UFHC 34
Interviewee: Jerome Modell
Interviewer: Samuel Proctor
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P: I am interviewing Jerome Modell in his office at the J. Hillis Miller Health Center operation on the University of Florida campus, Gainesville, Florida. This is part of the project that we are doing on the history of the health center. Jerry, could you give us your full name?

M: Jerome Herbert Modell.

P: You were born when?

M: September 9, 1932, in St. Paul, Minnesota.

P: Let's talk about your family background for a little bit. I understand that Modell was not the family name. It became modified?

M: Yes, that is correct. The family name was Modelevsky in the Ukraine. My father changed the name, as I understand it, around 1926 or 1927. He was working for the John Hancock Insurance Company and according to what he told myself and my brothers when we would ask him, was that his clients could neither remember his name nor pronounce it. So he changed it to Modell.

P: What was your father's name?

M: William.

P: He was born where?

M: He was born in Zhitomir, Russia, in the Ukraine. My mother's maiden name was Freida Singer. She was born in Poland, I believe in Brestlatovsk.

P: It is near the Russian border and it is on some of the earlier maps. Fortunately, your aunt did her autobiography.

M: Yes, my aunt Edith Linoff Edleman did her autobiography and documented the early history of the family. I have a copy of the book and she actually has written a subsequent book. My aunt Edith is an interesting story herself. I do not know if you want to go into that or not. Let me start out by the way that they came here. In her book she documents the day that they actually left Russia, by stating that she and her brothers and sisters, her mother, grandmother and grandfather, were lined up along a wall, facing a firing squad. These were

Russian soldiers who were going to execute them because they were Jewish. Their neighbor, who apparently knew one of the soldiers, had talked them out of doing it at that point in time, explained to them that they were good people and that they might think about it and come back the next day. As I understand the story, that night, they left the city by dark. The neighbors assisted them in getting out and they began their trip to the United States. Prior to that time, their oldest brother, by the name of Michael, was actually taken away by the Czar's army and was made a part of that army. They do not know for sure what happened to him, but a friend of theirs told them that he was executed along with some other Jews along the side of a river. Obviously, I never knew my eldest uncle. They and their mother, who is my grandmother, Zelda, arrived in the United States, and searched for my grandfather whose name was Charles. He had come over a couple of years earlier to make money and send money back to bring the family to the United States. They located him in St. Paul, Minnesota, and that is how the family settled in St. Paul. I mentioned to you my aunt Edith, who wrote her autobiography, and now has written a second book, is a most interesting individual. I do not know for sure if my aunt Edith ever finished high school to be honest with you, but she is a self-educated woman, who began working as a bookkeeper in a manufacturing company, probably before she was old enough to get a work permit in those days if they had such things. One of the business people that came into there to buy merchandise took a liking to her. His name was Joseph Linoff, and he and his cousin, Samuel Salkin, owned a general store in a small town in South Dakota. They really did not have enough money to run the store and also have a place to live, so they used to sleep on army cots in the back room of the store. One winter, Joe Linoff bought a carload of potatoes, and within a week or two there was hard freeze and he had the only potatoes in South Dakota. They parleyed that into the Salkin and Linoff Incorporated, which was a chain of department stores throughout the Midwest, North Dakota, South Dakota, Iowa, Minnesota, Wisconsin, that entire area. Joe Linoff became my Uncle Joe Linoff when he married my Aunt Edith. My Aunt Edith was suddenly thrust into the business world. They were very community minded. My Uncle Joe was one of the founding fathers of Sinai Hospital, Minneapolis, for example. My Aunt Edith started a scholarship fund at the Talmah Torah in Minneapolis, to be able to educate children in Jewish history and that sort of thing when it did not happen before. They were kind of the people who looked after the rest of the family. When any of their brothers or sisters needed to open a business or something, they never went to the bank. My Uncle Joe got them started, and then they could pay him back when they had it. They became very much in the political arena. I actually met Hubert Humphrey when he was the mayor of Minneapolis. I met him in the basement of my uncle and aunt's house at a Hanukkah and Christmas party, where I also met other people, like Walter Mondale. As a matter of fact, my aunt made the tie that he wore when he was inaugurated as Vice-President of the United States. Through that entire time period, she raised three children. My Uncle Joe died at

a fairly young age and she remarried, Hyman Edelman, who was a very prominent attorney in Minneapolis. Two of his children, Peter and Danny, are very well known attorneys. Peter Edelman, has been a presidential advisor since that time. When Bobby Kennedy was running for office, he used to write Bobby Kennedy's campaign speeches. Through that relationship, Peter met Martin Luther King and his attorney. As time would have it, Martin Luther King got assassinated, so did Bobby Kennedy. Peter married Marion, who was Marion Wright Edelman, who was head of a children's movement in Washington, a very prominent attorney in her own right. Marion has actually written a book. Marion is black and my cousin is obviously is a white Jewish person, and she has written a book of what it is like to raise children, mulatto Jewish children, within the Washington scene. My Aunt Edith has written a second book called *Her Blended Family*, which includes the accomplishments of Marion and Peter and their kids and that sort of stuff afterwards. My Uncle Hy is now deceased also. Edith continues on, she is eighty-nine years old. She goes to the bank everyday to visit her stockbroker. She makes sure that the charities that they have founded are plugging along and she continues to conduct her own business out of her apartment to this day. Never misses a clue. She really has been a remarkable individual, starting out from a young child. She was probably between six and nine years old when she came to this country.

P: What work was your father in?

M: My father was a salesman for the John Hancock Insurance Company early on. He then began working for my Uncle Joe and he managed one of the S&L company department stores, first in Jamestown, North Dakota, and then in Superior, Wisconsin.

P: That is why you all moved around so much.

M: Yes, we actually moved from St. Paul to Mankato, Minnesota, where he spent a year as an apprentice to learn how to become a manager of a department store. We then went to Jamestown, North Dakota and lived there for about six years and then Superior, Wisconsin, for about six years. The S&L company closed the store or sold it, I do not know which, in Superior, so my father then went into the women's shoe business. He opened a ladies shoe store in Superior and a second one in Chippewa Falls, Wisconsin. He was in the women's shoe business for about five years at which time he then moved back to Minneapolis and opened a grocery store which he operated until he died.

P: Your father was not an educated man either?

M: No. I think he did attend a few business courses at one those nighttime business schools in St. Paul. I do not know that for sure. He was very

successful in his work, was very well respected as a prominent businessman in Superior.

P: What was it like growing up as, perhaps the only Jewish family in these little towns.

M: When we lived in Jamestown, there were three Jewish families. One of them, the head of the family owned a store, Mr. Preed was his name. There was another family, Lou and Jean Porter, who had no children, but they owned the Jamestown Hide and Fur, a junk company, furs and things like that. The families were very close. Jean and Lou were kind of like an aunt and uncle in a way because we spent a lot of time at their house. I remember so vividly going down to see their place of business during the furring season. I can tell you today what it smells like to walk into a room full of skunk skins, which was kind of unique as a kid. At that point in time, people tolerated us. As Jewish kids we were a little different in the eyes of some. I was not the type of kid that would get into fights and things. I was raised where you never got your clothes dirty, you never fought with anybody and everyone was pointed towards scholarly activity, but I did have to defend myself. I still have a chipped front tooth that I got in the third grade from some kid in the sixth grade trying to beat up on me because I was Jewish and I was different. When I went on to Superior, Wisconsin, I also got challenged in junior high school. It was the only time I have been in the principal's office. One of the other young men on the playground came after me with a knife. He had never seen a Jewish kid before and I guess it was his turn to challenge one. I ended up taking the knife away from him and giving him a bloody nose, so we ended up in the principal's office for fighting. When they heard the story, I think he got suspended for a day or two from school and I did not. That went away pretty quickly. As you know, I went out for the high school football team and made the team. I never had to defend myself to my friends and colleagues in Superior anymore, though I think I was the only Jewish kid in the entire football league, which consisted of northern Minnesota and northern Wisconsin, where the iron ore mines were and coal docks and so on. It was a pretty tough group. I made some very dear friends on my own team who would protect me against the world, if people on the other teams were out to get me, which some of them were. I learned to grow up in an environment where you accepted people for what they are.

P: Who were your siblings?

M: I have two brothers, Paul Marvin Modell. He just had his sixtieth birthday on St. Patrick's Day, two days ago. He went on to get his master's degree in education and was a principal in the Minneapolis school system for several years before he retired about five years ago. My other brother is Harold Ivan Modell, who has his Ph.D. in physiology and has been on the faculty at the University of Washington in Seattle and now is in business for himself in regard to

computerized education and serves as a consultant to many universities in regard to computerized education and teaching basic sciences in the medical schools.

P: So your parents came over as immigrants and all three of their children were educated and turned out to be very successful.

M: Oh yes. There is no question we would be educated, if you lived in our house. I am sure it was in yours too, that was not an option, it was an obligation. They always looked forward to their children having things that they did not have. We felt that we had to do it.

P: You never had any question about going to school or college.

M: No, and I carried that through with my own children.

P: You were a family oriented family?

M: Very much so.

P: I noticed in your autobiography you talk about making the long train trek for Passover.

M: We used to go from Jamestown, North Dakota, to the twin cities for Passover and for Rosh Hashanah and Yom Kippur. I was raised in a pretty orthodox Jewish home. We used to get kosher meat shipped out from Minneapolis to Jamestown and things like that. We looked forward to going to the twin cities to see the family because that is where they all settled. Passover, Yom Kippur and Rosh Hashanah were very special days.

P: You were a good student? Were you already into the sciences and so on, beginning to think in terms of the life work that you became involved in?

M: Yes. My mother has an essay that I wrote. I do not know if it was the third grade or the fourth grade, as to why I wanted to be doctor. I can tell you that even when I was in grade school, I felt that I wanted to be a physician. Probably for different reasons than I ended up being a physician. I had two role models, one was my Uncle Aaron, who was my father's youngest brother, who was the second physician to ever practice in Jonesboro, Arkansas. He graduated from the University of Minnesota before the Second World War and opened a practice there. He actually got there though the CCC Corps under the Roosevelt regime, where they set up camps to try to improve things. The other one was my mother's cousin, Dr. Benjamin Singer, who was a general practitioner in the Twin Cities. I always looked up to them and thought I would like to be like them. I ended going into something completely different in medicine, but nevertheless,

that is how I got started.

