

**University of Houston-Clear Lake Oral History Project**

Interviewee: Charles McKay  
Interviewer: Shelly Henley Kelly  
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Kelly: This is Shelly Henley Kelly, and I am interviewing Dr. Charles McKay, Dean of the School of Science and Computer Engineering. Today is Tuesday, May 16<sup>th</sup>, 2006, and I'm interviewing Dr. McKay for his recollections of UHClear Lake City for the Thirtieth Birthday Oral History Project.

I thank you very much for being here today, and if you could just give me a little bit of personal background about yourself, where you were born, how you were raised.

McKay: Well, I was born in Sentinel, Oklahoma on March fourteenth, 1943. I was raised primarily in Oklahoma, usually on working ranches, so I grew up around a lot of cattle and horses and dogs, and all of the things that young boys and girls love to think about. That basically was the background. I came to Texas, oh, I would guess it would be about my junior year of high school, and have been in Texas ever since.

Kelly: What part of Texas did you come into?

McKay: A little town called Quitman [Texas]. Again, my dad bought another ranch, and we were about seven miles outside the city limits, so we raised cattle there. It was partly because it was close to my mom's relatives and my dad's relatives, so really we had no relatives left in Oklahoma, so it was just gathering the family closer.

Kelly: Was ranching a family occupation for your father and his family before him?

McKay: My dad worked for the railroad, but he always had a place outside of town where he could run cattle. That was just what he was accustomed to doing. So neither my mom or my dad finished high school. They both were raised with very rural roots.

They had extremely high opinions of the value of education, partly because they themselves didn't have that advantage, and so they made it very clear to me from the time I was old enough to talk and listen to them, that I was going to have to go to college, would probably have to be responsible for putting myself through, and it was just not something that was an option. It was an expectation. So my older brother, who was already gone from home when I was born, my older brother and I were not only the first of our family to actually go through college, but we were the first in our family to actually go through high school.

Kelly: That's wonderful. I notice from the bit of information I gathered on your background, that you attended Tyler Junior College, and then went to the University of Houston for the rest of your degrees. Tell me about your decision to go to each of those two places.

McKay: Well, Tyler was a convenient place because they had a bus which was then about an hour's ride. Actually, it would come by our ranch, and I could get on the bus and ride. I was accustomed through all of my early years of school to hours of riding a bus to get back and forth from our place to wherever the school was, so it was convenient for me to be able to do that.

Kelly: And the University of Houston?

McKay: The University of Houston was the institution where my older brother, who I really did not know very well at all—I had certainly seen him on occasional holiday jaunts—but my older brother was on the faculty at the University of Houston, and he very quickly, when I moved to Houston, became my best friend and mentor, and was responsible for a lot of good things.

Kelly: Were there any siblings in between you and your brother, or after you?

McKay: There's a sister in between, and my sister lives here in the Clear Lake area.

Kelly: You say your older brother was on the faculty. In which department or school?

McKay: He was a professor of electronics at the University of Houston.

Kelly: Do you feel that his interest guided you into your interest?

McKay: In many ways it did. I have to be very honest. I mean, I left home when I graduated from high school, and had to work my way all the way through my college years. What I really knew when I left home was, I don't want to do ranching. I don't want to do anything that doesn't make money and have a future. I had never traveled outside the states of Oklahoma and Texas, and I really want to travel, and so I want something that has a future that will allow me to be comfortable. I mean, I was living on a shoestring budget at the time.

It occurred to me, with some counseling by my brother, that if I had a degree in mathematics and a degree in electronics, and there was a brand-new field that was just being discussed at that time, they had just introduced a few courses at the central campus called computer science, that that combination could probably get me a good job in an R&D lab when I graduated, and it would probably be a good-paying field to go into.

Somewhere along the way I woke up one morning and discovered I loved what I was doing, but I didn't choose it because I loved it. I chose it because it meant economic security, and that was something that was very important to me.

Kelly: Other than your brother, who else were your mentors during your educational years?

McKay: There was another wonderful man who was at University of Houston at that time. He was a chemical engineer who had decided to change fields, and he was responsible for starting those first courses in computer science at the university. His name was Eliot Organic, and Dr. Organic was a wonderful influence. When I was in his course; clearly it was his course that I loved the most. When I was in one of my brothers courses, clearly it was his course that I loved the most. They were the two best teachers that I've ever had, and they were great.

Now, interestingly enough, it turns out that many years ago there was a lovely young lady who later became known to us as Selma Neumann, and Selma Neumann was being courted by Eliot Organic until another dashing young man came along, and basically was lucky enough to win Selma away. And that was, of course, Alfred [R.] Neumann. After Alfred and his bride were married, they soon became best friends with Eliot Organic and the person that he subsequently

married, and that was a friendship that was very near and dear to all four of them throughout their life.

Alfred Neumann was originally on the central campus, and was basically the dean of what would be liberal arts at that time. When he was asked by Philip Hoffman, who was then the president-chancellor of the U. of H. System, to come to Clear Lake and to start it, he was anxious to find some faculty members who could do certain things that he thought would be important in this community. His friendship with Eliot Organic through his wife Selma, was a part of what brought me to their attention, and a part of the reason why I wound up being here.

Kelly: That's wonderful. I imagine that his friendship with Dr. Organic brought Dr. Organic to U. of H. central campus?

McKay: Well, his friendship probably—again, I'm not sure. I don't really know the exact history of the timing of when Eliot was dating Selma, who then met Alfred and decided to marry him instead. But it was a wonderful friendship.

Kelly: That's fabulous. I notice that according to the catalog you have a B.S. and a B.A.S. from U. of H. in '66, and an M.Ed. in 1970, and your doctoral degree is an Ed.D. Can you tell me why you pursued an Ed.D.?

McKay: Believe it or not, first of all, at the time that I was going through my degree programs there were no doctoral degrees that were available in computer science and electronics, so you basically were looking for things that might be helpful. I had a sense, by the time that I completed my baccalaureate degrees, and people were actually willing to pay me for my head instead of the muscles on my back, I had a sense of what I really wanted to do, and that surprise, surprise, I loved to teach and I loved to do research and I loved to do professional service.

So my career path was fairly determined, and because I knew what I wanted to do with my life, or the rest of my life, and that a degree in higher education was essential, I had the benefit of another mentor while I was at an institution called Lee College, which is our neighbor. I was at Lee College for seven years, and while I was at Lee College we had a wonderful president who became my lifelong friend, Richard Strahan. Dr. Strahan as president impressed upon me, “Charles, you’re going to have to make a choice. Do you want to spend most of the rest of your life dealing with people, or dealing with ideas and concepts, or merging somehow the balance between the two? But people tend to go through administration, or they tend to go through faculty careers. Where do you want to be?”

And understanding that, my choice was fairly clear. I wanted to be dealing with ideas, and I wanted to be dealing with people, and I wanted to keep that faculty

balance. So it seemed logical to me, learn as much as you can about the administration of higher education. That way you can avoid all positions in higher education except what you really want to do, and you'll be in some control of your life.

So when I came here to this university, one of the very first things I told everyone who would listen was, "I want to be the very best program director that I can possibly be, because that means I'm responsible for the faculty in computing, communications, and control systems. I'm responsible for the programs. I basically get to control my life. I don't ever want to become a dean. I don't ever want to become any administrator above the level of the faculty."

