currency and we could raise money in the ebullient 1960s if we could only get the telegraph franchise. In 1968 our market capitalization was exceeded by only five companies in Texas.

THE COMPUTER UTILITY BUSINESS

Allison: You had done quite well in your market sector, but I'm trying to get a better sense of the scope of your business.

Wyly: We had already defined that we were a computer utilities services business. This meant that we needed a "telephone" company for computers.

Allison: The part of the story I don't understand is whether you were alone in doing this. Were there other service bureaus that were coming together with you? Did you go to the professional associations to try to bring people together or was it just your individual initiative?

Wyly: It was just our initiative. We never had much luck with committees and the industry associations. We went to a few meetings but basically we viewed these as places where we recruited people. We weren't real big on our own people going to these because they were going to be recruited there. We were getting together but the "we" was a bunch of competitive barracudas.

Allison: So what happened next as you tried to roll out this idea? Was it tough going?

Wyly: After we were stopped from merging with Western Union we decided to try to get a franchise from the Federal Communications Commission. *Forbes* magazine described what we did at Western Union with these words: "Sam Wyly's motto is 'If you can't join 'em,

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lick 'em.'" That's so good I wish I'd actually said it! Basically I did but they shortened it, made it punchier. We made our own filing; it was a huge thing. Congress can make the laws and the courts can judge the laws. But regulatory agencies are able to make rules and judge their own rules. We had a lot of receptivity from the people in the Common Carrier Bureau who had been wrestling with what to do with the phone monopoly for a long time. We had Ed Berg and Sy Joffe and a bright lawyer named Jack Scorse. Anyway, we had basically turned our engineering plans into the language of the law for the legal folks and the regulatory folks– they were really the ideas of Ed Berg. Pursuing this added up to something like $400,000 in 1967 dollars, which would be like $2-3 million now.

GOING PUBLIC WITH UCC

In the 1960s we were having an earlier version of the 1990s irrational exuberance. But one week before we were going to do our public offering the investment bankers said that they couldn't sell it. The offering will fail. So I called up four or five people to buy some stock and it turned out that the bankers were wrong. The stock doubled on the first day–the same stock that they couldn't sell a week earlier. Our University Computing Company stock doubled in 1965, the year it came out, from $4.50 to $9.00 per share. And in 1966 it tripled to $27.00 but then dropped to half during the 1966 tight money squeeze. But the net for the year was that the price tripled. I'd actually taken a holiday to Europe when it dropped in half and I thought somehow it was dropping in half because I'd gone to Europe and wasn't minding the store in Dallas but it turned out that everybody else's stock was dropping in half too. In 1967 we were up 7 times. That was about the time I wondered how we could possibly be worth this much. But other companies that are kind of like you are being bid up the same way. And everything I learned in the investment course in Louisiana Tech about valuations and all of the old rules on multiples were being changed. People liked these little fast-growing companies. In fact they didn't want the old Dow companies, the old smokestack guys. They wanted the fast growth companies. It was like the world of the 1990s when capital was available for telecom and Internet ventures -- not just millions but billions of dollars. If we had had for Datran just 1% of all the money that the investors put into the various telecoms and Internet companies, we could have built the new Datran network. There was that kind of market in the 1960s, so if we had gotten our permissions, we could have raised the capital we needed. But we couldn't get capital because we had to wait for the Federal Communication Commission's permission.

Allison: So how long did that take? I know that Datran ended up not succeeding, but what was the time period?

Wyly: We started in 1967 and we didn't get permission until 1973. It was docket 18920 which permitted Bill McGowan at MCI to sell private voice line. At that time it wasn't phone calls; Bill got that later by just doing it, getting sued and winning the lawsuit. That is how he changed the law on selling phone calls one at a time. All he got was private voice line on docket 18920. What we got was the authority to build a data-only network with no phone calls; a data-only, all digital, switched network, which was really what the world needed.

Allison: And that was 1973?

Wyly: That didn't come till 1973.

Allison: The Carterphone decision – where does that fit in?

Wyly: Carterphone came earlier. The Carterphone decision was in 1968. We have Nokia because of Tom Carter and there are multiple long distance phone companies because of MCI and Bill McGowan. The basic policy-making decisions that created what later came to be called the Internet, and what we call the cell phone world today, were Carterphone, MCI and Datran.

Allison: They really paved the way.

Wyly: Yes, they really helped to change communications policies at all levels of government. The other huge part goes back to the 1956 IBM Consent Decree. And in 1969 came IBM's unbundling of software and services from hardware. A good old Texas liberal named Ramsey Clark was Lyndon Johnson's Attorney General. On the last day of the Johnson administration in 1969, he filed an anti-trust suit against IBM. IBM, trying to keep that from happening, had already announced that they were unbundling. But motivating them to unbundle was old Ramsey's boys poking at them. After the Democrats lost the election in 1968, they filed the anti-trust suit. Once Nixon came in, the Republicans couldn't appear to be pro-business and reverse it so they had this suit going for twelve years. They paralyzed IBM.

Allison: This is probably a good place to ask you if you have any general comments. We sort of walked through your career in the early history of setting up this business and growing it and some of your efforts in moving into the data transmission business. These were the pioneering days of computer software and you have just mentioned unbundling. Do you have any general comments, looking back, on what that culture was like? For people who don't know that era, can you give them a sense of what it was like to live through that pioneering period?