P: What kind of a social life did a young Jewish boy have in a little isolated town?

M: In Jamestown, North Dakota, I was too young to know any better so it did not matter. In Superior, Wisconsin, there were more Jewish people, there were about twelve of us teenagers. We would go to Duluth, Minnesota, to play basketball and to the Twin Cities and things like that. There were very, very few Jewish girls as I recall. What I remember very well, is who I always had a crush on. She was older than I was, and her brother was my best friend, he was my age, never dated her of course, her name was Kaner. Another one, who I did date a couple of times, whose dad owned a furniture store in town, I lost track of her. We usually went over to Duluth, Minnesota, which was a town of about 100,000 and which had a much larger Jewish population and mixed with the kids over there.

P: When did you graduate high school?

M: 1950.

P: You went immediately that fall into college?

M: Yes, at the University of Minnesota.

P: What made you go there? What motivated that?

M: Primarily I think for family reasons. I had relatives there that I could live with. It was a good school. At that time it was ranked as one of the top medical schools in the country. The family was there, although we lived in Superior, Wisconsin, at that time, it was clear that my parents would be moving back to the Twin Cities within a year or two. When I actually went there, I stayed there with my aunt and uncle. My uncle was my mother's brother and my aunt was my father's sister. They had no children of their own, but they were kind of like a surrogate mother and father to many of us during that period of time, if we were living in a town different than our folks.

P: And they were happy to have you?

M: Oh yes. That was my Uncle Irving and Aunt Hilda Singer.

P: You started out right off with a pre-med course?

M: Pre-med immediately and at that time, if you took a very heavy load, it was possible for a small part of the class to enter medical school with three years instead of four years of pre-med, but you had to complete the four years of

course work. That required us going to summer school during that time. I was on that particular track. I also worked during the time that I was in school, so I did not have a lot of free time. I think I was raised on a work ethic. I got my first job when I was ten years old. The other thing is, a few weeks shy of my twentieth birthday, I got married and a little over a year later we had our oldest son, Chuck, so it was very necessary to work to support one's family.

P: Who paid for your college?

M: My parents paid my tuition. I do not remember if they paid for my books or not, but everything else, I had to pay for. They could not afford to.

P: What kind of work did you do?

M: I did several things. The first job I had was selling women's shoes at the Emporium Department Store in St. Paul. I did that Monday and Thursday nights and Saturdays, worked on commission. I actually did pretty well at that. I then got a job at Cecil's Delicatessen on Sundays, it was a very busy day there, particularly in the morning. Cecil actually was my step-uncle. His mother married my mother's father, after both my mother's mother and his father were deceased. I then got a job at the University of Minnesota working in a research laboratory, with Dr. Samuel Schwartz, who was a fascinating individual. I applied for it because I saw in an ad for somebody to clean rabbit cages. I figured I could do that at anytime, I did not have to come to work at a certain time. They were doing some experiments that had a lot of rabbits, so I started out literally washing cages and things. Over the course of time I became a part of the research team and became very much a part of the original research that Dr. Schwartz did and actually published papers with him.

P: I want to back up for just a minute, but then I want to get back to this point that we are at now. How did the October 20, 1929, Depression decade impact your family? You were born in 1932 so you do not have too much of a memory of that.

M: I do not know that it did other than, we had everything we needed. We did not have very much. My dad did have an automobile when I was too young to appreciate it, but during all the time that we lived in Jamestown, North Dakota, he rode a bicycle to work. I do not know whether it was he could not afford a car or just did not have a car, or Jamestown was a small town. We did not have much in the way of what some people call luxuries, but we had a very rich home life and never wanted for anything. I can remember my mother sewing patches on pockets of my dad's pants. I imagine that is because he could not afford to buy new pants and do what he did for the kids. I really do not know that it had any profound effect on our family, other than I am sure they worked very hard to be

able to survive during that point in time.

P: What about World War II?

M: Before we get to that, let me tell you a little story. Insight, that I got about that. Many years later, after my father was deceased, Shirley and I were in St. Paul visiting my mother and we walked down to the local shopping center. My mother is still living, she is going to be ninety years old in June. She is living in a retirement home in Minneapolis. Fortunately, she is still bright as a tack. She says the mind works fine, but the body does not know what to do with it. At the shopping center, I went into a men's shop and an elderly gentleman waited on me and I bought a suitcoat from him. He was looking at me, looking at me and looking at me and I gave him my credit card and he looked and said, you are Billy's son. I said, yes, how do you know? He said, well I do not think that I ever met you, but you look like your father. He said your father and I, when we were twelve or thirteen years old, used to sell papers together on seven corners in St. Paul to bring money home to give to our parents so they could buy food. That was during the Depression, so I am sure it had an impact, but by the time I came along, they either camouflaged it pretty good, or it was not a problem anymore.

P: World War II.

M: Fortunately, none of our family were involved in the military at that time or in battle, so we never lost anybody. I remember very vividly, sitting in the living room of our house in Jamestown when Franklin Roosevelt made the radio announcement, I was nine years old. I think we were impacted like anybody else, very patriotic, a lot of our friends and neighbors were actually involved, some never came back. As far as our immediate family was concerned, to my knowledge, no one was directly involved.

P: To your knowledge, was anybody left behind in Europe that got destroyed in the Holocaust?

M: I do not know the answer to that. I do not think so.

P: Move up then to your college life now. You were getting to talk about the research job that you had with Dr. Schwartz and Dr. Watson.

M: Cecil J. Watson was the chairman of the department. Watson was not involved directly with the research, although he was chairman of the department, it was happening in his department. Samuel Schwartz, as he went through medical school, worked in Watson's laboratories, so they had done things together. They had together, described the tests to diagnosis Porphyria, a disease that is a hereditary disease for people that are very photo sensitive. The work that I was

involved with Dr. Schwartz, was work on the treatment of cancerous tumors with chemotherapy, mainly with the amount of hematoporphyrin combined with radiation therapy.

P: So you moved up from the rabbit cages pretty quickly.

M: Yes sir. I had my own laboratory. I had people working for me in the laboratory, technicians.

P: Was that unusual for a student?

M: I guess, I do not really know. I have other friends who did similar type things, but as I look at our students today, I do not know of any student that I have been associated with here that has had that much primary responsibility. But the times are different. Students do not work forty, fifty hours a week now and go to school, like we did. We did it because we pretty much had to. I am not sure that medical school was any easier then than it is now. We grew up at a time where there were a lot of people returning from the Korean War, they had families and they did not have parents to put them through school. All of my friends in school, all of my fraternity brothers, they all worked and went to school at the same time, it was just expected. Now I think it is the exception.

P: What fraternity?

M: I was a member of the Phi Chi Medical Fraternity, which is kind of interesting too. As you may know, that is traditionally a southern Catholic fraternity and I think our chapter was the first one to admit Jewish people into it. There were about seven or eight Jewish medical students in our fraternity. As I go back and look at the development of people tolerating people, we had another fraternity brother by the name of Albert Nawakuku, who was from Nigeria. I believe he was the only black Phi Chi fraternity member in the United States. When our officers went to the national convention, this was a problem, that we had a black fraternity member in the 1950s in a traditionally southern fraternity. They got over this by recognizing that he was Nigerian, not what they used to think of the normal black population down south. Inadvertently I guess I was exposed to a lot of firsts in regard to human relations with people and things like that.

P: Where did you live before you were married, as a student?

M: At my aunt and uncle's house. Then I got married, while I was still a student. I got married when I was still a pre-med student and we lived in a duplex in St. Paul. I really could not afford the rent on that so we moved into university housing. It was called University Village, which were a leftover military quonset huts and army barracks, from the time they were training people there and so on.

It was on the farm campus of the University of Minnesota.

P: We had those here too, we called them Flavets.

M: It was the same type of thing. That is where I lived pretty much all of the way through medical school. They were kind of unique in that they were made out of metal and plaster board and in the Minnesota winter, that gets kind of cold. We used to have a pot bellied stove in the living room. I remember one weekend when we ran out of fuel and it was very cold. We took the kids, by that time we had two children, and slept bundled up in sheepskin coats and gloves in one bed to share body heat until morning when the fuel trucks came. It was a unique community. The immediate next door neighbor that we had, he went on to become the superintendent of schools, I think in Missoula, Montana. The fellow immediately across the street went on to become the chairman of the Department of Otolaryngology at the University of Cincinnati Medical School. The fellow next door to him was a prominent internist out in California. A fellow on the other side, Norm Horns, became a well-known pathologist in one of the community hospitals in Minneapolis. Almost everybody in there was in graduate school. They all had to be married to be there and they all had young children, it was a unique place.

P: Who were you married to?

M: I was married to Marilyn Jean Singer. We must have met when I was a freshman or sophomore in high school and we dated all through high school. She was from Duluth, Minnesota. We got married in 1952, which would have been my second year of college.

P: What date in 1952?

M: Sam you are embarrassing me. I think it was early in August. Marilyn and I have been divorced for over twenty years so I do not remember, I even have a hard time remembering my grandchildren's birthdays.

P: You were married in Duluth?

M: No, our parents did not want us to get married. They thought we were still kids and too young to get married. We actually got married in a bank vault in Farraghat, Iowa, by a Justice of the Peace, and then came back. We still lived separately, her in a dormitory, she was a freshman at the University of Minnesota, and me at my aunts house for about a month or two until we sprung the news. After that, her mother insisted that she would have a wedding that was befitting one of her daughters, so we had a second wedding a couple of months later at the Hotel Duluth in Duluth, Minnesota. We were living in student

housing and I was working at multiple jobs at that time and going to school.

P: What kind of work was Schwartz doing? Was he your first mentor?