In fact, interestingly enough, one of the stories that Mary Ann Pollard, who came to work for me shortly after I came to the university—it was about, oh, I guess maybe three or four weeks after I came to the university, I hired her to work as my secretary, and she's been with me all thirty-two years. She retired several years ago, and immediately came back to work part time, and so she's been with me all this time.

But one of the stories that she loves to tell is how when she was interviewing with me, I liked her so much I said, "You probably don't want to come to work for me. And the reason you probably don't want to come to work for me is, traditionally



the way that a secretary will be able to advance in not only financial terms, but in terms of positions, is they find some aspiring young administrator, go to work for him, and as the administrator goes up the line, whoever is supporting him goes up the line with him. And in my case, that's not going to happen. I know what I want to do and where I want to be, and I'm not ever going to become a dean or go into administration. So be aware that if you come to work for me, it's probably a dead-end job." She chose to come to work for me, thank goodness, and as I say, it's a wonderful relationship I've enjoyed over the years.

Kelly: How did you first hear about UHCLEAR Lake City?

McKay: There were two universities that were being started in the same year, and they were both being started as upper-level universities. One was the Florida International University in Miami, and one was UHCLEAR Lake. Both universities, through their provost, contacted me and said, "Would you be willing to do some consulting for us? We'd like a brief position paper on what university computing can and should be in the future, and just sort of a brief outline of how you get from a standing start to where we should be five or ten years from now. It'll give us a chance to look at you, and it'll give you a chance to look at us, and let's see what the match is going to be like."

So I was basically doing the same thing for two different new institutions that were starting. But the difference was, I was really attracted to UHCLear Lake because most of my professional background had been in oil-and-gas exploration, and petrochemical processing. I had never had a chance to do aerospace, and the prospect of going to a new university that was next door to Johnson Space Center, and the prospect of being able to learn a new application area, that was very exciting to me.

By contrast, I'd never been in the State of Florida. So I was basically flown to Miami, and I knew from the moment I got off the plane, oh, this is not a good match at all. I could not see anything that I could identify with, anywhere I looked. It was all tourist-oriented. It was all commercially oriented. I saw no high-technology industries, or science-and-high-technology industries.

I checked into my hotel room and I pulled out the yellow pages, which is something that I wish I had done before I left, so I didn't waste their money by traveling on their expense account to go out there and interview. But I went through the yellow pages, and whereas in the Houston yellow pages, had I turned to sections on engineering, computing, any of the things in the high technologies, I would have found an inch of materials in the yellow pages. In Miami, nothing, absolutely nothing. So I went through my interviews, just sort of playing it by

rote, and basically saying, “Thank you so much for the opportunity, but I’ll turn you down.”

I came back to UHCLear Lake and contacted the provost, and what at that time was basically called the chancellor, Chancellor [Alfred R.] Neumann, and said, “I will accept your offer,” and that’s how I came here. Interestingly enough, although I did not meet him at that time, but Florida International University at that time was the home of Glenn Goerke, who later became, of course, our president.

Kelly: That’s a unique tie-in. I was going to say, this is backing just a little bit, but at the time that you were approached by these two universities you were the chairman of technical education at Lee College?

McKay: Yes, that’s correct. And I had a good reputation on all things related to computing, communications, and control systems, especially for the oil-and-gas and petrochemical industries. But how readily does that adapt to aerospace? It was readily adaptable, but I didn’t know it at the time, and I don’t think anyone else did. It was just a matter that I had a reputation and was visible, and so I was lucky enough to be recruited by a couple of different campuses, an exciting time.

Kelly: Did you have a specific interview on campus at UHCLear Lake?

McKay: Yes.

Kelly: Who did the interview?

McKay: The interview was conducted by a gentleman that I'd never met before, who would quickly become one of my very best friends. It was the founding dean at our school, Dean Robert Schuhmann. I was not only interviewed by Dean Schuhmann, but I was interviewed, of course, by the Provost, Dr. June Hyer, who I loved dearly. I was interviewed by, of course, Chancellor Neumann, who had met me before, but it's the difference between a formal interview and just meeting and talking and getting to know one another. Let's see. There was a young man who basically would become Michelle Dotter's—she would basically take over his position in administration and finance. It was Jim Hale. And there were other people that I met on the faculty, and people who were being brought onboard.

We were operating out of temporary facilities over in what was called the Vanguard Building. My very first day of reporting to work—the Vanguard Building had been part of what NASA used to use as something called the skunk works. The skunk works was a very special international model for taking some of your best and brightest people, and you put them into a given location, and you give them a responsibility, "I've got a problem," like, "I want to design new

spacecraft, and I want to get human beings into and out of orbit safely. I want to get them back and forth to the Moon safely. You guys, here's the coffeepot, here's the locks on the door, here's the security. You guys just do it, and tell us when you're ready to give us some solutions."

Well, because of the special security that was on the Vanguard Buildings, almost all of the doors had special locks, security locks on them, and if you didn't know the key, you couldn't get out or in. Well, my very first day on the job was a Friday. I came in with all of my boxes of books, and other things. I was propping open the door to load and unload the boxes of books in my office, and when I took the last box of books, which was propping open the door, the door closed. It was about seven o'clock at night. There was no one else in the building, and I couldn't get out of the bloody building. So I had to start calling people, to get someone who knew the key, which I didn't know that code, to come and let me out of the building so I could go home. [laughs]

Kelly: That's fascinating. You would think the key would be to get in, but not just also to get out.

McKay: Yes, it was very secure.

Kelly: How competitive was the job market for UHCLC at the time?

McKay: In terms of, you mean faculty positions, or what do you have in mind?

Kelly: Yes, in terms of faculty positions.

McKay: Chancellor Neumann basically had a goal. He wanted us to be respected, and he wanted us to be respected quickly, so he basically at the time of my interview said, "I would like very much for you to be able to attract an all-Ph.D. faculty. Is this doable? Is this something that you can do?"

And my immediate response was, "Yes, sir, it's doable. But I'd like to add another condition to that. To be credible in this community, with the people at NASA and their contractors, and it's a very, very high-tech-oriented community, I need to be able to recruit people who not only have their doctorate, but they have at least three years of experience in applied research and development, or related contracting work, so that I can evaluate their publications, I can evaluate what they've done, and I can make sure that they're going to be a good fit. They're not just fresh Ph.D.'s, they're people who have credibility instantly within the community."

And that's how we got started. We got about, oh, I don't know, I think my first year here we attracted about eight faculty, and we continued to add, and for the

first several years of our existence we were not only looking for Ph.D.'s, we were looking for Ph.D.'s with at least three years of applied research and development experience. It paid big benefits for us, because again, we were accepted, and the community said, "You guys are going to be able to do something that's going to be of value to us, and help us, and welcome. We'll do what we can to help you."

Kelly: I read in Dr. [Jon] Zophy's book that, he commented that you had limited space for laboratories, almost no equipment, and uncertain enrollments. So science and technology started out fairly slowly. Then you sent an e-mail with your early recollections about meeting with Mr. [Robert] Hickok [Hickok Electrical Instrument Company], and basically receiving a grant to develop some research before you had any students, any programs, any classes. So tell me—

McKay: [unclear] equipment, any whatever, you name it. Yes.

Kelly: Tell me just a little bit more about the ins and outs of that.

McKay: Well, when I accepted the position at U. of H.-Clear Lake, I had already committed to—I had a keynote presentation at a major conference. As I recall, the charge of that particular keynote address was, be provocative. Say some things that you believe that will get people's attention. And what I believed very much in was a new advancement that had been created by a competitive bid in

industry—actually the telecommunications industry—that had led two different organizations, Texas Instruments and Intel, to develop something new, which we called microprocessors. They were four-bit microprocessors. They were very small, very simple-minded compared to today's much more sophisticated and much, much larger processing chips.