BUSINESS MANAGEMENT PHILOSOPHY

Wyly: To me it was fun; it was exciting. We were doing new things and we were doing creative things. I particularly enjoyed the creative part. Being an entrepreneur is a creative process. There were just huge opportunities to innovate and you could do new things in all areas. You could do it in the technical part and you could do it in the business part. I always had a sense of doing something that was worthwhile. Creating a good tool would help people be more productive. It was like seeing the way hybrid seeds and other technology help agriculture and help the world. I could appreciate what the land grant colleges had done to educate America and make it the economic marvel that it has become.

I saw the computer as a tool, just like the plow is a tool and the tractor is a tool; the mechanical cotton picker did the work of 100 people. Better tools are the reason why when I started school there were thirteen and a half million agricultural jobs in the states of the old South, while today there are less than half a million. I saw the same thing was happening with the stored program computer and all of the digital possibilities that it opened up, leading to the Nokia cell phone. I had a sense that at some fundamental level it was the same as with all of those earlier tools, from the plow to the steam engine, that helped man do his

manual labor. Here was something that helped man do his mental labor–it was a tool for thinkers. In fact, of the great things Watson Senior did, I like his use of the word "Think" that was posted all around IBM. If you thought about it even a little it connoted a lot: work was becoming less and less manual labor and more and more knowledge work.

One person who educated and influenced me was the author Peter Drucker. Drucker wrote what was then the bible at the University of Michigan Business School. He wrote about the changing nature of work and that work was becoming knowledge work. So it was simple and easy for me to see the computer and the related communications products as tools for the knowledge worker. There were all kinds of innovative opportunities to create enterprises that were part of that new view and contributed to making it happen. The other thing that Drucker said was that the purpose of a business is to create a customer. A lot of business leaders don't understand that. In the end you have to put every great idea to that test: are you really going to be able to create customers with this product or service? Will the dogs eat the dog food? Another big thing I learned from Drucker that has been central to me was that there is no difference between two companies in the same business other than the quality of the managers at all levels. That is so true. You absolutely have to have good managers everywhere, including the Boardroom.

That is the central thing that I have applied in the entrepreneurial world, in computer services, in computer software and in other businesses. There are two different personality styles: one is what the investor does and the other is what the entrepreneur does. And often there are really basic differences between them. The investor learns to cut his losses short, control his risk. The entrepreneur says, "I'm going to make it work," something like the Marine Esprit de Corps. We're going to win the battle. It's what Watson Senior imbued in IBM: we are the winning team, we are going to be the champs and this is our game and we are the best at playing our game. That is what the entrepreneur has to do. But the investor has to consider the relative risks and relative rewards. The investor is passive; he can't change things in the company. The entrepreneur is active; he can change things in the company. So this is the push and pull between the investor and the entrepreneur. Starting out you are an entrepreneur. While you have to think about investments, it's not really why you're there. You're there to win the game.

Allison: But then you have to transition.

Wyly: The most important thing in high school was to make the team. After I made the team the most important thing was to make the starting line up. After I made the starting lineup the most important thing was to beat Tallulah. Tallulah had beaten Delhi every year since the end of the Second World War. They were the Darth Vaders of North Louisiana football. The aim of the season was to beat Tallulah. We didn't even think about the State playoffs and the championship. In the last game of the season we beat Tallulah. Milford Andrews threw a pass to my brother Charles and we beat them 13 to 12. My cousin Flo, who went to Tallulah, was crying after the game. I just saw her day before yesterday and I reminded her, "You were crying at that game." And lo and behold we went all the way to the playoffs and then we played Clinton for the State title. We'd gotten pretty cocky by then. I thought I was pretty good. I was a 155-pound nose guard. I thought I was quicker and I was smarter and I was meaner. But I just got beat to death by a little Cajun guy who wasn't any bigger than I was. We lost in the mud and the cold. We went home thoroughly beaten, but

on the way home we said, "We're going to be State champions next year!" We talked my brother into staying over for another year. Back then you could still play when you were nineteen. We had this smart German math professor and she invented a course for Charles to take. He was the best running back we had. That was his second senior year and my first.

We blasted through everybody and won the State championship. We were State champs. That was the last challenge: first make the team, then make the starting line up, then beat Tallulah and then win the State championship. That was good training for the entrepreneurial world. We all need a mission, a goal. We had a great coach, Raymond Richards, and he taught the team to work together. He built good attitudes about hard work. I remember the August workouts when it was 100 degrees. We'd finished scrimmaging and there he was making us run laps. I felt I could not run another twenty yards but he made me run another twenty yards. I complained. Coach said, "Bubba, there is no limit to the endurance of a sixteen-year-old boy." This was part of my training for the computer world.

LEADERSHIP STYLE

Allison: Seems like a reasonable place to go in the conversation is how you function as a leader in your companies. You talked about your personal philosophy and how that evolved, but a lot of your success came in terms of how you managed your business. It sounds to me that it wasn't so much managing it from the accounting side even though that had been your training but maybe more managing it on the leadership side. Is that how would you characterize your style of leading?

Wyly: I think that is a pretty good way to say it. It was trial and error, learning how to do it, learning at IBM and Honeywell, learning in business school. It's the job of putting into practice what Peter Drucker was talking about. Early on, with the creation of University Computing, probably the first and best decision I made was to ask my brother Charles to join me as a partner. He brought knowledge and experience. I needed somebody I could trust and who could trust me; that was my brother. Those principles went through almost everything we did after that. It was a difficult process but I had to learn to delegate to others. After we started, I spent a lot of time in Tulsa and on other stuff but I was wondering why wasn't old Joe over there at the Dallas Computer Center doing what I wanted him to do. I was getting ticked off at Joe until I realized that I had never actually told Joe what it was that I wanted him to do. I was expecting him to know. I learned that Joe couldn't read my mind.