M: He was my first real mentor, yes. He was experimenting with the use of hematoporphyrin combined with radiation therapy in patients with incurable cancer. He would take patients that the surgeons had turned down or that either had already had the maximum amount of radiation therapy and had no response, and was treating them with a combination of hematoporphyran and radiation. He actually got some very, very spectacular results. Tumors that literally disappeared in people that were thought to have incurable disease. What I was doing was not the patient work, I was doing the basic work behind the scenes. My work was primarily in mice and we would use implanted breast tumors in a special strain of mice and treat them with a combination of hematoporphyrin and radiation therapy. Also I was looking at the physiologic response of the animal to the hematoporphyrin to see what it did to the respiratory system and the cardiovascular system. Obviously if the side effects and complications were worse than the disease itself, you would not want to do this. He got some very spectacular results and about the time that I was graduating medical school, the chemical company that had made this for him, which was a small company, sold the rights to it to Merck. They then produced a very pure compound and the pure compound did not work. It was, it was one of the impurities in the hematoporphyrin or side products, not the hematoporphyrin itself that was successful in the treatment of these tumors. For many, many years after that, Sam looked for those impurities and never found them. He died this past year at eighty-one years old and had never found them. He was a fascinating fellow. He graduated medical school and never practiced medicine. He felt that research was what he should do to better mankind, which he did. He also was a very religious individual, orthodox Jewish, traveled to Israel frequently. He had seven to nine children, and as his children grew up and went out on their own, he adopted others, so that he and his wife, they always had a home that was literally full of kids. Never missed a Shabbot dinner, that type of an individual. Very holy man in his personal life and very much a professional in his professional life. Probably as bright as anybody I have ever met.

P: So he had a real impact on your thinking and growth in those early years?

M: I knew I wanted to be a physician, but I did not know I wanted to be an academician until I met Sam Schwartz.

P: You got a degree when?

M: I got my M.D. in 1957. My undergraduate degrees were a B.A. and a B.S. I got both a B.A. and a B.S., but you had to march in a proceedings to get your degree

and I marched to get one of them. I did not want to march the next year, so I did not get the second one until I marched for my M.D. and then they gave me the other one at the same time.

P: According to your records, you took a B.A. in 1954 and an M.D. and a B.S. in 1957.

M: I completed the requirements for the B.S. probably in 1955, but having not marched in a processional, I did not receive the degree until 1957 when I marched to get my M.D. That is when they gave me the B.S.

P: What were some of the areas you were interested in for your B.A.?

M: Saying interested in is not the right word. I was interested in being a doctor and I took whatever else was required to get there. I took English, science, mathematics, physics, chemistry and the humanities and things like that. I had a very narrow goal, very focused. If I did not get accepted to medical school, I do not know what I would have done. That is what I aimed towards and fortunately I was accepted to medical school and I survived. These days we do not recommend that students get so subfocused that after you have been in school for four years, if you do not get into a specific graduate school, your life does not come to an end.

P: You started out by wanting to be a doctor, then as a result of your work with Schwartz, you began to be interested in research medicine. But, anesthesiology, the thing that became your real specialty is still some years away?

M: Yes that is correct. That is another story, that is ahead. When I was a medical student we did not have a required course of anesthesiology. I took an elective with Dr. James Matthews and we had to come in at six o'clock in the morning and spend an hour with him before the regular school started. It was the only way that we could get exposure to anesthesiology and that was just to see what it was like. Even when I left medical school, I was going to become an internist and going to return to the University of Minnesota on the faculty. That is how Dr. Watson had planned my life. In those days, when a professor told you what to do, you did not argue with him.

P: Was Dr. Watson directing your curriculum?

M: He was pretty much telling me what I would do for my internship, my residency, my fellowship and so on. I idolized him and Sam Schwartz and figured they would not steer me wrong so that sounded pretty good to me.

P: Schwartz is the man influential in your developing research. Is this also where you decide to become an academic rather than a practicing physician?

M: Absolutely.

P: So very early on in your educational career, you were already determining what you were going to do for the rest of your life.

M: Probably before I even got into medical school, because I had worked in his laboratories as pre-med student and then worked there all during medical school also. He did not force it on me. To me it was exciting to learn new things, to discover things, to change something, to help somebody.

P: How many hours a week were you devoting to your academic and research programs?

M: I do not know. I was probably working forty, fifty hours a week. I had a wife and Chuck was born in 1953 while I was a freshman. Then Jack was born in 1956 during my junior year of medical school.

P: You had a lot to balance there.

M: We studied pretty late. We sometimes studied all night. I will never forget that I hated embryology. I just decided that I did not have time to study embryology, there were other things to do like work and other courses in school. The night before the embryology final, I stayed up all night long studying embryology. I was a pretty good student and I could cram almost anything to at least pass a course. I walked into the embryology exam and I answered the first half a dozen questions, got those all right and then fell asleep. Naturally, I flunked the course. I remember going to the deans office and I told him, I did not like the course, I stayed up all night studying for it, at least when I stayed awake, I got those answers right before I fell asleep. So they gave me an incomplete and let me make that up. They could have thrown me out of medical school, but they did not. We would not infrequently study late at night.

P: That taught you to be humble the rest of your life, right?

M: Oh yes. But you see, I was living with other people like me. As I mentioned to you, Don Shumrick was the fellow who went on to become the chairman of Otalaryngology at the University of Cincinnati. Frequently, we used to take Nora, his wife, and their kids, and Marilyn and my kids, and put them in one of our Quonset huts. Then, Don and I would be in the other one until two or three in the morning, studying. We did that frequently. Johnny Berman who was an internist and Norm Horns, and I lived either right across the street or right next

door to each other. So we frequently would stay up half the night, studying, teaching each other and so on, while the women were taking care of the kids in another unit. We did not think in terms of forty, fifty or sixty hour weeks. Whatever time it took, it took. The other thing, I was fortunate that the job I had in research did not require me to punch a clock, so I could get there before school started in the morning and get the people started. I could run over there if we had a break for lunch before they went home and then I could work at night to do other things. Some of our experiments were twenty-four hour experiments and they had to have readings done every two hours. For some of those, I used to sleep on a cot in the lab with a little alarm clock, set it for an hour and fifty minutes and wake up and get all the recordings and reading and then go back to sleep for a couple of hours and then do it again. In those days, it was easy to do that, it was very conducive to do that because our laboratory was right across the hall from the cardiovascular laboratory. That is when Drs. C. Walton Lillehei and Richard Varco and Dick DeWall and some of the other pioneers of open heart surgery were running their laboratory twenty-fours a day. They were doing open heart surgery on animals, to learn how to do it in humans and developing artificial heart and lung machines and things like that. In addition to doing our own research. There were these other people over there who were fellows in surgery, who seemingly never slept either. If you closed your lab up and slept, everybody knew you went home early, even thought it was eleven o'clock at night.

P: Who were some of the main people that you studied with in the field of cardiovascular medicine?

M: C. Walton Lillehei one of three brothers. He had another brother, Richard, who also was a surgeon, who became one of the world's experts on surgical shock and bacterial shock. He had another brother, who I did not know, who was an internist. Dr. Richard Varco, was a member of the faculty, these other people were all fellows at that time. Varco did some of the first open heart operations in the United States. Dr. Richard DeWall was probably most instrumental in designing the bubble oxygenator, which was one of the first heart and lung machines. They were all in the lab across from where I was. There were other people there as well that rotated through that laboratory. The name escapes me of the fellow who did the first heart transplant in South Africa, he was a fellow in that laboratory also.

P: What was the junior scientist, I do not know if it was a program or what, in the department of internal medicine?

M: That was my title when I was working for Sam Schwartz and Cecil Watson. My title at the university was a junior scientist. It is like senior laboratory technologist or something like that.

P: I want to get your children's records on the tape here. Your first son was Charles?

M: Charles Scott Modell. He was born in June, 1953. Jack was born in on the third and he on the twenty-second or vice versa, I never remember. Jack was born in 1956. Julie was born on New Years Eve, December 31, 1957.

P: Where was Charles born?

M: St. Paul, Minnesota. He is now an attorney with a very large legal firm in Minneapolis and he specializes in franchise law and contracting. He is married to Carol and they have three children, Matthew is the oldest, now a junior in high school and a member of the state championship tennis team and a straight A student. He wants to be a lawyer and he has been looking at schools this past year, and every one he selects probably his grandfather did not have the grades to get into, like Stanford and Virginia Law School and the University of Michigan and some of the ivy league schools. The next one is Jennifer and she is fourteen and then Lindsey is twelve. Jack Gary Modell is an associate professor of psychiatry at the University of Alabama and has won multiple awards for his teaching and patient care and research. He has been teacher of the year at UAB Medical School, he has been named the most caring physician at UAB Hospital, things like that. We are very proud of him too. He is married to Judy and they have one son, Jason, who is fourteen. Julie Beth Modell Abels was born at the US Naval Hospital, St. Albans, Long Island, New York, during my internship. She has two daughters, Melissa who is ten and Randi who is eight. She was married to Richard Abels and they got divorced about a year or so ago. Julie opened a company called the Event Company, which is a party planner type thing. She started out doing weddings and birthdays and things and then very rapidly made a name for herself in the corporate world and ended up putting on conventions, corporate retreats. For example, she has coordinated the events at The Disney Corporation's mountain retreat. She has also served in this capacity for IBM and AT&T. She just sold her company last week. She has now founded a company called "Greater Success."

P: So you have six grandchildren? You are close to your family?

M: Six grandchildren. Very, very much so.

P: You grew up in a family that was very family oriented. Unfortunately you are not able to get together for Passover and Rosh Hashanah.

M: Yes I did. No we have not done that. The closest we came was that we all got to Birmingham at the same time for Jason's bar mitzvah. That is the only time I

think that all the kids and the grandkids were in the same place at the same time. They live all over the country and they have their own responsibilities.

P: So you all do not do things together then?

M: No, we do not and the reason we do not is because of geography. As the grand kids get older, they are old enough so that all but one of them can travel on their own so the kids come and visit Grandma and Grandpa, or we take them to horse shows.

P: They must love that farm you have.