But the basic theme of the keynote speech, and I provided that keynote speech, I think it was a couple of weeks after I came here to UHCLear Lake, as I say. The keynote speech was scheduled before I was hired at UHCLear Lake. So it was just by coincidence that when I showed up for the keynote speech, I was able to say, "University of Houston-Clear Lake." So I provided an address that was considered to be a little far out, but it was well received in spite of that.

It was subsequent to that that I was contacted by Mr. Robert Hickok. Hickok Electrical Instrument Company was the world's third-largest manufacturer of electronic test equipment at that time. He basically complimented me on the keynote speech and said how impressed he had been, and he said, "You know, I really within the organization seem to have missed this opportunity to get in on the ground floor of what microprocessors might be, at least as I hear you describe them. And since I don't have anyone in my research-and-development group who is working on this new area, would it be possible that your university might be interested in contracting to do some research? Find out what microprocessors



might do for the field of electronic test equipment, and if it is appropriate for us to make this transition, give us some help in developing these things.”

Having nothing better to do, because I'd only been on the job about two weeks at that time, I said, “I don't know how this is going to work, all the details, but sure, let's do that.” So that's what basically led to the discussions, the university's first official research grant, and several years of very productive work. They provided me with money. Well, I first should say the chancellor and my dean, Dean Schuhmann, and the provost, Dr. Hyer, were amused that I would have been there for about three weeks and was already bringing in our university's first research grant. They didn't have a clue how we were going to do all of this. None of us really did.

And particularly, I was there with the thought, foolish as it may be, that I had almost a year to recruit faculty, plan labs, purchase equipment, do all of the things to get our school in shape. And here I was, three weeks, no faculty, no students, no labs, no anything, and was already being approached to accept a research grant.

There was a building that was behind the Vanguard Building at that time, called, I think, the Atlas Building. It was just about to be vacated, and was going to be up for lease. We needed more office space, because the Bayou Building had not

been constructed. We were just doing all of the things that would lead to the construction. The Arbor Building was overcrowded, so we were recruiting people that we didn't have office space for, and certainly we needed some labs. So it occurred to the chancellor, "Maybe we should lease the building next door, and you could take some of the space in there and carve out the research labs to get you started." I thought it was a great idea. Everybody else thought it was a great idea. That's how we got started.

Then went out to recruit some good students, and recruited students with the promise, "There will be academic programs that you're going to be excited about enrolling in. I just don't have them defined right now. But I need some help, and I need some good, bright students who will be willing to work under my supervision on this research contract that we're about to bring in from Hickok Instruments." And that's basically how we got things kicked off.

Kelly: What were your other responsibilities at the time that you were also bringing in this research grant?

McKay: We were approached by the World Bank, through El Paso Natural Gas. El Paso Natural Gas had a large contract with the country of Algeria. Algeria was war torn. They, basically, had gone through a horrible, horrible civil war, and basically a war that led to their independence from France, and they were really

dependent upon oil-and-gas reserves. Unfortunately, the oil-and-gas reserves were being depleted at a very rapid rate. They're not like Kuwait or Saudi Arabia. They're not sitting on top of a vast reservoir of oil.

So El Paso Natural Gas was very civic minded, and they basically said to the Algerian government, "We'll do our best to help you manage the resources that you've got, but you have to face the fact that twenty years from now, thirty years from now, you're going to be out of what is the major source of your revenue, and you really need to have an infrastructure created that will allow you as a country to do things that you need to do to survive and prosper."

So the government, with El Paso Natural Gas, went to the World Bank and said, "We would like to finance the creation of new universities, and a small infrastructure of new universities with an emphasis on high technologies that would basically give us an ongoing entree into a competitive world, when we can no longer fall back on our oil-and-gas reserves."

Now, most of the work that I had done at Lee College before I came here had been sanctioned by the American Petroleum Institute, and it was work that was being done in oil-and-gas automation. That was my specialty, computer-automated systems for pipelines, refineries, drilling platforms, you name it. And so El Paso Natural Gas knew me and knew my work. They knew I had just gone

to the new UHCLear Lake, and they recommended to the World Bank, “Why don’t you go talk to this young man. He’s very well known in oil-and-gas automation, and we think he might be able to help you start the new universities that you have in mind.”

So I don’t know, it wasn’t very long, it was maybe a month or two after I had arrived here, that not only did we have our first research contract through Hickok, but we had our first international contract, which was to select bright young people from Algeria who had baccalaureate or higher degrees in science, engineering, or math, competitively look at them, and select about forty of the very best to become the faculty members for the new university.

That was a wonderful experience. We had about, oh, goodness gracious. I mean, for every opening that was available, we had hundreds of some of the very best students you could ever ask for. They were basically graduates of the French School of Higher Education, but they had baccalaureate degrees in science, engineering, and math, and they wanted to earn master’s degrees in things like computer science, software engineering, computer engineering, things that we were determined that we were going to succeed in. So we probably had about thirty of those students who were brought from Algeria, and they were our first students to be put through our master’s degree programs here, so that they could then return to Algeria and start the new university that we had helped plan.

Since I had to plan our laboratories here, I already had access to all of the information about sizes, electrical voltages needed, outlets, all of the kinds of things, basically, as laboratory specifications that we had to have here, they needed over there as well, so it was a fairly easy thing for us to do. So that was one of my other responsibilities that was not on the drawing board when I was recruited to the university. I was recruited to the university to start our computing programs, pure and simple, and I was to have a year to do it. Within the first three months we had a research program underway, and we had an international education, our university's first international-education program, also signed, sealed, and delivered.

Kelly: And see, here I thought you were going to say you worked on writing the curriculum and the catalog.

McKay: We did all of that, believe it or not. But that wasn't as difficult as you might think either. After all, the MITs, the Carnegie Mellon Universities, the Stanfords, they'd been out there for a while, and I knew a lot of those faculty members at those institutions, and had a lot of respect for them. So I had a lot of friends that I could draw on, and a lot of good examples, and we basically exploited it.

One of the privileges that I had shortly after I came here was that one of the founding, well, one of the major presidents of Stanford University was a wonderful man named Dr. Frederick Terman. Dr. Frederick Terman really put Stanford on the map during World War II. He actually created a whole field called radio electronics. He was the one that basically was responsible for some unique students like Hewlett and Packard. They were literally his students.

I had a chance, found out he was coming through the Houston area, and had a chance to request him to have lunch with me and just brainstorm, and the university was very quick to say, "Get him to buy in as much as you can get him to buy into." So over a long lunch with lots of wonderful opportunities to pick his brains, and with his commitment to provide help and support in any way he could, advice whenever it was needed, curricula materials, laboratory information, that was just one example of some of the unique things that were happening when this university was being created, that were once-in-a-lifetime opportunities.

Kelly: I think Dr. Zophy got it wrong in his book when he said you started out slowly.

McKay: It was perhaps not slow, but it was fascinating. It was wonderful.

Kelly: It sounds fascinating. Can you talk to me a little bit about the early faculty in science and technologies, the personalities of the various people you worked with?