I went through various learning processes. I learned ways to reach agreement on what management's goals should be. Pretty quickly I realized I didn't know how to run a company so I wondered who could teach me to be a president. You really don't learn that in school. The American Management Association had a management course for presidents. It was taught in upstate New York so I went there to take the course to learn how to be president. I was surprised to find that my neighbor and ex-IBM co-worker Ross Perot was there at a big roundtable. I was also surprised to learn that August Bushell, president of Gulf Insurance Company who had just made a big investment in my company, was also there. August had been running his company for twenty years and yet he was there to try to learn how to run the insurance company better. I decided that this must be a good place to be. It was good training in terms of how to go through the process of reaching agreements on what it is that the managers are trying to do. I gained an understanding that it was a process of continuing

to revise agreements to deal with the surprises. And there are always surprises; some things don't work out. And sometimes there are positive surprises. It's very much a human activity.

Allison: Did you tend to manage one on one or in groups to try to get group consensus or what was your style of moving forward?

Wyly: It was more trying to find good people who felt that they could do something and then let them do it. Probably Drucker's best book was about management by objective: agreeing on the objectives. Early on I would try to figure it all out myself: How would I do this? But none of us are that smart and there's just too much to know and too many different things to deal with. You have to delegate responsibility and authority together. You can't hold people responsible if you don't give them authority.

Allison: And then reward them when appropriate.

Wyly: Right. You hold the managers responsible for results as opposed to controlling how they get those results. Of course what I preach is what I have only done with varying degrees of success. We all have ideals, but we have to keep looking at how well we are progressing toward them. But I think that by and large I have been blessed with a lot of smart people and a lot good managers. We couldn't have built a number of different successful enterprises if we hadn't found the good people to believe in and to bet on. We're proud that we have created a lot of millionaires, actually a lot of multi-millionaires, by giving them a chance to create wealth for themselves and for the other investors, while making the companies good places to work for everyone.

DIVERSIFYING INTO OTHER FIELDS

Allison: That leads to my next question, which is why did you get tired of the computer business or what led you to diversify into other areas, you and your brother?

Wyly: Well, creating the computer business was somewhat serendipitous. I'm a believer in serendipity. The two big diversifications we did in 1968 or so were Bonanza, the steakhouse business, and Earth Resources Company, which was in oil refining and silver mining. I had a sense of the need for diversification from the investor in me. I was selling off about 10% of the stock that I had every 6 to 12 months. But, the first trigger was not my investor thinking. Rather, it was helping out somebody who had helped us. Diversa, the company that had guaranteed our lease for University Computing, and enabled us to get the first computer center put together, had fallen on hard times. It was a conglomerate that was in a number of different things from big oil rigs to real estate to dog food companies. They had bought a restaurant franchising business called Bonanza, which had the name of the most popular TV show at the time. It was focused on budget steakhouses. Bonanza offered you a steak and potatoes dinner for $1.28. That was their value proposition. I was approached by Diversa and they said, "Hey, we have all these debts and we have Bonanza hocked at the bank and the bankers are calling the note. But we can sell this company to Frito-Lay which is looking at restaurant companies. Now that you have wealth from University Computing, would you guarantee our note at the bank? If we don't pay the note, then you'll own the restaurant company." And I said, "The last thing I want to own is a restaurant company. I don't know anything about the restaurant business. I've already got a

computing business and I'm still trying to learn how to run it." And told them no. But I went home and I thought about it and thought about how they had helped us. So I went back the next day and said, "I owe you. I'm going to guarantee the note." And I did. Sure enough the bankers foreclosed on it. I was cash poor so I had to take over the note. And then I said, "Okay, what do we have here?" I went to see the chairman of the company. He knew nothing about restaurants; he was just a friend of the owners. I went to the president and he didn't know anything about the business. Finally I met a vice president who seemed to be running the place and he said, "Well, I hate to tell you this as the new owner, but we're going to have to file for bankruptcy next month if you don't put any more money into this place right now." I fired the two top guys and put the vice president in charge of running the business. That does not sound like what they teach you at the Michigan Business School about how to get into business and it isn't. But that is how our diversification started. Then I got intrigued with the business and used the guys from the TV show to help market the restaurants. We made it healthy and got it profitable and then took it public. So we had another public company. And actually it turned out that about that time people started liking fast foods so it turned out to be a good investment.

The third one was also accidental. By that time I had joined the Young President's Organization. In our "bull sessions" there was one guy who seemed particularly sharp. His name was Dan Krauss. He had been brought in to run an oil refining company. He'd been there a couple of years when the chief executive had told him, "I've decided I'm going to stay on as chief executive and you're not going to get to run the company." So he quit and I said, "You know you're a good manager; we ought to buy a company for you to run." That was the idea that led to our buying the Earth Resources Company. We spent six months looking for a company for Dan to run. We hocked our University Computing stock with Citibank to get a ten million dollar loan to buy the company. Then we got Kidder Peabody to take it public. Six months later we paid off the debt and still owned half the equity. Sixty days later we couldn't have taken it public because the market tanked. There had been no time between then and now when you could you have capitalized an independent refinery. We were very fortunate on the timing.