M: They do. It is a lot different from where they live at home and they love the horses and dogs. Jennifer and Lindsey, Chuck's children, they love animals and Carol is deathly allergic to dogs and horses to the point if she comes into our house to come to visit, and she stays for dinner, her eyes are all swollen shut by the time she leaves and she is wheezing. So when they come visit us the kids stay with us, but Carol and Chuck have to stay somewhere else. If the girls go horseback riding, which they always do when they come, Shirley washes all their clothes and everything before they go back to see their mother. It is terrible, but you cannot help it. Carol is a terrific mother. The kids are always going to something. These kids are in the midst of absolutely everything.

P: The children relate to each other? To the same degree that you related to your siblings?

M: Yes. Maybe even more so. Only because, I say that because when I left, the Navy told me when I could go and for six and a half years they told me whether I could take this weekend to go visit family or not. Whereas they all have responsible positions and they cannot leave without notice, but they are all kind of their own bosses so they have a little more flexibility.

P: Let's get into your navy stint now. What brought that on?

M: When I was a junior in medical school, somebody came to recruit us, a navy recruiter and told us if we joined the navy, the navy would put us on active duty during our senior year of medical school and we would receive full active duty pay to go to school.

P: You would not have to wear a uniform?

M: I think we had to wear a uniform twice, for two ceremonies. Then we would have to do our internship in the navy and then give them two more years. So that basically for giving up two years of your life, you got paid a full navy officer's

stipend during your last year in medical school and got paid an officer's stipend during your residency, which in those days, residencies, good ones, did not pay hardly anything. So I joined, much to the dismay to Dr. Watson, who told me I had sold my soul for money. It made it a lot easier to support ones family when you had a check coming in every month.

P: Dr. Watson had already planned your life.

M: Oh yes, he knew exactly what I was going to do. My response to him was yes, sir, except that I had to support my family and I could do it a lot better and I left school with zero debts. I am proud to say that I never took out a loan, never had to. If we did not have the money, we did not buy it. The only thing I have every bought on time, when I was a medical student, was a television set.

P: You had a car?

M: I had a car. I had three cars in medical school. The first car that I bought was a Kaiser, I do not know if you remember those or not. Kaiser was a big boxy looking car and I bought it for $195 dollars. It was used obviously. It took us where we wanted to go in the summertime except it burned a lot of oil, much more oil that gas. In the wintertime, when it got down to twenty degrees, it would not start. In Minneapolis, that was a problem. I will never forget, I had a landlord by the name of Harry Sobel. He owned the building and lived downstairs, we lived upstairs in this duplex. Harry came out one day and I said, Harry, give me a push, I am going to be late for school. He would not give me a push, but he would pull me, so he takes this chain, puts it around his frame, puts it around my front bumper, steps on the gas, and there goes Harry down the street with my front bumper. I was sitting there, so that was the first car that I bought. That was not very reliable transportation, so I bought a Ford Coupe, which really looked nice, showroom condition. It was used and I think it was $795 and they gave me $200 for the Kaiser. That was a great car, got good gas mileage, ran beautifully. It had only 20,000 miles on it, but a friend of mine was a mechanic and he said, well I think it has more mileage than that on it, but it was in pretty good shape. About a half year after I bought it, I took it into the Ford dealer for routine service and some guy comes over and looks at it and he said, I do not believe it. I said what? He said, I think that was my car, but it is impossible. So we looked in the glove compartment underneath the liner, there was his original bill of sale. This guy was a salesman and he used to take that car out on the road and it had 120,000 miles on it and the last time he saw it, he skidded off the highway on an icy road in the middle of wintertime and wrapped the car around a tree. Of course, what they had done was put the thing back together again, painted it to look nice. In those days the odometer only went up to 100,000 so it turned over. I kept that car and then I ended up purchasing a Buick, which was my Uncle Joe's old car that my dad bought from my Aunt Edith

when Uncle Joe died and then I bought it from my dad. I sold my Ford to my brother Paul, who then ran that car for about four years more. It was a great car. When I graduated medical school, I bought myself a 1957 Mercury, but I never bought any of those things on time. I always saved up the money and when I had enough money, I bought it. I left for New York for my internship in the Navy in my brand new car.

P: So you go into the Navy now and you are in there your senior year and the Navy is paying you a stipend.

M: Correct. All I had to do was stay in school and graduate.

P: No medical responsibilities. But then you have to do your residency under them.

M: No sir. My internship. In those days you had an internship and you may or may not take a residency. Now of course, it is all combined.

P: How did you happen to get to Long Island?

M: We had to take our internship in the navy and they gave us a choice of five different places that we wanted to go. I listed my choices and I got my fifth choice. New York was not where I wanted to go. I really wanted to go to California, but I never had that opportunity. In retrospect it was great because each thing that has happened to me has changed my life and the things that have happened have not necessarily always been what I wanted. But I went into the navy, I went to St. Albans, New York. When I was an intern there, we had very tiny, but a very fascinating department of anesthesiology, very good people. During my internship, I took an elective for two weeks, I guess it was a month, in anesthesiology, because the people in that department were so nice and so well respected. At that time, they had four regular visiting professors, Dr. Emmanuel Papper, who was chairman at Columbia Presbyterian Medical Center of Columbia College of Physicians and Surgeons, Dr. Merle Harmel, who was chairman of anesthesiology at State University of New York Downstate Medical Center in Brooklyn, Dr. Louis Orkin, who was chairman of anesthesiology at the Albert Einstein Medical School at Yeshiva University and Dr. Louis Wright, who was by that time retired, but was the man that originally introduced curare muscle relaxants into anesthesia. Each of them spent one day a month at the Naval Hospital, as a visiting professor, so I got exposed to one of these people every week and really enjoyed that and enjoyed the respiratory and cardiac physiology that went with the field of anesthesiology. It suddenly dawned on me at that time, the residency was only two years, so if I stayed two extra years in the navy, I could take my residency, I could get my boards in anesthesiology. If I still wanted to go into internal medicine, I have taken two years of my life, but I would have a way to make a living while I was a resident. I could moonlight as an

anesthesiologist and that is how I actually got into anesthesiology.

P: Now you carried a commission with you, what was it?

M: When I was a medical student I was an ensign, when I was an intern, I was a lieutenant jg and then got promoted to lieutenant. During my last year or two in the Navy, I was a lieutenant commander.

P: Where is St. Albans?

M: It is on Long Island, right next to Jamaica. It is one of the suburbs. It is part of New York City, it is in one of the burroughs.

P: Was this a naval hospital you were going to?

M: It is not a naval hospital any more. At that time, it was a 1300 bed Naval hospital. It was a very large naval hospital and it was the Center for Chest Disease for the eastern half of the United States.

P: Only military people were treated there, no private patients at all? They would be shipped in from the east.

M: Yes, only military, from all over the world. The patients could vary from needing heart surgery to tuberculosis.

P: Were they doing open heart surgery to any great extent in the fifties?

M: Yes, Minnesota was one of the pioneers. But as far as the navy is concerned, I do not know whether they had done any, anywhere else in the Navy. They may have done a case at San Diego. When I was a resident is when they started the open heart program at the naval hospital in St. Albans. Brad Smith, who was one of my co-residents and who went on to become the chairman of anesthesiology at Vanderbilt, and Bob Van Houton, who was one of our faculty members, and myself gave the anesthetic for the first open heart procedure ever done at the US Naval Hospital in St. Albans.

P: The navy provided you with housing for your family?

M: Yes. I lived right on the base. It was very comfortable. It had a living room and dinette and kitchen downstairs and then two bedrooms upstairs.

P: What were they paying you?

M: Whatever a commissioned officer got.

P: It was a living wage though?

M: Yes, I do not remember exactly, but it was probably about $10,000 to $12,000 a year. For that time it was good.

P: You had a social life there with the other navy families?

M: We did. Something that we decided to do, having grown up in North Dakota and Wisconsin and what not, I have very little exposure to things like Broadway and things like that, so what we would do, instead of going to a movie or something, Marilyn and I had decided that at least once every two months and possibly once a month, we would go to a Broadway play. A year ahead of time, as we knew what was going to open, I would write for tickets, trying to guess what would be successful and we went to a play almost every month.

P: Spent the weekend in New York?

M: No, we had a babysitter, so went in for the play and came back. Took the train or subway to Manhattan. We saw *My Fair Lady*, *The Sound of Music*, *Sunrise at Campabello*. Virtually everything we saw won something. We saw *Once Upon a Mattress*, which was the first play that Carol Burnette was ever in, West Side Story, the ones that lasted and came back

Some of them we actually got there on opening night, the ones that were surprises, no one expected to do anything. We would write a year ahead of time and get opening night tickets.

P: What was your area as an intern?

M: We rotated through all the services, medicine, surgery, pediatrics, OB/GYN, etc. It was a rotating internship so we got exposed to almost all areas of medicine. We worked every day and we were on call every other night.

P: Your love for medicine had not diminished at all, had it? It was becoming more and more enhanced?

M: I do not know if it was more and more, or if it stayed the same. I think many people have accused me of being married to medicine number one and the family number two.

P: You were an intern when you first arrived at St. Albans. The internship for one year and then you become a resident for two years and you are staying at St. Albans, so you are there for a total of three years?

M: No, actually I stayed for four years, because when I finished my residency I stayed on a teaching faculty for a year.

P: During the time that you were a resident, the residency was in anesthesiology?

M: Yes.

P: During this time, how are you focusing in on anesthesiology, which becomes the special area for you for the rest of your life?

M: I already mentioned to you that I thought I could extend my time in the navy for two years, learn a lot and then have a way to support myself while I trained in another area of medicine if I needed to.

P: If you wanted to go back to becoming an internist you could do that?

M: I could do that. Obviously, I never had to do that. Of course, anesthesiology at that time was pretty much limited to the operating room. You put people to sleep for operations, that is what people thought of us as anesthesiologists. I had a much broader interest than that. I established, with a friend of mine, Dr. Ross Moquin, who was also an intern with me but went into internal medicine and was my next door neighbor, what we believed was the first inhalation therapy, respiratory therapy department in a naval hospital and also the first intensive care unit. We established that at St. Albans. Immediately I kind of blossomed out into some of the other areas. We also ran a pain clinic, which has become very popular in the 1990s, but we did that in 1957.