McKay: Well, because we did not have this building complete, and we were operating in rented facilities, and in a smaller version of the Arbor Building, some of the early faculty members that I recruited were part-time faculty members initially. But they were part-time faculty members that again, they had that doctorate, they had at least three years of valuable experience, they had good credibility, and they were willing to teach one course a semester, and kind of see if teaching was what they might want to do, because many of them had not taught before.

I looked long and hard for a lot of the faculty. I was lucky in a couple of cases. Dr. E.T. Dickerson was one of the people that I was lucky enough to recruit, and he was very interested in coming onboard and teaching. I was really interested in him, because everything that I basically was interested in and was particularly good at, digital electronics, computer software, microprocessors, the whole digital world that I really believed in so ardently—I knew there was this other world out there. It was an analog world. It was an analog world of communications. It was an analog world of operational amplifiers. It was a world that yes, I could have developed those classes, and I could have developed those labs, but I didn't want to. I wanted somebody else who was passionate about those, as passionate about

those as I was about my field, to come in and be responsible. So he was one of the very first people who went from becoming an adjunct to being a faculty member, a faculty member that was revered and very helpful.

He wasn't, however, he wasn't the first faculty member that I actually hired. The first faculty member that I actually hired was Dr. Robert Hopkins. Dr. Hopkins was working on computer automation of the Shell Refinery at Deer Park. He was such an interesting individual, and he clearly had so much potential that when he said to me in all good faith, "Dr. McKay, I'm really interested in the position, and I really think I'd like to build a career in academia, but I'm on this project and I'm right in the middle of it, and I just can't come right now, so if you were to make me an offer, it would be an offer I couldn't accept for at least six months."

So I went to the chancellor, and to the provost, and to the dean, and I said, "This is somebody I really believe in. He's going to be an excellent addition to the faculty, but I need to make him the offer. I need to get him locked in for a certain date. He won't be able to come to us for several months, but that's okay. He's worth waiting for."

And my bosses patiently explained to me, "You have a limited budget for hiring faculty, and you're going to commit the salary line to somebody that you can't even bring onboard for at least six months." And again, my idea was to get the



best you can get, and you do what you have to do to get the very best you can get. I was convinced he was going to be a winner, and he certainly proved to be just that. In fact, he went on to become, subsequently, dean of the school, and also was the division chair of natural sciences, and a very respected and much loved individual.

So there were people like Dr. Hopkins that were out here in one area, not yet reporting to work, and there were people like Dean Dickerson, who subsequently became dean, who were reporting to work. We found people like Dr. Eldon Husband, Dr. Tom Harman, Dr. Ted Leibfried, the very best of the best, and we were very lucky to get them. Actually, Dr. Leibfried and Dr. Harman were referred to me by my brother. They had actually taught as adjuncts for my brother at the central campus.

My brother said, "I know you're frustrated because you're looking for faculty members of a certain background, and they're not always easy to find. But I've got a couple of guys that are driving from Clear Lake into our central campus to teach for me as adjuncts. I think they would prefer to teach right there in their own community where they live, and I think if you had a chance to work with them, you just might be interested in recruiting them as fulltime faculty." And so that's how I met Dr. Leibfried and Dr. Harman. It was my brother's

recommendation; they never looked back. They have just been wonderful folks to work with.

Kelly: How were the technologies programs supported under Dr. Neumann? I mean, you've given some examples in the very early stages, but getting away from the first two, three years, and into his later tenure—

McKay: I think Dr. Neumann was never very comfortable with the high-technology nature of a lot of the clientele that we were attracting to our school. It doesn't mean he wasn't supportive. He was supportive. It's just that he sometimes said, "Thank goodness I've got good people who understand these things and can talk to those people and deal with them." So it was really a case of, when I needed something I knew to go through my dean, my provost, to the chancellor. We would give him a full explanation, and he would be supportive. Didn't mean he understood the full explanation, but he would be supportive, because he believed in what we were doing.

Kelly: When you came to the Bayou Building, were you in an interdisciplinary suite?

McKay: I was. And yes, I really thought that was a very, very positive thing for our university to be doing. I understood when the pressures mounted in the years that passed, why some people thought that a more traditional orientation of gathering

faculty together who were in the same discipline, and putting them in the same suite would lead to more productivity within the discipline. I was not convinced of that at the time. I am not convinced of that today, because there were interdisciplinary conversations that took place that I thought were very positive, very stimulating, and just very, very helpful.

So I'm one of the people who, yes, I know the advantages of having faculty from the same discipline located contiguously to one another with their offices. But I'm also aware that there are opportunities that you miss when you don't have that chance for meeting at the coffeepot with colleagues from different disciplines, and gaining different perspectives. Wherever I can, I try to encourage interdisciplinary research grants, interdisciplinary teaching activities. I'm still very much a believer in what was an original goal of this university, which is to be essentially an interdisciplinary university.

Kelly: Who were your suite mates?

McKay: Well, because I was in a program director's post, I was located in the same area as my dean, Bob Schuhmann, Mike Mezzino in mathematics, Frank Matthews in mathematics. We actually started staffing our math programs first, because math is the language of science and engineering, and you have to basically create that as a foundation. I was next to Peter Fischer in humanities and human sciences,

next door to Cal Cannon, who was the original founding dean of the humanities and human sciences, and down at the end of the hall I was basically very comfortable in dropping in for a cup of coffee with people like Jo[séphine] Sobrino, who was sort of the original dean of education, and people like Rosemary Pledger, who was the first dean of the School of Business.

So we were all located in very close proximity to one another, and we would take breaks together, go out to lunch together, do all sorts of things that resulted in some really stimulating conversations and insights about how unique we were as an institution, and what things we could do to take advantage of that, and really leverage it for improving higher education. We all were pretty passionate about that.

Kelly: Tell me a little bit more about how you felt about Dr. Neumann as a person, as an individual.

McKay: He was a gentleman and a scholar. As a gentleman and a scholar, there was never a moment when you were embarrassed to be associated with him as the representative of our university; very dignified, very insistent upon setting a certain tone of professionalism by his example, as well as by his words. And again, very generous to me, very kind to me. In short, I thought the world of him. I thought the world of him, I thought the world of the first Provost, Dr. June Hyer.

She was, I thought, just wonderful, and I was convinced that I was working for the best dean anybody would ever work for, and that was Bob Schuhmann.

Kelly: After Dr. Neumann left, Dr. Tom Stauffer came to be our chancellor. I read that he desired to make UHCL “America’s space university.” I imagine that you felt pretty elated.

McKay: I was.

Kelly: Can you tell me a little bit about how your technology program changed under Dr. Stauffer’s presidency?

McKay: Yes, I can. As I say, Chancellor Neumann really believed that a major role of our university was to humanize the high-tech Neanderthals who roamed the corridors of Clear Lake at that time. I think that was the wrong perception, but it was his honest perception. It was where he came from. So he was very interested in bringing improved opportunities in the humanities, in the fine arts and other things, to the community. That was his real thrust.

To the best of my knowledge, I cannot say with any knowledge at all that Chancellor Neumann ever went to NASA to meet the NASA director, and to try to cultivate a relationship of, “What can our university do for NASA? I mean, we

were created to be your partners. What can we do to make this partnership really effective for both parties?”

Giving lots of credit to Dr. Stauffer, one of the very first things he did when he arrived on campus was he asked for an audience with Gerry Griffin, who was the director of NASA at that time, and he basically asked the questions, “What is it that you might need from the university? And if we’re going to be next-door neighbors and partners in helping you with your vision, what can we do?” And they developed a friendship.