Allison: So those were both people decisions, not numbers decisions?

Wyly: They were people decisions and they turned out to be good economic decisions.

ACQUIRING A COMPUTER SOFTWARE COMPANY

Richard Hanlon: I hate to interrupt, but wasn't there another one with systems software and the LTV data center, which was more mainstream than University Computing?

Wyly: Yes, that was kind of a series of steps that were handled separately. Basically, that is really what got us into software products, although we didn't realize that when we made the acquisition. This was a company controlled by LTV. Jimmy Ling of LTV was a leading conglomerator at the time. We bought the company, which had big aerospace contracts and some others, but it turned out to have a lot of problems. Not the aerospace but the others. They had a bunch of people they had recruited from IBM who really didn't know what they were doing. But the little gem that we didn't know about until we got in

there was that we had folks like Steve Perkins, Bob Perry, Maria Smith and Sterling Williams who were building what were later called software products. They were doing it to solve their own problems to make their installations work. Earlier I had been wandering around just going into competitive shops in California. I had been walking down one hall when I saw a sign that said "Software Products." And I thought, "Products? Software isn't a product; it's a bunch of instructions you write to get the machine to work. They're not a product." But that was the first time the concept of software as something you sell more than once hit me. I remember a company that developed a better sort program for an IBM 7040. They sold it to IBM customers but pretty quickly IBM came up with a similar program, gave it away free and wiped these folks out. So I had an early lesson on the riskiness of software products. When we finally decided to create a division to sell software products, we hired Sterling Williams to sell them. But we were still saying that IBM could wipe us out. What's the life of a product? Until IBM wipes you out, that's the life of the product. Originally we guessed five years – well the five years we assumed for UCC1 is thirty years today.

Allison: It's still running.

Wyly: UCC1, UCC7, UCC11, they're still there. I don't know the latest numbers, but a couple of years ago they were generating huge revenues for Computer Associates, with 90% profit.

Allison: And that came out of LTV deal?

Wyly: Yes. That was its genesis. Maria Smith created UCC1, which was a tape management system to manage the tapes they had to deal with there. Then other people said they were interested in using it. They had another one that we later called UCC2 that doesn't exist anymore. They called it "Duo," for DOS under OS. It was a conversion tool to convert between two IBM operating systems. This was a tool we built to make one operating system run under another. It was a great product for UCC for a long time.

Hanlon: UCC7 was the scheduling system.

Wyly: Yes, UCC7 was the scheduling system. Richard, how long were you there?

Hanlon: Four years.

Wyly: I was gone but you gave me the numbers when UCC was sold to CA. The business was growing 30% a year with 30% profit margins. It was just a great, great business.

Allison: The software products business? And it was mostly for larger players. These are institutional software products that we're talking about?

Hanlon: This was systems software, systems utilities software; it was the profit driver for the software business.

STARTING STERLING SOFTWARE

Allison: You mentioned Sterling Williams. I want you to say a little bit about his role in the formation of Sterling Software.

Wyly: His role was huge. The original idea of Sterling Software came about because Don Thompson and I were poking around looking for opportunities in mainframe software. The first thing we did was to buy 40% of Eddie Lott's banking software business. Back then we kept thinking that we could create a "Born again UCC" but focus it on software, not services. We bought into Eddie's company because we liked Eddie, but he was really in the applications world. We really wanted to build a systems software business, but the banking software was good and it was profitable so we could do it too. We'd done both. We had struggled with applications software at University Computing and some products were good and some were not so good. But the real zinger was the systems software, so we called Sterling Williams. He had become president of a company that produced numerical control software. It was up in Ann Arbor, Michigan and they had just merged into Schlumberger. This was a time when the euphoria had gone out of all of the electronics companies and out of all the computer companies, but the euphoria was still with the oil companies. That year the oil companies made a third of the profit of all the companies in America. That was the reason I sold out of Earth Resources. We were making money like bandits in everything Earth Resources did. The stations, the barges, the trucks, everything made huge money. We sold out of Earth Resources in November 1980. We started when oil was $2.80 a barrel and we sold it when it was forty bucks a barrel (on the way back down to $9.)

Allison: And you just felt like it couldn't keep going like that or what was your sense?

Wyly: Yes, I believed that if you take something and mark up the price ten to one, people are going to figure out how to get along with less. Secondly, if you make all these profits like we were making, you're going to attract more production. This is Economics 101, which Wall Street wasn't reading anymore. They were caught up with the image of oil going to $100 a barrel and the view that the sheiks were going to own the world and that all the money would be in Saudi Arabia. I went to the board meeting and said, "Let's sell the company." I lost the board vote, four to three. The incumbents, including my super-smart CEO, came up with a McKinsey study to go along with an internal management study that said we're going to have $500 million in surplus cash over the next five years. I said, "I don't believe it. Show it to the buyer." We had to start a proxy fight to get the company sold.

Allison: Your own company.

Wyly: My own company. It's the blessing of independent directors who don't think like real owners. They liked the club culture. One of my independent directors was the head of a bank. He had a hundred shares and his bank had the Earth Resources bank account. Our timing turned out to be perfect; we actually hit the month that the price of oil peaked and the price of our stock on the New York Exchange peaked. If they had fought me for a few more months we would have had to sell the company for less.

Allison: We were taking about Sterling Williams.