P: How does that relate to anesthesiology?

M: Very much so. Anesthesiology is the relief of pain and whether you have pain sitting there talking to me or you have pain in the operating room, when someone is operating on you, pain is pain. I have always thought of anesthesiology as being much broader than confined to the operating room. As I went out in the civilian life and had the opportunity to build a department, it was very broad based, it was not limited to one narrow area.

P: As a civilian, looking back as a non medical person, I always think of a person in an operating room, they are dropping ether into a sponge or whatever it is and the individual breathes that in and he or she is out. But it has become much more sophisticated than that.

M: Sam, you are showing your age. We have not used ether for three decades.

P: In the 1950s what were you doing, at St. Albans?

M: I gave open drop ether as a resident. Gave cyclopropane which we do not use anymore.

P: But this is the period when things are beginning to change?

M: This was a period when we are beginning to broaden our horizons and increase our knowledge. It was during my residency that Halothane first came into being, and that was the first of the halogenated hydrocarbons, the vapors that you breathe that were not explosive. The way that we gave it in those days was very crude compared to what we do today. Since that time there have been many different types of fluorinated hydrocarbons that are much more pleasant for the patients, much safer, have less side effects and things like that. The field of anesthesiology has exploded with knowledge since that time. When I was a resident, for example, we had one EKG machine in the whole operating room, not in each operating room, but in the whole operating room. Whoever had the sickest patient of the day got to use the one machine we had. We had one mechanical respirator, so that when you were under anesthesia, I would have to help you breathe by hand the entire time. If I fell asleep at the switch and did not breathe for you, you would die, whereas now, we have mechanical respirators everywhere. We monitored patients with a blood pressure cuff and with a stethoscope. We did not have fancy stuff like automatic blood pressure cuffs that take your blood pressure automatically every couple of minutes. We did not monitor the amount of oxygen you were breathing because we did not have the equipment. We could not monitor the amount of oxygen in your blood because we did not have the equipment. We could not monitor, online, continuous electrocardiogram or end tidal carbon dioxide tensions or the amount of anesthetic that you had in your lungs. These are all the things that have come since that time. You put all this together, when I was a resident, about one in 2,500 people that you put to sleep for an operation never woke up. Now it is like one in a quarter of a million, from the standpoint of unexplained death under anesthesia. So it is an enormous change in the safety factor and I am very proud to say that a lot of this has to do with work that my colleagues at the University of Florida in my department did. They worked out some of the basics and were some of the pioneers.

P: What is the reason for this medical explosion in the last thirty-five, forty years?

M: When I became board certified in anesthesiology in 1964, I had certificate 3,218. There are now over 25,000 board certified anesthesiologists in this country. If you look at the last thirty years, the number of anesthesiologists who have completed formal training and passed the board exam is seven, eight times what it was at that point in time. Obviously many of these people are inquisitive. There was no university department of anesthesiology at this institution when I

finished my training. This was a new school, Dr. J.S. Gravenstein [Dr. Joachim S. Nick Gravenstein, UF, chief of anesthesia, 1958-1969] came here in 1959 to start the department. The first department had two faculty in it. In 1992, when I stepped down as chairman, there were over 200 people in the department, so you have an enormous number of people who are looking at a much broader area of knowledge. Through new discoveries in other fields, like everything in medicine, the knowledge has made the difference.

P: Was the federal government already beginning to provide funding for this kind of research activity?

M: When I was in the Navy, I could not answer that for you because we did not have access to that, I do not know. When I got out of the Navy in the early 1960s, one could apply for federal funding for research. You had to have a project that was well thought out, had to have promise, had to be reviewed by your peers and critiqued. You needed a high enough priority score to be able to get funded. They were not just handing out money. What percent of proposals get funded, I do not really know.

P: This whole business of the federal government, these various national agencies and the drug companies come in, this really is a relatively recent development in medicine isn't it? The last thirty-five, forty, fifty years?

M: In anesthesiology per say, it was about 1964 that Manny Papper went to Washington on a six month sabbatical and worked with the people in the National Institutes of Health for the recognition of the importance of the speciality of anesthesiology. That is when they started training grants in anesthesiology for people to get basic research training in the field. That is when they started career development awards to select certain people throughout the country that the government would invest money in to develop their career so they could go on to do that type of research. I was fortunate enough to get one of those grants. That is when anesthesia centers were formed, so it was early 1960s to mid 1960s that all that occurred. So from the anesthesiology standpoint, what you are saying is very correct.

P: Who was Dr. Wright?

M: Dr. Louis Wright was a marvelous individual. When I met him, he was either about to retire or just retired. He worked for Squibb Pharmaceutical at that time. He was an anesthesiologist, and after serving in the Korean War, decided that he did not want to practice anymore so he went to work as a PR person for Squibb. He was the individual who introduced curare to Harold Griffith in Canada, who, in turn, used it on the first patient. Of course, curare was the first drug we that we used to relax your muscles, which facilitated surgery, particularly in the abdomen. Louis Wright, I will never forget, was one of these visiting

professors, one day a month, and he took me aside one day and said, Jerry, I am going to teach you how to give open drop ether. We sat in a little room and I will never forget, he sat there with his knees crossed and took this little mask. It looked like an orange juice strainer and we put eight layers of gauze on it. It was called a Yankauer mask and that is how you made the mask to give open drop ether. Then we took the can of ether, which is a little can, very cheap, they were less than twenty-five cents a can in those days. We took out the top of it and we took a cork and cut a little slit in it, put a little piece of gauze in there and put that in the top of the can. When you do that, the bottom of the gauze touches the liquid and then you can sit there and drop it and depending on how you turn your hand, you can control how much you drop at any one time. If you hold your hand all the way around the can, instead of holding it with two fingers and a thumb, the heat of your hand warms the ether, which increases the vapor pressure, so you get more ether coming out of it. This is really crude stuff. But that was how it worked. It was first introduced in 1846 and was still going strong in 1957 when I started training. He taught me how to give open drop ether on his knee by going in this spiral around the mask, and the reason for the spiral is because if you did not, and all the drops went in the same place, then it never evaporated and it would start dripping on the patient. If you drip ether in somebody's mouth or nose, it is very irritating and they start to cough, they do not want to breathe and you have got a mess on your hands. When I went to do this, I guess I did it a little to fast, and he grabbed my hand and he said, no, no, no. This is open drop, not open pour, so that is how I learned to give open drop ether and then from there we went to give it to a patient and lo and behold it worked.

P: I want to ask you about the care you were giving to Elizabeth Taylor's kids.

M: When I was a resident, I rotated through Columbia Presbyterian Medical Center in Babies Hospital, that is where I learned how to do pediatric anesthesia. The way a resident learns how to do anesthesia is through a faculty member who is responsible for the care of the patient. The faculty member is there to instruct the resident and, depending on how much you know and the complexity of the patient, to determine how much you will be allowed to participate. I was pretty far along in my residency, I think I was a senior resident at that time, and Elizabeth Taylor's two children by Michael Wilding, came in to have their tonsils taken out. I do not remember if it was Dr. Rackow or Dr. Salanetri, who was the attending that day, but I was working with them and since I was a senior resident they would let me do a fair amount of the procedure under their immediate watchful eyes. So we took care of these kids together and as I remember, they were between nine and eleven years old. The thing that struck me is that they had a necklace on and that they had a Star of David and a cross. Elizabeth Taylor converted to Judaism at one time or another and I guess they were taking no chances between the two. It is funny how different things impress you and

you remember.

P: Did Elizabeth show up?

M: I did not personally have the opportunity to meet her. The attendings were the ones that interacted with the mother. Yes, she showed up, but they were the ones that made the pre and post-op visits. The only time that I saw her there was sometime later when I happened to be there. You may recall she was very ill and had very bad pneumonia and had a tracheostomy and was on a ventilator. She was treated there and I did walk into the room on rounds, but I was not involved in her care per se. You know, they were good kids. You think of children of celebrities as potentially being spoiled brats and things, they were not. They were solid kids. I also gave anesthesia to Irving Berlin's daughter when she had a baby. You know after taking care of hundreds of thousands of patients, they all kind of blend into one morass and I do not remember the body configuration of any patient I have ever taken care of except one and that was much later. This was a patient I took care of in Miami and I will never forget this young lady. She was a very bright young lady, who actually was a Playboy Bunny and who was sponsored by workman's compensation because her breasts were getting too large to fit into her uniform. I worked with a plastic surgeon who did a reduction mammoplasty on her. It kind of changed her whole life, because she then went on to college and got a college degree and I do not know where she is now. That is the only person that I can tell you a little bit about the body configuration because it is probably the first and last individual that had the size of her breast changed and paid for it with workman's compensation.

P: But not Irving Berlin's daughter?

M: No, I do not remember her. I do remember her obstetrician was a fellow they called the Duke, who was written up either in *Time* or *Life* magazine. He was a very famous obstetrician in New York at that time and took care of most of the celebrities.

P: Now you finished your residency in 1960 any you spent one more year at St. Albans as a member of the teaching faculty. What did that mean?

M: Yes. That meant I was teaching other people how to be anesthesiologists who were coming in as interns and residents. We had established the respiratory therapy department which then was called inhalation therapy and the intensive care unit. I was involved in that and I also was asked to become a part of the medical recovery team for Project Mercury.

P: What about the Brooklyn Jewish hospital?

M: The navy pay was OK, except we lived in St. Albans, and do you remember a movie by the name of *Blackboard Jungle*. That was made in the school right down the road from the naval hospital where my son would have had to go to school. That movie came out about the time that it was time to send him to first grade. So I sent him to the Solomon Schector School in Queens, which was a private Hebrew elementary school. My navy pay was not sufficient to pay for private schools at that time, so I got a job working at the Brooklyn Jewish Hospital on Thursday nights and one weekend a month, doing obstetric anesthesia. After I would finish work at the naval hospital on Thursday, I would go there and stay all night and then at seven o'clock in the morning, leave there and come back to go to work at the naval hospital. It was a long ride, but I got paid as much for that one night a week and that one weekend a month as I did full time in the navy, so it permitted me to take care of the family and do what we needed to do without borrowing money or going into debt. It turned out to be a wonderful experience because my partner on Thursday night was an Englishman by the name of Dr. B. Raymond Fink, who was a professor at Columbia University. He too, could not afford to live on his professorial salary, so he was working at night, although I do not think Dr. Papper ever knew that for many years to come, because he used to frown upon his faculty moonlighting. B. Raymond Fink was a delightful individual who was very well known in anesthesia circles. In the late 1980s, he was awarded a medal for excellence in research in anesthesiology by the American Society of Anesthesiologists. I got the opportunity to know him very well and work with him and discuss ideas and concepts with him when I was very young.