That friendship opened some doors. I got to meet some people by invitation at NASA that I had not met previously, and an idea began to basically take root that was interesting, at least it was fascinating to me. There was a movement that started about 1979 to create a new engineering-specification language that could be used for mission- and safety-critical computing applications. It could be much more reliably used than any of the languages that we had available at that time. Later this language is going to be specified as the Ada programming language, in honor of the daughter of the poet, Lord Byron. Ada Lovelace was basically considered to be the world’s first computer programmer. I mean, she basically helped create a theory of computer programming that was invaluable.

At the time that our government was leading this massive effort to create this new programming language and its support tools, called the support environment, there were some people who were very strongly involved at NASA, that I got to meet as a result of Tom Stauffer opening the doors and creating the friendship with Gerry Griffin. Two of the people that I met that were extremely involved in proposing that America's next major investment in the human exploration and development of space should be the creation of the Space Station program, and they became two of my very closest and best friends, Jack Garman and Ed Shevers [phonetic].

They were two young men who were very well respected, not just at JSC, but they were very well respected throughout all of NASA. They were aggressive, they were exuberant, enthused, very energetic. They really were doing everything in their power to say to everyone that would stop and listen, "We should be moving in this direction." Well, my friendship with them, and my interest in following, and we had begun to already teach just as a trial balloon in special-topics courses, what would become known as the Ada language—originally at that time it was still called the brain language.

My interest in that, and the government's announcement—this was through DARPA—that there were going to be, they thought, perhaps ten places in the world that would be selected to be beta-test sites for the new language and its

support environment—and it was called beta-test sites because the ten places that would be selected would have to be people with impeccable credentials and objectivity, who were not involved in creating the language itself. That was to be done by commercial companies, who would basically fund and make a profit from bringing their compilers and their tools to the marketplace.

So the government announced, DARPA announced that their plans were to seek these ten beta-test sites for this new international activity, and I got the idea, why not combine the best of both worlds? Why not say, since people like Jack Garman and Ed Shevers are beginning to get the ear of James Beggs, who was the head of NASA, who was beginning to get the ear of Ronald Reagan, who was the president, that maybe the next step should be the creation of a Space Station program? Why not put the two together, and propose that we would, as a community, toss our hat in the ring to become one of the ten beta-test sites, and that what we would use as our test bed, to test the language and its support tools, would be all aspects that we anticipated of what would be required for the onboard computing systems of the Space Station?

So with the blessings of NASA and the blessings of Chancellor Stauffer, I started making the rounds of all of the area subcontractors and major contractors. First was IBM. They were absolutely critical to this. Basically, I introduced myself to these folks. I had known some of the people down on the front lines from IBM,



but this was my first time to go to the head of IBM locally. I went to the head of Ford Aerospace. I went to the head of Boeing. I went to the head of McDonnell Douglas, and I basically said, “Look. I think we have a really good shot at becoming one of those ten beta-test sites to be selected by DARPA, and I think it would give us an opportunity to do proof-of-concept work for the computing systems that will go onboard the Space Station. But I don’t have the money for the faculty to do this research in-house. I need a collaborative consortium to join up and basically tell us, how many researchers would you give me to work under my direction on this project, if we were successful?”

By the time we put our proposal together for DARPA, and got NASA’s blessing on the proposal, I think we had something like eleven organizations that were in the Clear Lake community; IBM, Ford, Boeing, McDonnell Douglas, all of the major players, who had basically said, “If we can win this, we’ll give you two researchers who will come work at the university under your direction, on things that we believe are going to be important to the creation of the Space Station, and will give us a fair chance to really test out this language and support environment.”

I think we started with something like twenty-two or twenty-three researchers who, we quickly outgrew the ability to put them in this building. So we went back to the industries and we said, “Can we sort of split this? Can they do some

of their work here in your labs, and some, bring it over to the university so we can all collaborate?” We were selected by DARPA as the world’s first beta-test site. They subsequently only selected three more, so there were never more than four beta-test sites, but we were the first. We were the best known, and we were clearly the most successful.

We began having international industries from Europe and from Japan, and from Australia and other places, who came to us to say, “Can we contribute researchers so that we’re contributing the researchers, we’re paying their salaries. They’re working under your direction on things that are important, but we will be publicized as being a part of this effort, and we’ll gain the benefit of the insights that your folks are getting on what will or will not work appropriately on the Space Station?” I think by the time that that project drew to a close, we had had something like twenty-three industries who had signed up to supply more than a hundred researchers that were being coordinated out of the university, and that were worldwide, literally worldwide. As I said, those were wonderful times, just wonderful times.

Kelly: That’s an amazing story. I’m going to change the disk.

[End 1<sup>st</sup> CD. Begin 2<sup>nd</sup> CD.]

McKay: I can give you a lot of insight as to the early days of our library, and my involvement in the early days of their library, and with Walt Wicker and how we have kind of evolved from there, if that would be something that you'd like to explore.

Kelly: Oh, sure. Go ahead and tell me how you were involved in the library.

McKay: Well, when I first came to the university, again we were over in the Vanguard Building, the rented facilities, and we were tripping all over one another, but having lots of fun and excitement. I remember meeting Walt Wicker, our first librarian, and he took me to an obscure warehouse in Pasadena [Texas] where something I think called the Parsons Library ]was housed at that time, and was basically showing me what the university had been lucky enough to acquire.

Now, it was nice that I was getting to know and like him, and enjoy his company, but I didn't think I was going to be able to get into his application domain, because I knew nothing about—I mean, I've always loved libraries. In fact, to be very truthful with you, one of the goals that I had when I first came to this university was that if I ever have an opportunity to help create a library that stays open 24/7, that would be wonderful. And it's really interesting to me, and I'm really proud of the fact that we are just about at that point, because not the

physical access to the library, but through the Internet access we really offer wonderful services today that are basically available to our students 24/7.

Well, at the time that I came to the university, we had a notion at the systems level of centralized is better, and these poor stepchildren in Clear Lake are going to need all of the help that we can provide them. The thing that we're going to determine as a system is, we're going to go large mainframe-computing based for everything, and we will have the large mainframe computer based at the central campus, and it will be all things to all programs at all campuses, and they'll pay us for their fair share of the utilization of it, and we're going to plan all of these centralized things, including library services.

So June Hyer called a meeting of my boss, Bob Schuhmann, and one of her favorite employees, Bob McClintock, who was sort of our first AVP for information resources, and Jim Hale, who again basically was to become administration and finance, and Walt Wicker. She basically said in the meeting, "You know, we've got to come to grips with what they're going to try to do to us." She said, "Hon," that was her pet term for me, she said, "Hon, I understand that you think that the era of large centralized mainframes is something that should go out with the dinosaurs."

And I said, “Yes, Ma’am, that’s just about a good summary of what I do think about it.”

“Do you know anything about the proposal for automating the library on this centralized mainframe?”

And I had to say, “No, Ma’am, I don’t know anything about what they’re proposing to do.”

And she said, “Well, I’d like to start a policy that anything that this campus is going to be asked to participate in at the systems level, you’ll be our representative if it involves computing, and it’ll always involve finance, so Jim Hale will be our representative. And so instead of me serving on those committees,” speaking of her, “I’ll be back here. You two will be the representatives on all things computing and all things that are financial, and do what you can to protect the interests of this campus.”