Wyly: We were taking about Sterling Williams. The reason the oil story is significant is that Sterling was working for a software company. Back then the oil companies wanted to own software companies. Schlumberger was great in the well logging business. They were using their stock to acquire software companies and Sterling's company was one of them. I called him and said, "Come on down here and let's start a new software company." He said, "How about my options in Schlumberger?" I said, "Cash them out. Grab the money and run." He said, "Well, why should I do that?" I said, "Go to Value Line. It lists the market value of all the companies in the world and Schlumberger, I think, is number three on the list now. You know, they are a good company with a French name and good Texas well logs but are they worth almost as much as IBM or Exxon?" I told Sterling we needed somebody to run the company; we needed a president and he was the guy. We also got Phil Moore who came out of UCC. Phil's good, he knew all the UCC programs. I said, "Sterling, you and I and Don Thompson and my brother Charles and Phil, together we'll figure out how to create a company.

Allison: And your sense of the new market that you were aiming at then, how would you characterize it?

Wyly: Well, we actually did some of the stuff they taught us in business school. We had experience with what had worked before and what hadn't worked so well. And even though we bought one banking software company and we were convinced that it was a great product with great people, we were not convinced that the applications software area was the place to go. What convinced us of this were the struggles we had in UCC because we always had more trouble with the applications software than the systems software. The applications product is not as well defined and you have committed to the customer to make his accounting system work or his payroll system or his human resources system work for that customer's unique circumstances. You seemed to have more nebulous obligations and so ultimately you didn't end up with the margins or the growth that you could get in the systems software market. That was why we said we're going to focus on systems software.

Hanlon: And there wasn't the commonality. In those days the applications often sat on different platforms.

Wyly: I should be careful with my word choice because applications then and applications now are different things. I think at UCC we put out the first general ledger program that was widely used, but then John Imlay of MSA in Atlanta came out with a new general ledger product. He's a crackerjack salesman and his company had good products and good people. About that time Sterling called in Burt Grad. Burt is an encyclopedia. Burt knows everything. He was at IBM with CICS. Burt was part of our brains. Bill Newcomer of Dylakor was one of the first deals that we made and he had a great report writer product that was a great product.

PRINCIPLES OF BUY, DON'T BUILD

Allison: Your strategy was to buy, not build?

Wyly: Yes.

Allison: Was that a conscious decision on your part?

Wyly: Yes, we said our philosophy is the opposite of "not invented here." We do not invent it here.

Allison: That's an interesting philosophy. And you kept those businesses separated as opposed to merging the way some people did?

Wyly: Well, that really comes from time spent learning to appreciate what kind of management works. Sterling and I both bought into Drucker's teachings. We learned to admire the way companies like Hewlett Packard and Minnesota Mining worked: decentralization, not top down. We were watching the increasing centralization of IBM. The other companies coming in were following a centralized approach. One by one, the "seven dwarfs" were getting blown away. What we concluded was that everything needed focus. One of the best teachers was Pat Haggerty at Texas Instruments. He had a product/customer focus. While his was a different world, semi-conductors and stuff, the same management concepts that worked for Hewlett Packard, worked for Texas Instruments, worked for Minnesota Mining. We thought this model could work for Sterling Software. We were going to focus on systems software and we were going to focus on specific products and we were going to have the opposite of a not-invented-here mentality. We were going to grow through acquisitions. We were going to have to be very good at management at all levels. You cannot have the attitude in acquisitions that we are the buyer and we will fire those people who we just bought. We were looking for the best talent that we could get wherever we could find it. Our best people are going to come from the companies we were going to acquire and you don't know who they are until you get to work and find out. So Sterling was really a business building and growing concept, not a cost-cutting concept.

However, there were always going to be some overlapping costs. You were always going to have to decide what were the best products and who were the best people going forward. You have to be very, very honest about it. And if you aren't then your people will know it and you won't have a good working environment. We figured this out at Sterling Software and there was not any one inventor of what we did, there were a lot of innovators. We did it by trial and error and determined what we could get done. We turned out to be fortunate in our timing in terms of capitalizing the company in the public marketplace. Nobody had wanted a tech stock for a long time (1968-1982), but all of a sudden in May of 1983 we took the company public. There were 85 companies on the Morgan Stanley list of technology IPOs in 1983 and we were one of the 85. Then the market crashed in June 1983 and the IPOs went from 85 to 8 the next year. One of these was Microsoft. No market was going to stop Microsoft from going public because they were so significant. The IPO got us the public currency we needed and enabled us to do the next big thing. It was similar to UCC and Western Union in 1968. We had $20 million a year in revenue and thought, "Why don't we buy somebody who is $200 million a year so we won't have to grow slowly."

BUYING INFORMATICS

Allison: Tell me about Informatics. I understand it's an interesting story.

Wyly: Werner Frank was one of the founders of Informatics and had left there and started working with us. He was a consultant to begin with. He was a part of our brains and knew the industry. He had a great understanding of Informatics having only been gone from there a year and a half or so. As we went through our iterations of what do we have and what can we do, we kept track of Informatics. One reason was that it was now public and had a lot of cash in the bank. It had a leading 4GL [fourth-generation language] program, which I think was the first one that ever hit the $100 million mark in Larry Welke's report card list. Welke had an annual convention [ICP Million Dollar Awards] and if you had sold $1 million or $5 million of software, you got a merit award at that meeting. Informatics' MARK IV was the first $100 million software product. And they had other things that they were doing. They were basically a computer services and software conglomerate with headquarters in the San Fernando Valley and businesses around the world. It looked like something that maybe we could buy. Of course Walter Bauer, CEO of Informatics, didn't really want to sell. But as a matter a fact they had to sell because their stock was depressed; they had businesses that were under-performing and their stock was continuing to go down. They even had to pay "greenmail" to some guys from Canada to go away. This ticked off the institutional investors even more. The stockholders saw the stock run up and then saw it run down again. It was not going anywhere because of these factors.