P: How did you become a member of the medical recovery team for Project Mercury?

M: I got orders to go to Cape Canaveral to learn how to recover astronauts. The Navy sent me. This was NASA and they tapped twenty-two anesthesiologists and twenty-two surgeons from the three armed forces, the army, navy and air force. The marines do not have their own medical corps, navy doctors take care of marines. I do not know how evenly distributed the numbers were between the three services. There was a total of forty-four doctors, twenty-two anesthesiologists, who received orders to go to Cape Canaveral. When we were there we stayed at the old Satellite Motel. Somebody told me it is still standing out there, but it was the only motel in town at that time. We spent about a week learning about the flight, learning about the Mercury capsule, learning how to blow the hatch on the capsule, learning how to get the astronaut out of the capsule. Got an opportunity to lay in the cradle to see what it would feel like for them. They also had prepared the equipment we would have and we had an opportunity to critique that and to add things to it. When we were

going to go out to sea, waiting for astronauts, we had to build a whole operating room on ship in the matter of an hour or two, anticipating that if they came down and had trauma or something, we would have to take care of it. After that we went back to our duty stations and waited. I got a call to go to Norfolk in 1962 because they were going to orbit the earth. There were three intermediate shots before that on the Red Stone Rocket, where they went down range but did not orbit. I did not go on those but I went on the first orbital mission. So I went to Norfolk and I remember that for a number of reasons. I changed planes in Atlanta, by that time I was in Pensacola, and Delta Airlines was broadcasting for a physician. They had somebody who had just landed an airplane and needed a doctor, so I volunteered and went. This individual had probably had a mild heart attack. I kept telling them, they need to get someone from Atlanta, I cannot stay here, I have to leave. The whole orbital flight is not going to wait for me, right? I was very disappointed in that I never even got a thank you from Delta. It was a very disappointing experience, but we finally got this individual off the plane and got him in the hands of other medical personnel and I ran to the next gate to catch my plane. I made it to Norfolk and when I got on the ship, I learned that it was the anesthesiologists who would have to go into the water to get the astronaut and I do not swim very well. The frogmen ran down to the dock to one of those salvage ships and got me a wetsuit that I could float in if I needed to, and told me, do not worry doc, we will save you right after we get the astronaut. That made me feel good. Anyway, we went out to sea, myself and a surgeon. It was interesting because I had been in the navy for four or five years, but I had never really been “in the navy” if you know what I mean. I was a doctor, I was in hospitals, I had never been on a ship and I had never truly been subjected to navy protocol. We had a delightful commodore on the ship for this group who kind of observed me and this army doctor as novices amongst the rest of the people on this little destroyer. There were protocols as to who sat where at dinner, the captain of the ship sat there and his executive officer would sit to his immediate right and the next ranking officer to his immediate left and so on. The executive officer on that ship was the one that decided who sat where and I and the other physician were told that we had to wait for the second serving. By the second serving, there was not a heck of a lot left, these people were pretty hungry. But we were invited to go up to the quarters of the commodore and play bridge one night and he said, you know gentlemen, I want you to do something tomorrow. I have watched the way they have treated you here. Dr. Modell, do you recognize that you are the second highest ranking officer on this entire ship and the army doctor, he was the third highest ranking officer. He said, you are going to teach the executive officer a little bit about military protocol. He said, you wait until he sits down and then go behind him and say, sir I think you are sitting in my seat. When he looks up at you, you ask him what his date of rank is. Here is his date of rank, he gave it to me. You tell him what your date of rank is and say, sir you are in my seat, get up, and he will probably move to left hand side of the captain. He said, then you go over to the army surgeon, and you say sir,

what is your date of rank? Well we did that and the executive officer stormed out of the room and everybody else in the room started clapping. Apparently he was not liked by the people on that ship at all. But we learned about navy protocol. It was an exciting time because obviously it was an historical event and we were part of that and probably never realized how important it was at the time. It was great. I had an opportunity to share this experience just two years ago, when Jason, my grandson, visited us. It was kind of unique because he went to the space camp in Huntsville, Alabama and from there came to visit us for a week or so. He told me about this space camp and I happened to remember, in a filing cabinet, I have the original debriefing manual from that first flight and pulled it out. He got a chance to read the entire debriefing of John Glenn when he came back to earth.

P: As it turned out you did not have to do anything to John Glenn. He did not show up.

M: No sir. He went to the third orbit and I was only on the first orbit.

P: You did not have to rescue anyone?

M: No sir. I enjoyed it and I went out a second time for the Scott Carpenter mission. That time I was on the primary recovery ship for the end of the first orbit.

P: Was this when you went to Bermuda?

M: I went to Bermuda the first time. We went there to refuel because of rough weather. I think we went to Bermuda the second time too. I was on the first orbit both times and I think that was primarily around Bermuda.

P: When you went out the first time, did this prove to you that you were a good sailor, and you did not get seasick.

M: No, I lost about twenty pounds in a period of two weeks. I have never been so sick in all my life. We were in the forward chief quarters, which is right at the bow of the ship, so every pitch and roll, we were kind of like on a teeter totter.

P: On those little ships, they did not have many stabilizers.

M: If they did, they left them at home. No, I got very sick. I did not eat for days except for a cracker here and there and spent a lot of time hugging the bowl and lost a lot of weight.

P: Did anybody laugh at you?

M: No, and my kids thought I looked great when I got home. I think the same thing had happened to everyone on the ship at one time or another. I think they were pretty tolerant. By the second time I went out to sea, I did pretty well. I did a lot better than many of the other people.

P: Have you recovered over the years so that you are a cruiser now?

M: I do not know. I have never been on a cruise ship. I am going to go on one towards the end of May. I have been invited to give the guest lecture at a medical meeting in Greece and I accepted the invitation so we are going to spend four days on a cruise ship visiting the various islands.

P: Now, lets get you into Pensacola.

M: That is kind of a story too. If you have never been in the military, you would not appreciate it. I was stationed at St. Albans and we had opened the intensive care unit there and the respiratory therapy department there, we were actually visited by a representative of the surgeon general's office and I was asked if I minded staying there for another couple of years. They would send people there to see how we did this, and I said, gee that would be great. I was interested in academics and this was a teaching hospital. Then very shortly thereafter, I got orders to Camp Pendleton, which was a marine facility in California. It was kind of disappointing, but I had always wanted to visit California, so maybe that would not be too bad. I had heard that the marines take very good care of their doctors, because if they every get hurt, that is the one person they look to take care of them. So we got prepared to go to Pendleton and then suddenly my orders were changed to go to Pensacola. I had never wanted to live in the south. The only time I had been in the south was to visit my Uncle Aaron, that was kind of nice, but the rest of it I did not care for. It was hot and humid and I came from Minnesota. New York City was too hot and humid for me. My wife hated big bugs and nevertheless, we had orders to Pensacola. I complained about them and I took my wife and three kids and we went to Washington, drove down there from New York City, to the surgeon general's office, whoever was in charge of sending the troops to various places, to see if I could not change their mind. I was told that I was going to go to Pensacola and that was it. I said, but my furniture has just been packed up to go to California. They said, no problem, we will have the truck go to Pensacola. I said, I have no place to live, he said, well you are on thirty days leave. But I do not have any clothes for the kids, he said, well why don't you go visit your folks, you will have a place to live. So I did, we went to Minneapolis for thirty days while they sorted this out and sure enough, I still had to go to Pensacola. We got to Pensacola, and I was told that when I got there, I would have the opportunity to work with Dr. Graybill, who was doing some of the respiratory and

cardiovascular hemodynamics on the astronauts, so that I could get involved with research and things like that. We got to Pensacola and our quarters were not ready so they put us in temporary quarters that were not air conditioned. It was about 100 degrees that day, I will never forget it. That was how we started out. We then got into our quarters and within a couple of days the other anesthesiologist there got orders to leave to go somewhere else. There were two nurse anesthetists, one retired, one was sent to Bethesda to have a spinal fusion, so the US Naval Hospital had Jerry Modell and no other anesthesiologists or nurse anesthetists, so that basically I was it, twenty-four hours a day, seven days a week. I never did meet Dr. Graybill until two years later when I got discharged from the Navy. I went by to say hello. I was on call practically every night. I very rarely got off the base, except our commanding officer, Captain Herb Eighmy was kind of a terrific guy and suggested I buy a boat. There was a bayou on one end of the base and a an area in the gulf you could go fishing on the other end. Once I was done with my elective schedule in the operating room, I would have Marilyn meet me with the boat and the kids at the bayou and we would take the kids water skiing. If they needed me they would hoist the hurricane flag, I would see it and come back in. If I went into the gulf, I had to tell them exactly where I was going to be fishing and if they needed me they would come out in a Navy speedboat with someone to drive my boat back and someone to take me back. There were only two or three times that I actually had to be brought back like that. As it turned out, Pensacola was a great place. We loved it and have never left Florida since. I had a lot of very interesting experiences there, built a recovery room in that hospital, which they never had before, built a pre-anesthesia clinic there out of self-defense. It was the only way that I could see all the patients. That may have been the first pre-anesthetic clinic in the country for all I know.

P: How large a hospital was it?

M: We had three operating rooms is how I would judge it, but I do not know what the patient census was. It is larger now, they built a new hospital since then.

P: You had good living quarters there didn't you?