So I talked to Walt about what was being proposed by the central campus and the centralized systems-planning office, and it became pretty clear to me that we would all die of old age before what they were talking about would ever come to pass, and that if it did come to pass, it wouldn’t be in our best interest. So I started looking around to find, are there different approaches that are working that

we might pick up and adapt? And particularly, are there things that are mini-computer based? There were no microcomputers, as we talked about earlier, at that time, but mini-computers were things that we could probably afford as a campus.

I found a library-circulation system that had been implemented on a small Hewlett Packard mini-computer, and when I showed it to Walt and we talked about what would be required to modify it to meet our needs, got his buy in. “Go for it.” So at the systems meeting Jim Hale and I, who would subsequently become known as June’s gladiators, because that was our role in life, Jim Hale and I started being fairly obnoxious. We started making derogatory comments about what was being planned for library services, how it would be a step in the wrong direction, it would not benefit our campus, and if the Systems Office would just get out of our way and let us do what we thought needed to be done, we would have something operational in less than a year.

Well, that was hilarious. They’d already been working on this thing for two years, and they weren’t anywhere close to being implemented. So finally, I think as much to say, “Let’s just show these young whippersnappers up and let them have enough rope to hang themselves,” they angrily said, “We’ll wash our hands of you guys, and we’ll let you guys do what you think you want to do, and we’ll

see. When you decide to come back and join us, and work with us, we'll give you the system you really need.”

We didn't look back. We acquired a system. We were up and running in six months. We'd modified the system from what it was originally designed to do, to fit what Walt felt was needed for our first system of being able to log in books and inventory, and check out books and keep records, and it was a huge success. And it was a huge success in far less than the one year that we were expected to take to do it. Again, Walt was the first of the librarians that we worked with, but we've worked with every librarian and library staff since then, and yes, I have to say I just could not be more proud of what our library contributes to this community, and our university in particular. And it's been a delight to work on all forms of automation since then.

Kelly: Was that first system the VTLS?

McKay: Yes.

Kelly: Because we know that we were the first fully automated library in the State of Texas, so thank you very much.

McKay: You're very welcome.

Kelly: I was going to go back in time a little bit, and I had found in the UHCLC newsletters that they advertised actually for undergraduate programs in technology, several of which I suspect—actually, there's five listed—may have gone the wayside as the campus developed, but I just wanted your opinion on them. Oceanographic instrumentation; computer applications to industrial processes—that sounds like yours; electro-optical technology; process monitoring and control; and avionics instrumentation was supposed to be introduced in 1975.

McKay: Those were the program titles that we were able to get accepted by the Systems Office, and through the Systems Office then to the Coordinating Board. I really wanted a program that was being discussed at the national level, but had not yet gained national approval. It was a program called computer engineering, which computer engineering, software engineering, computer science, they all evolved out of that computer applications program that you're talking about.

The program was a program that I had become interested in while I was still at Lee College, before I came to the university. The National Science Foundation was sponsoring a group of faculty members to go around the country and lecture to other faculty members about advancements in computing that might be of interest, and might help them to advance their own curriculum. I was teamed up with Dr. Tom Bartee of Harvard University, and so the two of us were basically



making the NSF lecture tour, where we would go into a university, they would bring together people from perhaps fifteen or twenty other universities who were interested in computing, and Tom and I would take turns lecturing to them on some of the work that we were doing, and things that we thought they would be interested in doing.

That led me to an interest in the emerging field of computer engineering. But when we proposed initiating that degree here at the university, we were immediately rejected by the Systems Office. They did not like the fact that they had a Cullen College of Engineering, and they didn't want us to have an engineering school, or to have engineering programs offered at UHClear Lake, and particularly since computer engineering was not recognized as a discipline within the State of Texas for licensing purposes. And that was true. It was not at the time recognized in the State of Texas. In fact, it wasn't recognized in most states.

There were private institutions like MIT and Stanford that had their own money, and they could do whatever the heck they wanted to, and they did. They basically created such programs, and now computer engineering is one of the most popular engineering disciplines in all of the United States. But in the early days, they would not let me put that title in, so we came up with obscure titles, computer applications, and that's how that got into the—the avionics, clearly the central

campus had not had a good relationship with the Johnson Space Center. They had taught courses for the Johnson Space Center.

In fact, that's really what led to the creation of the Arbor Building, before there was a UHCL. That was a building created so that the Cullen College of Engineering could send faculty members down here, and could teach certain courses that they thought the NASA employees would want to take. That was one of the reasons why I knew when we started our university, I did not want fresh Ph.D.'s. I wanted people with credibility. I wanted people with a track record, who would basically be accepted by the community because they had done things that you could evaluate. They had published things you could see. So when we started our program in avionics, the clear indication was, there's this thing called the Space Shuttle, and there are the things that'll be used that'll be next generation beyond that, and we want to have a program that gets us in on the ground floor.

Just as a point of interest, the new Constellation Program that NASA is basically pinning its future hopes for human exploration and development of space, that's like a thirty-year program, and that thirty-year program essentially goes through the completion of the Space Station, creation of a brand-new set of replacement vehicles for the aging shuttle fleet, and this is a family of vehicles called the Crew Exploration Vehicle, that'll take us not only back and forth in low-Earth orbit, but will take us to the Moon to establish a permanent human presence, living and

working on the Moon, and eventually another member of the Crew Exploration Vehicle in that family will take us all the way to human exploration of Mars. Very exciting.

The first project within the program Constellation is the Crew Exploration Vehicle, because if you can't make that work, nothing works, absolutely nothing. You have to have that. That's got to be the cornerstone of the program. So that's why the first project is basically, go now for competitive bids; two major bidders for the first project. One bidder is Northrop Grumman teamed with Boeing and others, and the other is a team which is basically led by Lockheed Martin.

Lockheed Martin submitted their bid to NASA this past month, and Lockheed Martin, as you may know, decided to have a national broadcast originating here at UHCLear Lake to announce that they have delivered their bid for the Crew Exploration Vehicle to NASA. In that meeting that was held down in the Garden Room, and was again broadcast all over the world, there were a number of really interesting announcements that were made.

And again, you have to remember again, by the end of August the Boeing bid will have been evaluated, the Lockheed bid will have been evaluated, and one of those two organizations will be awarded the contract to develop the first members of the Crew Exploration Vehicle. The leader for the project from Lockheed Martin

basically said, “If we win this, and we hope we do, here are some of the organizations that will be our strategic partners,” and started naming a number of the area subcontractors that are very well known to us, as being their strategic partners, and then named the University of Houston-Clear Lake.

The announcement was also made, which is much more important to us, that just the fact that we were identified as a strategic partner, the announcement was also made that if they win the bid, the most critical components of the bid are the systems engineering, software engineering, computer engineering, and mathematical models, and that would all be retained here in the Clear Lake community. That engineering would all be done here, and part of that was because of the partnership with UHCLear Lake. That’s what we do. That came from that avionics and the computer applications, and the other kinds of things. So fingers crossed, we’ll see how it goes.

But it’s exciting that the most important work from our school’s perspective, the most important work on the Crew Exploration Vehicle would be located here in Clear Lake, and we’d get a chance to work with our students and faculty in doing whatever risk-mitigation research and development would be appropriate to help improve the capabilities of that next generation of spacecraft.

Kelly: Okay, this is off topic here, but you're retiring this year, going to do some traveling. Do you anticipate that you might come back and do consulting work?

McKay: I can't imagine any occasion where people from this university would ask me for something that I would not do if I could. So in the sense of consulting, if somebody needs to talk to me about something, bounce ideas, whatever I can do to help this university I will always do, as long as I am able. If you're referring to consulting work on research-and-development projects that might help the Crew Exploration Vehicle, for example, I'd love to see our university faculty and students up to their necks in that. That just has to happen. It's just too exciting to let it go anywhere else, and yes, anything I can do to help with that I will.