So we went to our friend at Drexel Burnham, Peter Ackerman, and said that we wanted to own that company. Mike Milken committed the cash we needed. This surprised all the software company analysts on Wall Street because it was conventional wisdom that nobody can do a hostile takeover of a software company because the talent will walk out the door. We felt that in some cases that really was true, but that it was not true in this case. You can't just take that axiom as gospel because, in this case, we were convinced that the talent would view us not as conquerors but as liberators. The talent was working for a holding company that really had little to do with the businesses. The talent was people like Gino Tolari who was running the military services business in San Francisco, Nebraska and Germany and Warner Blow and Bill Plum who ran OrderNet. OrderNet was one I really loved because I saw Datran all over it. Burt Grad wrote this neat description of all the different pieces and there were different ones I liked but the one I really liked was OrderNet. As Warner Blow would say later, "We didn't know what good management was until you guys bought us. We would take a plan to California and they would say, 'Okay', and we would never hear from them any more. But you guys really worked us over on what the plan was and we signed up for it. At first we thought this was tough. But then we realized that this was good because it brought out the best in us."

I remember going a few years later to our facility in Columbus, Ohio. I got into the elevator with one of the developers. He said, "Sam, do you know how many people were working here when you bought us?" And I said, "I don't know. Two or three dozen?" And he said, "About thirty. And do you know how many we hired this year?" I said, "No" and he said, "Three hundred."

The real difference was inspiring the managers and developers to do what they liked to do – to win the ballgame. And they were going to have to play the ballgame against competitors like IBM and General Electric and others. They had to have the best products and they had to market against the best to be winners. And we became the leaders. First it was called

OrderNet and then it became EDI, Electronic Document Interchange, which later meant Electronic Data Interchange. There came a time when Warner and Sterling were saying that we needed to change it from EDI. We're not just technology, we solve problems. They brought in the folks from the Gartner Group and told them that we were thinking about calling this the "electronic commerce" business. And Gartner said, "Great, we'll rename our consulting products business the same because we think electronic commerce is going to be huge." So we named it the Electronic Commerce Group. Later we felt that Sterling Software was not getting the respect it deserved. The market was viewing us as a mainframe software stock and the guys that were blessed by a web or dot com name were getting the high valuations. That's when we came up with the idea of separating the Electronic Commerce Group and naming it Sterling Commerce and declaring it as a dividend to all the Sterling Software shareholders. It would then be blessed as being sort of web-ish and e-commerce. Since IBM was running big ads saying, "We are e-commerce," we would look good in the world of investors. And it worked. In fact, if you look at the investments in the class of 1983 IPOs, the rate of return to the investors in Sterling Software, when you consider the Sterling Commerce dividend, was second in the class. Only Paychex beat us. But we beat everybody else over the 17-year period through 2000.

SELLING UCC TO COMPUTER ASSOCIATES

Allison: I would like to ask you a little bit about Computer Associates and selling your businesses to them, since they had such a different philosophy from what you had done. What was the set of events that led you to sell UCC and later Sterling Software to Computer Associates?

Wyly: Actually, I didn't make the decision to sell UCC. I was gone by then. Greg Liemandt, the third president after me, did that. He made a good deal

Allison: I thought you were still involved then. You were really gone?

Wyly: Yes, I was gone. When we did the exchange of stock for debt that recapitalized the company after we shut down Datran, our ownership was diluted from about 11% of the stock to about 2% so we were gone and the new controlling stock owner was a Swiss man named Walter Haefner. He kept the president we had left there, John Kason. He ran it for a while and then Alan Hufft ran the company before Greg. So it was really a Greg Liemandt decision with the help of Richard Hanlon, the genius sitting here. They did a great job of teaching the world about growth software businesses and UCC. And actually the Wang brothers had been salivating for UCC forever.

Hanlon: UCC, which was largely based on the LTV acquisition, was a clear leader in the MVS arena and Computer Associates was still focused on DOS VSE with a little bit of VM. The real money was in MVS, and it was much easier to sell down than to sell up. So for CA it was a very good defensive/offensive strategy. They paid what in those days was a phenomenal price – $880,000,000. It was a preemptive offer since it was 50% above the market price. Unfortunately this is one of those decisions that will probably never be known because Greg Liemandt is dead now and Walter Haefner is disinclined to talk. But I think it was probably Walter who told Greg to take the offer.

Allison: The Sterling Software decision was entirely yours?

Wyly: Yes. We had already started Sterling Software. I was doing Earth Resources and Bonanza and was a part-time investor in other companies. I was just watching UCC out of nostalgia and I knew a few smart folks like Richard. Actually, I did talk to Greg when we were bidding on Informatics. We had swapped some notes and stuff like that. UCC bought 5% of Informatics stock. Greg and I talked about how to turn expertise into money. In fact, as an investor, I had kept my UCC stock. I called it my "nostalgia stock" although my brother had sold his. The stock was already up to over thirty times earnings in a twelve-multiple world. I was already thinking about selling my UCC nostalgia stock then, and zip – here comes the CA bid: UCC is priced at forty-five times earnings. That's when I did sell. I didn't want to wait for the actual merger. It turned out to be a great sale. In fact, immediately after the sale we had the crash of 1987 and CA stock dropped 50%. The UCC sale to CA was made in August of 1987 and the crash of 1987 came in October.