M: We did. We lived in the old hospital. It is a bunch of wooden buildings and it was right across the street from the hospital. If you have ever been to Pensacola, there is a wall around that area that is thirteen feet high. Apparently, it was built at the time of the Yellow Fever epidemic, around the Panama Canal days and they thought mosquitos could not fly more than twelve feet high, so they built a thirteen foot wall around the hospital. Whether they were kidding or not I do not know, but there were no gates on it so they could come in through the roadway.

P: I think that was more of a story than fact.

M: It could have been, but I heard that from many people. I really enjoyed being there. I got a lot of experience and I got to know my patients and their families very well. I was the only anesthesiologist there for two years so if you had an anesthetic as a member of the military or if your kids or spouse had to have one, it was going to be me so I developed a doctor/patient relationship with families, kind of like a general practitioner would have done in the olden days.

P: Did you get off the base and get to know people in Pensacola?

M: Yes we did. It is a nice community. Somebody from there, who owns a kitchen supply house, I just saw somebody from Pensacola and they ran into them and they asked how we were and this is what, thirty years later.

P: What were your responsibilities in Pensacola? You said that you were the only anesthesiologist at the naval hospital in Pensacola?

M: Yes, except for the first two weeks I was there. That meant that I was it, full time. If you were going to have an operative procedure, I had to be there to alleviate your pain, so to speak. After awhile, they did send me one nurse anesthetist on temporary duty orders to help me. Obviously a nurse anesthetists could not do everything an anesthesiologist could, so I had to be available virtually all of the time. If I ever left the base, I had to let the operator know where I was so they could find me. Those were before the days of pagers and cellular telephones.

P: So you took care of sailors and their families?

M: And retired people. There are a lot of retired military in Pensacola. People who were retired were eligible for care.

P: What happened to your boat after Pensacola?

M: I took my boat to Miami when I moved to Miami. I brought it to Gainesville and we had a boat here. I had a boat probably until about 1980. It seemed every time I went to put my boat in the water, it would not start. I would have to haul it back in and take it in for service. Then I would not have time to take it out again until three or four months later and by that time it would not work again. So I finally decided that I probably would be much better off, that if I ever wanted a boat for a week, to rent one. Around the 1980s I gave my boat away, literally, and have not had one since.

P: Anything special that went on in Pensacola?

M: There was one event that probably changed my life and that is, I had the opportunity to treat a physician who was there as a flight surgery student from Japan. He was doing underwater swimming and had swam about two and a half lengths of the pool and stopped and was pulled out by people who were at the pool and they tried to resuscitate him. They brought him over to the hospital and I was called in immediately. He was unconscious and obviously in very dire straits. I treated him for the next several days and ended up ventilating him, breathing for him mechanically. I actually set up a mini intensive care unit. We did not have one at that time.

P: What had happened to him?

M: He was swimming underwater and people used to be in the habit of hyperventilating, breathing in and out very rapidly. When you do that, you lower your carbon dioxide to a very low level so you can hold your breath for a longer period of time. Carbon dioxide is what stimulates you to breathe. They swim underwater and their carbon dioxide level is too low to make them want to breathe and then by the time they get an urge to breathe because their oxygen in their blood drops, they still feel that, if I can only hold it another couple of strokes, I can go further than the last person, or reach the end of the pool. During that short period of time, their oxygen tension drops to the point that they lose consciousness, so they become unconscious and start breathing water and drown. This is called by some the hyperventilation syndrome related to drowning, by others it is called shallow water blackout. It was first described in the early 1960s.

P: Had you ever had any experience like that before?

M: No, I had never seen a drowning victim before. I had never read about it.

P: But you obviously knew exactly what to do.

M: What to do is to support the individual, to breathe for them, to support his vascular system and to treat him. This was in the days before we had intensive care units, before we had much of the equipment that we have today. Now, for example, we take a sample of blood and know how much oxygen is in there, carbon dioxide and so on. That type of equipment was not available then. What we did was, I would draw blood from him, and take two tubes of blood, cap one tube and another one I would bubble oxygen into so it would turn a nice bright red. I then took a venous blood sample from one the nurses, so I knew that her blood had an oxygen tension of about forty, my tube that had oxygen bubbled thru it had an oxygen tension of about 150. I would hold the two tubes up to the light with the patients' blood and try to figure out where he was in

relation to the other two. He should have an oxygen tension of about eighty to one hundred. If his blood was too dark, for example, I had to give him more oxygen or ventilate him more. If it was very bright, I could cut back on that. So we treated him, we had some exciting moments. Part of the time I had to breathe for him by hand with an anesthesia machine, squeezing the bag. We had the only respirator, I think in town, or maybe in the whole Panhandle in those days. The exhalation valve stopped working and we had to fly it up to Atlanta to get it fixed because there were not local dealerships at that time. I had to continue to breathe for him by hand until it was repaired. To make a long story short, he woke up a day or two later, subsequently recovered and went back to practicing surgery. As far as we know, he had no permanent damage at all. That was what stimulated my interest in drowning which subsequently led to a whole career of research.

P: You have done a lot of papers on that I have noticed.

M: Yes, I have probably written more on drowning in the last quarter of a century than anybody else in the world.

P: You are probably recognized as the authority of that on the basis of your research activities.

M: That is true. If you look at the wall over there, you will find at least two times that I was the keynote speaker at the International Lifesaving Organization meeting. They meet every four years.

P: Has this become a major research area now for others?

M: Not so much for others. The work that we did was sponsored by NIH, I got a grant from them and I got a Career Development Award from them. What we did even twenty years ago is still very current. I am very pleased to say that when we started this in 1963, the death rate in this country from drowning was about 1 in 75,000. Now it is about one in 37,000, so the death rate has dropped by 50 percent. To say that it is all due to my research, I could not do that. Obviously cardiopulmonary resuscitation plays a significant role, but I think the recognition of what the problems are and the appropriate treatment with CPR and the hospital treatment has gone a long way to improve that.

P: Is this part of the academic curriculum now at the medical school?

M: Research wise? I do not think there is anybody doing research on drowning specifically at this point. Obviously we teach it to medical students. It is part of the curriculum.

P: Now you begin to think about returning to real life. To become a civilian again. Why didn't you stay in the Navy, it had been pretty good for you?

M: Well, the navy was very good to me, I am very grateful for all the opportunities I had. If I could have been in an academic environment, I probably would have stayed in the navy, but there was no assurance that I would be in an academic environment. The navy sends you where they need you when they want you.

P: And you were not able to do much research in Pensacola.

M: Zero. I had neither the equipment, the space or the time. If I was going to do research or teach I would have to do it in civilian life. There are some teaching hospitals in the navy, but they usually rotate people in and out. My next rotation could have been out to sea or could have been to a small base somewhere or it could have been to a major teaching hospital.

P: Did they try to persuade you to stay in?

M: Yes, I got a visit from somebody from the office that assigns people to various places.

P: Are you now going back to the life that Dr. Watson had planned for you?

M: Yes, but in a different speciality. My association with the military did not really end there. It ended with the navy, but I subsequently spent ten years as the civilian consultant to the surgeon general of the air force in anesthesiology, so I had the opportunity to continue to contribute.

P: You went from Pensacola to Miami? How did that happen?

M: Yes. When I was a resident in New York, I mentioned to you some of the professors that we had that were at the universities. Dr. Papper, who was at Columbia, had offered me a position there as faculty as had Dr. Orkin at Albert Einstein. I was just about ready to accept the position with Dr. Papper when one of his faculty members, Dr. Frank Moya had been named the chairman of anesthesiology at the University of Miami. I knew him from Columbia. He was a junior faculty member when I was a resident in obstetric anesthesia. So Frank contacted me and tried to recruit me to the University of Miami and he knew that I was probably going to New York. I decided that I would join him at the University of Miami.

P: Did they recruit you or did you write letters looking for a job?

M: No, I have never written letters for a job in my life. Things just kind of happen.

They were recruiting me. This was an opportunity to get in on the ground floor, to start a new department and have some responsibility in establishing an educational program, so I accepted that.

P: The medical school there was not very much older than Shands?

M: You mean the University of Florida College of Medicine? No, I think they were open within the same year.

P: There was a big rush to see who would be the first.

M: I think Miami claims to be the first, but I do not know if it was within a few days, weeks or months.

P: Anyway it was a new medical school also is the point I was trying to make, and a new department that you were becoming a part of.

M: Well, there was a department of anesthesiology. That department completely disintegrated. When I got there, I was one of three faculty members. This was a 1,300 bed hospital.

P: The hospital precedes the school I believe.

M: Oh yes. Jackson Memorial Hospital had been there a long time. It was the city, county hospital obviously. That facility is about the size of Shands and the VA put together.

P: Why had they not had an anesthesiology department earlier?

M: Well they did. Dr. Gerard Converse was the chairman of anesthesiology. They did have a department. But in the early 1960s the University of Miami went through a lot of turmoil in regard to all of their departments. For example, the chairman of surgery turned over the same year that I got there. Dr. W.D. Warren came as the chairman of surgery the same month I came in anesthesiology. I think the fellow who was the chairman of surgery either left or was fired. The chairman of anesthesiology became the acting chairman of surgery as well as the chairman of anesthesiology. This was a very stressful position for him and he was hospitalized with bleeding ulcers, so he resigned and he went into private practice in Winter Haven, Florida. The chairman of pediatrics turned over that same year, the chairman of internal medicine turned over within a year, there may have been some others, but this is a very major change in the direction of the medical school.

P: As I recall, the 1950s and 1960s were a time of financial turmoil at the University

of Miami?

M: That I do not know, because the finances of the medical school in a university, to me as a medical school faculty member, seemed to be separate. That may have been or may not, I have no reason to know what the interaction was. Basically medical schools bring in their own money, even here, when I first came here in 1969 as chairman, about 50 percent of our budget was state funds. The department was very small. When I stepped down as chair in 1992, less than 7 percent of our budget was state money. Clinical departments and particularly the surgically oriented ones, are very dependent on the generation of their own revenue.

P: Down in Miami they were not getting very much state funding at all, perhaps a little bit, but there was also a hospital for the indigents wasn't there?

M: Yes, they had one private wing, but there were a lot of indigents there.

P: So it seems to me the amount of money the hospital would take in to meet expenses would have been very limited from those relatively few private patients.