Kelly: Okay, getting back on track. In 1980 I found a mention that [reads] "Six professors teamed up to investigate the possibility of using satellite communications for distance education, the system to make transfers of computer information between schools possible. They must be able to transmit and receive the audio and video." Do I read this correctly that we were attempting some form of distance ed as early as 1980?

McKay: We had a solid proposal. We could have done it. We should have done it. We were not supported by the System. We didn't have the money to do it as a single, standalone institution. But it was the right thing to do, for all of the right reasons.

So we did the homework. We produced the proposal, but we could not persuade the System that this was something that they wanted to do, or wanted us to do.

Kelly: What communications systems did we use prior to the Internet, that you were basing this DE [distance education] on?

McKay: Well, when I first came to the university there was no, quote, “Internet.” But there was a very exclusive private network that belonged to DARPA, Defense Advanced Research Projects Agency, and you could get access to the DARPA net if you had research interests that were also shared by the Department of Defense. In other words, if you wanted to collaborate with people who were doing research in certain areas that the government thought was important, even though you were a, quote, “pinko faculty member,” you would get access.

So, oh gosh, I guess maybe a week or so after I got here, the first thing that I ordered was something called a Silent 700, which was about a seventy-pound suitcase, which was a portable terminal. The reason I ordered it was that I had received permission to join the DARPA net. We started using the DARPA net, again, within less than a month after I got here, and we used it consistently up till the time that the decision was made—you know, this is such a powerful tool. It probably deserves to be taken out of the realm of the government, and it probably needs to be available as an infrastructure to everyone. That then became the

Internet, and that then became sort of the springboard for all kinds of wonderful innovations and exciting things.

So I was demonstrating to my research assistants even before we had an instructional program, the wealth of resources that were available from other researchers that had basically put their publications, and put their information and their experiments out there on the DARPA net. So we were using, in a sense, distance education via the DARPA net, even before we had defined any program beyond that Maddox [phonetic]. And we've used it ever since, and grown with it ever since.

Kelly: That's great. In 1982 you opened up a new high-technology lab. Was that opened in anticipation of Ada, or was there another reason?

McKay: Basically, there were three things that were the motivators for that. Number one, I really saw the chance to become one of the world's first beta-test sites for the Ada language. Number two, I really saw the chance to do something that would benefit the Space Station program, and combining the two of them just seemed like such a winner. And number three, I really wanted a collaborative consortium in this community, so that this—I mean, you always hear our presidents, and very properly, say, "We are a partnership-oriented, community-minded university," and boy, that's the way I've seen it from day one.

That gave us an opportunity to go out to all of the area industries, where again, we'd met a few people in lower-level positions. But this gave us the opportunity to go out there and meet with the corporate heads and basically say, "If you'll join forces with us, we could do some really good things that reduce the risk on the Space Station program, and at the same time reduce the risk of the government-funded project on the Ada language and support tools. We'll just pool our resources and work together."

The high-tech lab was the official seed money that gave me release time to go throughout the community and work on these things that I had talked about with Jack Garman and Ed Shevers from NASA, and now began to work with the eleven contractors in the area. The high-tech lab was really actually not a lab. It was really release time, to give me time to go out there and start working this consortium idea, and putting it together.

And the high-tech lab is the longest continued funding item, as a special item, at this university. It is actually one of the longest continuously funded items in the State of Texas. We still get fifty or sixty thousand dollars a year, which we use for faculty and students who are working on certain projects which are looking over the horizon, not what is today, but what's coming that we need to be aware



of, and maybe we help position our university so that the state can benefit by that looking over the horizon and getting ready for it.

I think at one time early on in the history of the high-tech lab, like in the first five years, we had to submit an assessment report for every dollar that had been invested in those very modest, even then, in the high-tech lab. We were able to show that we attracted thirty-seven federal dollars to come to this university, and build up the Texas economy and the Texas state coffers. So it was one dollar invested by Texas, thirty-seven federal dollars that came into the state that would not have come in otherwise, and so that's one of the reasons why the high-tech lab has been such a success. But it's always had the mission of, again, look over the horizon and see where we think we probably should be going, and help get us ready.

Kelly: Who's in charge of that today?

McKay: Today it has fallen back on my shoulders, simply because we had the resignation of former Dean Dickerson, who has now agreed to come back to us, and he will be taking it over on September the first. So I'm basically responsible for it right now.

Kelly: How would you describe the long-term benefits of the Ada grant?

McKay: I mean, for so many years it gave us partnerships and collaborations with the best universities in the world in our field. It built the network of friends and research sponsors, and people who were interested in things that clearly mattered to us, that it's impossible to estimate how much benefit our university received from that. Some of our very best students, who are in very influential jobs now in corporations throughout the world, basically they were brought to the attention of their organizations because of projects that originated [unclear] activity.

I mean, it was our first real mainstream into the Carnegie Mellon universities, the MITs, the Stanfords, the Georgia Techs, the York Universities in Britain, L' Ecole Polytechnique in France, Eindhoven, so many of the major universities of the world, ETH [Swiss Federal Institute of Technology], so many of the major universities of the world. We got to know some of those faculty on a first-name basis. We got to know some of their students on a first-name basis. We got to exchange ideas that were invaluable. I'm not sure any of us ever realized at the time we were having luncheon conversations what some of those thoughts that would be stimulated at that luncheon would eventually lead to, and the direction. So it really helped put us on the map.

Kelly: That's great. On June first, 1986, y'all opened the Research Institute for Computing and Information Systems [RICIS] . Tell me how that idea came about.

McKay: Well, it was through the high-tech lab that we created what led to the beta-test site. NASA looked down the road, and this is NASA Headquarters, and said, "You know, this is an example of a really good thing. This is an example of a community working in close collaboration with a university on projects that matter to NASA. Let's broaden it beyond a finite project, and let's open up a whole spectrum of programs that are—RICIS stands for Research in Computing and Information Systems, so let's create an institution that goes beyond just the beta-test-site mission. Let's broaden it to anything in NASA that would be helpful for a university, and other universities, and other people from industry to collaborate on, that would benefit NASA."

And so, gosh, I think probably more than a hundred million dollars worth of research that came through that, in all kinds of projects that were worthwhile. Again, some of it was related to Space Station, but a lot of it was related to generic reuse, reorganizations within NASA's computing structures. If it dealt with computing-and-information systems, that was important to NASA's future. We could identify a research project that we thought had great promise of actually benefiting NASA. If the research proved to be as rewarding as we thought it

would be, we could just take them the proposal, and if we could find somebody in NASA that liked the idea and believed in the potential return on investment, we got funding.

Kelly: I read in 1987 you acquired a new supercomputer from Sequent [Sequent Computer Systems]. Tell me about that.

McKay: It was related to the research that we were doing. We were very interested in making advancements on parallel and distributed computing, and to make advancements you needed to have modern equipment. So we had been very successful throughout the years in getting major industries to make major donations of brand-new, for them cutting-edge technology, so that it could be a part of the research done here at the university.

In return, when we publish our findings we're always very careful at the end to give credit to the organizations who supplied that. So Sequent was just one of many major computing initiatives that basically were donating pieces of equipment and software worth hundreds and hundreds of thousands of dollars that we couldn't afford, and we were basically being given access to it just because of the work we were doing, and the fact that they would get recognition in whatever publications resulted from that work.