Allison: That's what you learned in business school.

SELLING STERLING SOFTWARE AND STERLING COMMERCE

Wyly: I had watched the euphoria come to an end in the 1960s and saw it again in the 1980s. I was just reading about the Mississippi bubble of 1721. I remember my mother talking about 1929, and good old Dr. Brown across the street who lost all his money and took his gun out and blew his head off. So I had a real education in business cycles and in the emotional nature of the marketplace. In fact I remember studying one of the great builders of the investment business, Edward C. Johnson of Fidelity Investments in the 1960s. He said that the market seems to act like a bunch of men who think that they are rational in making their decisions. But in the end, the market is a woman. So if you want to understand the market, you must understand women, which is difficult. His message was that dominating the pragmatic, rational stuff was the emotional, imagery thing. In terms of masculine/feminine attitudes, Ned Johnson was right-on. Based on my sense of valuations from my rational/analytical self, I thought that the entire market was overpriced and that the tech end was getting more and more overpriced. Rationality was being replaced by emotions. We talked about this internally but hadn't really arrived at any conclusions until the summer of 1999. At that time I concluded that the game was over. I talked to Sterling and Warner and told them that it was time. They said, "You're right." So we engaged Goldman Sachs to sell both companies. Our focus was on selling Sterling Commerce first because we thought the greatest euphoria was in the e-commerce business.

Allison: So you really didn't have a sense of who was going to buy at that time, you had really made a sell decision before you had an offer.

Wyly: Yes. In fact, Sterling Software was for not sale initially, just Sterling Commerce. And Goldman found different buyers. A lot of them were telecom-related, telecoms both on this side of the Atlantic and on the other side. We ended up closing both sales in March 2000. At the end of March we got close to $4 billion in cash from SBC Communications for Sterling Commerce and we got $4 billion in stock from Computer Associates for Sterling Software. On Computer Associates, the Goldman folks said, "Look, you know and we know, there is only one buyer and you know who he is." So what we did

was to hire Goldman just for Sterling Commerce and then we took the disappointed Morgan Stanley people and told them, "Why don't you whisper in Sanjay Kumar's and Charles Wang's ears that just maybe Sterling Software could be bought. They needed a deal. The way Computer Associates played their game, they were going to be in deep trouble if they didn't do another deal because they' were going to run out of the Platinum acquisition values soon and they had to have a new deal or their game doesn't work. And sure enough, about two months later I got a call from Morgan Stanley that Sanjay wanted to come talk to us. In the end we got a thirty percent premium on Sterling Software stock when we closed. There were no other buyers but we still got a thirty percent premium. It wasn't easy for us because of our concern about the CA culture. It wasn't the ideal end place for our products and people. We agonized over that, but our overriding duty was to the shareholders, so we went ahead with the deal.

THE FUTURE OF INFORMATION TECHNOLOGY

Allison: We've talked about a broad spectrum of topics from the early days of the industry to fairly recent times here. How would you explain to somebody who doesn't know this business what this ride has been like? How would you characterize the industry? Are things really different now or is it the same entrepreneurial time? Was this an industry in formation that is now taking on a different character? We've talked a little bit about the Internet. Taking a step away, looking back at this period, how would you characterize it?

Wyly: When you look at the business as tools for knowledge workers I don't think that you're at the end of that at all. I think opportunity here is really infinite and it's limited only by the mind of man. There is just as much innovative opportunity today in what are really bigger and bigger marketplaces. There's a world market and you have new knowledge workers coming from India, China and Russia who were formerly shut out of the free market system. Clearly there are tough times now all over the place because you had this great growth and you had this great valuation and you had the capital provided. But then Wall Street did what it always does; it went through boom and bust. We're going through a bust period now but in the long run the information technology and the software segments are going to grow and keep growing least at twice the rate of the rest of the world economy. One reason I decided to sell was that there was too much business capital going into computer-related capital goods spending. It grew from 10% into information technology to 50%. That's one reason that told me in 1999 – sell! It's screaming at you! Something good has been overdone. And I looked at it and saw all the money Wall Street was throwing at dot coms. Wouldn't it have been great to have that when we were building Datran? We would have had everything that was needed when Berners-Lee in Switzerland came up with the code that says this is the address of your home PC.

We would have had the digital highway in place. We wouldn't have had to suffer the bad service for cell phones. What did we do? We jury-rigged the analog plant for the cell phones. You would have had the digital facilities and the switching systems in place. Broadband service is much better in Europe because they dictated a digital standard. I'm for free markets and for Adam Smith and I don't want government controls, but America didn't have a standard, a digital standard, like Europe had.

Anyway, I think it's a great place to be and I feel grateful to have lived in a country and been in a place where you could do the things that we've been able to do. But I don't think opportunity is over. I think there's potential for more American growth here and for global growth. There's plenty of opportunity for software and all types of computer services and information technology.

[This was the end of the interview of Sam Wyly by David Allison. During the process of reviewing the transcript for accuracy, Mr. Wyly requested that the following notes be added to the transcript to reflect additional information in response to certain of the questions]:

*In the section on "**Growing UCC**" the following paragraphs were contributed:*

Bob McCord and Dick Fagin were our brains in the oil industry software models. Gene Scott was critical to our "development" brain trust – a long time IBM engineer who had had personal exposure to Watson, Sr., then went to GE to oversee software development for GE's entry in large scale computers. He brought in a few genius developers and adapters, including the architect of the GE 600 – I believe the first working multi-processing large scale system.