Kelly: Can you name a few others for me?

McKay: Yes. One of the things that we were very, very pleased with was Data General Corporation. Data General actually had one of the very first commercial implementations of the Ada programming support environment. That gave them a competitive advantage. That gave them a network of researchers who were tied to Data General equipment, and it was sort of a common platform. I called the Data General representative when I found out about it, and said, “We need to talk.” I told him, “Quite honestly, I don’t have the money to buy your equipment, but I’ve got the team that can put you on the map, and can make this really worth your while in terms of visibility.”

And he said, “I’ll get back to you.” And he came back with a couple of tickets, airline tickets, and Dr. Dickerson again, who was always a good right arm, and I flew out to their headquarters in Florida, met with their CEOs in Florida, and came away with a huge donation of brand-new Data General equipment that was free to the university, so that we could use it as a part of our research. That preceded, actually, the Sequent donation.

Kelly: I’m going to start wrapping up, because we’re going to run out of time. But Dr. Zophy again wrote in his book that, [reads] “Divisions surfaced between the NAS faculty, between natural sciences and computer sciences, in a battle for funding.”

And then he also commented that for two years they conducted a search for the dean, and both, all that time that failed, and eventually he implies that you agreed to serve as the dean. So can you tell me a little bit about what if any divisions there were between the natural sciences and computer sciences within that school?

McKay: Well, I think that there always is contention over scarce resources. I remember fondly the wonderful quote by Henry Kissinger after he stepped out of his public office and took his faculty position at Harvard. He was asked, “After being a player on the world scene, and dealing with politics at a global level, how does it feel to be on campus and deal with politics at a local campus level?”

And he said, “Oh, this is much worse, because the stakes are so small.” And I think that that’s exactly where we are in many cases in the State of Texas. The stakes are so small, and there is contention over the resources. I was clearly on the computing side of the house. I knew my colleagues in natural sciences, but I did not know them as well as I know them now. I did not know the problems that they faced as well as I know the problems now.

Again, I was a happy faculty member who was never going to descend to the level of a dean. I was living a useful life, a useful existence. We had a faculty meeting that was called by at that time President Goerke and Provost Hayes. We had been

doing a search for a dean, and I was not on the search committee, and I certainly had refused all invitations by anyone to even consider—I stuck with that line that I came to the university with thirty-two years ago, “I will never be a dean.”

So basically, the search committee had narrowed it down to two candidates for dean. So President Goerke informed our faculty at the faculty meeting of our school, “You guys better choose wisely, because you’re in red ink, and because you’re in red ink, if you don’t get out of red ink within three years under this new dean, we may just be compelled to divide up the school, and part of the school that’s viable will go to this school, and the part of the school that’s viable will go to this school, and parts of the school that are not viable will just fall by the wayside.”

This was out of a clear blue sky, from my perspective. I mean, it just was out of a clear blue sky. So I immediately raised my hand and basically said, “I don’t think this is quite fair to the two candidates that had been brought in without any knowledge that this kind of a mandate is going to be imposed on this position. Would you consider extending the search period so that we could entertain the possibility of a candidate that might have a better chance of getting us out of the red ink in the three-year period that you’ve specified?”

President Goerke thought about it for a moment and said, “Yeah, we’d consider that.”

So they left, and we had our faculty together, and I basically said, “You know, we’ve got too many years of investment, and too much love and effort has gone into creating this school for this school to be in jeopardy. If you guys want me to, I’ll toss my hat into the ring, and we’ll see what happens.” So there was a pretty wide consensus among the faculty from both divisions that maybe with the contacts that I had in the community, and my knowledge of the school’s history, that maybe I might be a better bet for the dean’s position than the two people who would be brought in from the outside, not knowing our faculty, not knowing our programs, not knowing our community. And I was the provost’s choice, so that’s how I became the reluctant dean. [laughs] That’s how I threw away my useful life and became an administrator.

Kelly: Well, I don’t think we can call it quite useless, considering that the school still exists.

McKay: The school exists. The school is operating in the black. We’re not operating in the red. The school is prospering in many ways. We’ve achieved program accreditations that we’re very proud of that we never had before. We’ve achieved certain levels of recognition, and this is both true in the natural sciences and in the



computing and mathematics, and in the new engineering division, which we never had before. It was created as a new division on my watch. So, yes, but the faculty and staff have to take credit for that, because they're the ones that do it; the dean just has to sweep up, keep the hallways clear so they can do what needs to be done.

Kelly: I'm thinking of an analogy that likens it to cattle ranching. [laughter]

McKay: Yes. There are some similarities, being raised on one.

Kelly: Round up.

McKay: There are some definite similarities.

Kelly: Life comes full circle for you.

McKay: Life comes full circle.

Kelly: A couple of years ago y'all changed the name of the school from NAS to SCE. Can you tell me a little bit about the process, and what the reasoning was behind that?

McKay: We had a solidly supported proposal that we took to the shared-governance system. We got it all the way through our shared governance on this campus, and we got it to the Systems Office. The proposed name, which we thought was appropriate, was the School of Science and Engineering. When it got to the Systems Office, there were people from the central campus who objected, basically saying, "Let's face it. What you're really known for at that campus is all of the things that you do related to computer engineering. You're not a general school of engineering," which we didn't pretend to be, and never want to be. We want to be what we are to our community, and serve our community's needs.

So to gain the approval of the Systems Office over the objections of the central campus, the name we had proposed, the School of Science and Engineering, was modified to be the School of Science of Computer Engineering, which is much more restrictive than what we do. I mean, our software-engineering program, our systems-engineering program, they're very important. We're looking at a new program right now we're proposing, which is going to be a master's degree in engineering management one day, probably not on my watch.

The two things that I really wanted to get done on my watch that we did not achieve, I wanted us to be named the School of Science and Engineering, because that's what this community needs, and I wanted us to get a doctoral program. I'm convinced that's in our future. We're just not there yet.

Kelly: Baby steps.

McKay: Baby steps, yes.

Kelly: I think we're about done. What do you think was your greatest challenge in your tenure here? You've talked about so many different projects.

McKay: I think one of the greatest challenges was perhaps waking up one morning not too very long ago, and realizing that I'm running on fumes. I really am not going to be able to do this that much longer. When I look at what I project, and I've been fairly good in my projections of financial circumstances that affect the university, I see a good future for the university, but I see another couple of bienniums that are going to be lean, and we're not going to be as well funded as we deserve to be. And what I would be doing would be fighting for a holding position, to hold onto what we have, rather than being able to advance and progress.

And it just occurred to me, this is time for me to take a different role, and get to know my wife again, who has been with me, bless her heart, for forty years now, and spend some time traveling with her and enjoying things. But it's probably time now, because if I stay here for four more years and then I have to retire, I'm going to be retiring at what I think will be sort of the trough, and I won't have

been able to have accomplished that much that's positive in that four-year period, so it's time to let somebody else get into the rhythm, get to know the school, get to know the things to be done, so that when we start coming out of that trough, and we will, someone is there with the energy and the leadership to take us to that next level.

Kelly: That's great. And your most significant accomplishment, if there could be only one?

McKay: Oh, gosh. Oh, gosh. Just being a member of this team. I mean, that's the highlight, just being a member of the team. Anything else?

Kelly: No, I think that's all that we have time for today. Thank you very much.

McKay: You're very welcome.

[End of interview]

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