Leroy Towel was the architect of the Cope 45, our high speed computer terminal system, which we first used in our computer utility service centers and then created a separate manufacturing business to sell the Cope 45 to anybody. We derived the name from the "Colt 45 – the fastest gun in the West." Westerns were the most prevalent type of movie and TV series back then.

Gene Scott told us about Sy Joffe who was UNIVAC's number one salesman and a guy with very strong technical and educational characteristics. Sy brought in Ed Berg, a Navy veteran who knew more about marrying computers and telephone lines than anybody in UNIVAC. Sy and Ed had worked with Admiral Grace Hopper who invented the COBOL compiler for English language programming. Gene Scott brought in the team who created our first keyboard based program for text editing, a great leap forward at that time, an early step towards today's personal computer.

Maria Smith was the architect and chief developer of our first software product – UCC-1 – a tape management system. UCC-1, UCC-7 and UCC-11 (all systems software products) are still at work today, 24 hours a day, seven days a week. They are deeply imbedded in the information technology systems of the Fortune 5000 businesses and governmental institutions of the world. If you pulled these programs out at one instant, right now, much of the industrialized world would grind to a halt; everything that was greatly feared in 1998 and 1999 when boards of directors and TV talk show folks worried about Y2K. (The year 2000 – technology's great millennium fear – a friend of mine fled to a pacific island as his spot of safety.) The IRS would shut down (some would like that). Bills would not go out. Likewise paychecks. Massive activity would go dark. This is 25 to 30 years after these programs were created by genius people like Maria Smith and Steve Perkins. These software products are truly indispensable.

I'd guess that these programs plus those from Sterling Software generate about half or more of the profit at Computer Associates today. Even after CA's recent troubles, it's still probably the 4th or 5th largest mainframe software company in the world.

The creation of UCC's first systems software was motivated by the need to make the new IBM 360 systems work for Vought Aerospace's military applications. They worked so well and generated such industry approval that other shops wanted to use them and so Sterling Williams came aboard as our first software sales rep. He got experience at RCA – another giant in electronics, both consumer and defense – who decided the transition from electrical adding, booking, and tabulating machines to the newly developing electronic stored program systems was an opportunity for RCA to build a big new business. So RCA took profits from its broadcasting and TV set business and bet on cracking the IBM monopoly during this period of transition – as did the other "seven dwarfs." Their strategy was to deliver equipment that was hopefully easily substitutable for IBM's. It was a good learning place for Sterling Williams, who was later to become chief executive of Sterling Software.

A most important addition or our "brain trust" was Don Thompson who came in when we segregated off our other businesses (computer leasing, manufacturing, insurance and Datran) from the computer utility services and software products businesses. We put software and services into a subsidiary with the UCC name and made Don Thompson President. As a company President, Don was "the best there ever was."

In a recent interview, John Cook described how Don came in and turned chaos into discipline. How he made work exhilarating for people on his team. Don was a high school dropout who thought he was dumb until US Army testing discovered his dyslexia. In Japan, he became an army whiz with IBM machines.

At ITT, he discovered he was a genius not only technically but in managerial skills. Harold Geneen sent him back to Harvard's Advanced Management School and his professors were amazed. Sterling Williams and others credit Don for the best mentoring they ever had. He did a lot to make UCC into the rapidly expanding software products organization that Larry Welke, in his interview, described as the company that set the standard in how to have a bold vision for growth in serving the IT world and how to successfully implement it.

My own technical contribution was virtually zero, at best a blunt pencil architect and visionary, a feel for taking complexity and simplifying it, and a gut feel for where things had to end up (sort of like Wayne Gretsky said, "Don't skate to where the puck is, skate to where the puck is going to be." My role was conceptual – to see that we could create a "sweet spot" where the telephone met the computer, and make a great leap forward in providing productivity tools for knowledge workers. My job was to bring in people who had the technical and marketing skills and to get out of their way.

In the section on "Trying to Acquire Western Union" the following paragraph was contributed:

We were $16 million and they were $300 Million in revenue. But our market capitalization was over $200 million and Wall Street would have supplied the currency. We IPO'ed in September, 1965 and doubled. Then we tripled in '66. Then came the "very good year" of 1967. The American Stock Exchange - which was the NASDAQ of that era, the home or

growth stocks, doubled even though the Dow Jones moved little. The UCC stock price increased 7-1 in '67. Part of my problem became how to make us worth what we were selling for. The nationwide data network that could be built on Western Union's telegraph rights of way and under its historical national communications policy position actually predating AT&T's charter looked ideal to us folks who wanted to build a switched digital highway for computers. But, laws passed to protect a monopoly by lawmakers in Albany, New York were the stopper; that plus the stolid bureaucracy that Western Union had become. I couldn't understand how their managers could be so blind and frozen until I spent part of a day riding the elevators and walking the halls at their headquarters. (I was incognito – nobody there knew who I was – nobody asked.) I could just feel the lack of life in the company. It was a great tragedy; a fabulous opportunity lost; a sad result for Western Union shareholders. And it was sad ultimately for us. Having to go through the application process at the Federal Communication Commission meant so much time was lost that by the time we got our nationwide charter under docket 18920, the miserable 1970's were here and capital in the size needed was no longer available.