M: Yes, but there also was a substantial amount of support from the county for the hospital, unlike Shands which receives no money from Gainesville or Alachua County. Jackson Memorial Hospital is a budgeted item for Dade county. I do not know enough about their relationships to be specific.

P: Sinai was in operation already wasn't it?

M: Mount Sinai Hospital was in operation on the Beach. Cedars of Lebanon Hospital opened shortly after I got there. St. Frances was small. Sinai was a large operation and had teaching programs in it too.

P: It was getting a lot of private support because of the Jewish community. The reason that it came into existence was because the Jewish doctors could not get the recognition that they needed at the other hospitals. Of course a Jewish doctor settling in Miami after World War II could not always get hospital privileges.

M: I know at St. Frances they could not.

P: By the time you got there in the early 1960s a lot of this is past history.

M: They had new young chairmen in most of the key departments. I think there was a certain amount of optimism I think for the future.

P: How much research did they say they were going to let you do?

M: Well, I really did not know. When I got there, we were obviously very busy clinically. I had a half a day a week that I could devote to research. No lab, we had no space. The way I actually got started with doing research was I had these ideas about drowning and doing work there. I had no money to do it with, I had no space to do it with, and I had no help. I applied for an NIH grant which got turned down, which is not unusual the first time you apply for it. They do not know you and do not know if you are capable of doing anything. So I applied to the United Way of Dade county and I got a $1,600 grant from them.

P: It sounds like you were not much better off than when you were in Pensacola as far as research was concerned.

M: Oh yes, I was better off because I went to the chairman of the department of surgery, who did have a lab and I said, Dr. Warren, I want to borrow your lab for a day to see whether or not my thought will work. So I got a little money from the Dade County United Way, which gave me enough money to get a few pieces of equipment and animals and so on. We did an experiment that we thought would last a couple of hours and then our experimental model would die, but it did not. That then led to questioning why we did not lose our animal, whereas the work that other people had done was pretty much a terminal type of experiment and we then tried to equate that with what you saw in humans. As we measured the various things in the blood of the animals, it was very much like my patient, which was very different than what had been described in the literature. I then reapplied for an NIH grant and I was successful in obtaining one. That gave me the opportunity to have a funded secretary and three funded technicians and some equipment. We were then assigned a laboratory and that was the beginning of my independent research career.

P: You had patients there also, both the indigents and private patients?

M: Yes, we took care of both and I was involved in the care of them in the operating room obviously. I was also interested in intensive care and respiratory therapy from my previous experience at St. Albans. So I reorganized the respiratory therapy department and started a very large department from a very small one and there are a number of stories to go along with that too. I also built the first intensive care unit at Jackson Memorial Hospital.

P: What is this inhalation therapy service?

M: That is now called respiratory therapy. In those days it was called inhalation therapy. The way I got into that there was that the hospital administrator was very concerned because the doctors were starting to order a lot of therapy for patients with respiratory problems. We had only one registered respiratory

therapist. That may sound like, my goodness, why don't we have more? There were only three in the whole state of Florida. There was one in Orlando, one in Gainesville, and one in Miami. Then we had about a half dozen people who worked in the department who primarily would push oxygen tanks from one room to another. We had very little equipment. I was asked to look and see what they had and to talk to the doctors so they did not order it so much because we did not have the people or the equipment to maintain it. When I did the survey, clearly we had a very large patient base who desperately needed that type of therapy, but we had neither enough people or equipment to be able to supply it. Rather than talking to the physicians about not ordering this, I ended up talking to the hospital about increasing the size of the department. The hospital did not really know how much equipment it really had. It was all over the place. So we collected every piece of equipment that in any way, shape or form could be used to help breathe for someone or administer oxygen or anything like that and formed truly a respiratory therapy department, one of the first such organized departments in the country. We published our experience in one of the key respiratory journals based on several hundred thousand cases. We then needed more respirators and did not have the money to purchase them. I arranged for us to rent them from Dr. Forrest Bird, who had been in the military, and had been a pilot, was a physiologist and who had developed a demand breathing valve for use at high altitude. The military was really not interested in that, so when he got out of the military, he opened his own little factory, and started building respirators to treat patients. He agreed to rent us ten respirators at a rental price of one tenth of the purchase price per month. At that time, I think the purchase price was $396 apiece. We rented them from him and started treating patients and obviously we improved the quality of care. A few months went by and I talked to Dr. Bird and suggested to him that once we had paid enough rent to cover the costs of the respirators, he should give them to us. They had not done that before, but he had donated equipment to underdeveloped countries in South America, and I suggested Miami was an undeveloped country compared to New York, so he agreed to do it. He said that once we paid the purchase price, plus whatever the interest that money would earn, he would give them to us. We ended up paying around $430 dollars apiece. They turned them over to us and the next day I got a call about six o'clock in the morning from the hospital administrator, absolutely furious. Have you read the headlines in the *Miami Herald*. No, I had not. Well go get your paper. I read it and it said, "JMH overpays on ventilators." Apparently what had happened was that one of the competing equipment distributors in town had notified a reporter at the *Miami Herald*, that indeed we had paid $430 when we could have bought them for $396, if we had paid for them up front so there must have been something shady here. That resulted in my having to do a study for the county commission, which I did. How many patients we treated, how much money we collected from treating them, how many lived and died and so on and of course, we had made several hundred thousand dollars for the hospital, there

were people who were alive who probably would not be otherwise. When we gave this report, there was a little tiny thing about the size of a want ad in the middle of the paper, saying congratulations. That is how I got introduced to the press and I have been interviewed on national television and the radio, I have been interviewed by some of the leading magazines in the country since, but I never enjoy it and I always ask whether I can read and edit what they write. I have gotten to the point where, if they will not let me do it, I do not like to talk to them. I tell them, I am not going to edit for style or anything else, but certainly for accuracy, because they will print what they want. They will interview you for an hour and print about two minutes of it and on television they take one sentence out of context and that is it.

P: What is the blood gas laboratory?

M: I mentioned to you that when I was in Pensacola, we did not have the equipment yet to be able to measure the amount of oxygen or carbon dioxide in blood. When I got my NIH grant I purchased an IL113, a blood gas machine, one of the first ones ever made. It enabled you to take a little sample of blood from a patient and to be able to tell what the tension of oxygen and the tension of carbon dioxide was in the blood. I had asked the hospital to purchase such equipment so that we would be be able to do this on patients. It was something new and they said, no. They did not have the money to do it and a lot of people did not think it was terribly important. There was a blood gas laboratory, which is what it was called, started at Massachusetts General Hospital by Dr. Myron Laver, that did exactly what I wanted to. I knew Myron quite well, we got to be very good friends and I wanted to start that at Jackson Memorial, but I could not get the hospital to budge. So what happened was, if we had patients that had respiratory difficulty, we were requested by some of the physicians to measure the oxygen and carbon dioxide and pH in their blood, in our animal laboratory. I had the machinery for animals because the NIH got it for me. So we started doing that and it got to the point where we were being requested more and more. So, I went back to the same hospital administrator and suggested if he could not afford to start the laboratory, if he would give me a room, I would charge the private patients and I would charge him for the indigent ones and I would buy the equipment and get the people to start it myself. I guess he very rapidly realized that I would not take my hard earned money and donate it to the cause, so he figured we would make money on this, so he gave us the equipment and the people and we started it and indeed it was successful from day one. These types of laboratories are in hospitals all over the country now.

P: How much teaching did you do at Miami?

M: I was in charge of the medical student curriculum and the resident curriculum for the department of anesthesiology. I had the opportunity to design the teaching

programs for both medical students and anesthesiology residents. The amount of personal time I put in on it, it is a little different in medical school than it is on a main campus, in as much as anytime I had a patient, I had a student with me, so that everything I did or when I was in a research laboratory, I frequently had students with me. I cannot give you a percentage, but virtually everything I did was involved with teaching while I was doing something else, so it was virtually 100 percent of the time.

P: Where were you living in Miami?

M: We lived in Coral Gables. A delightful community when I lived there. I will never forget, the first year we were there, Chuck went to Coral Gables High School and we went to the Coral Gables versus Miami High football game at the Orange Bowl. There were over 45,000 people there on a Friday night. The next day we went to the Miami-Notre Dame football game and there could not have been 20,000 people in the stands. Those were the days before the Hurricanes became national champs, nobody came to watch their ball games. But high school football was very big and Coral Gables was like a city within a city.

P: You were living in a Jewish community again in Miami. Unlike Pensacola.

M: True. I even had a chance to contribute to the building fund for the temple there and then left about a year after the building was built. That is the story of my life.

P: But it was a different kind of community living for your children I suspect.

M: Very much so.

P: OK, you leave that part of your life and come to Gainesville, to Gatorland. What brought that on?

M: I was asked to interview at four different universities. They wrote to me and asked me to interview for the position of chairman of their departments. The first one I went to was at Albany Medical College in New York. I was very flattered because I had only been in academics for a period of about five years at that time. I went up to Albany, got there in the wintertime, February. There were snow banks, but they were kind of black from the soot and the slush. The Albany medical school was not doing very well financially and their anesthesia department was virtually nonexistent. I decided that I did not want to spend my life that way. The next one I went to visit was Boston University. The chairman of the department of surgery was one of my teachers in medical school, who I respected a great deal. But there too, anesthesiology was a division of the

department of surgery. It was not a separate department and I felt very strongly that if it was going to be successful, one has to have a separate department and have equal stature in a medical school with all the other departments. Then I was asked to visit at Washington University at St. Louis at Barnes, which is a very prestigious university. There too, I did not feel they were ready for me, so to speak. I had much more grandiose ideas than I felt they were willing to support. Then in November of 1968, I was asked to visit the University of Florida. Dr. J.S. Gravenstein, who had been the first chairman here accepted a position at Case Western Reserve University and was going to leave in July. I flew up here on a five passenger plane. There were two passengers, remember Ralph Renick the TV commentator? He and I were on the plane and we must have made four stops on the way here. I could have driven here faster. He was sitting in front of me and turned around and said, well I have to go up there to cover the football game this weekend, but why would you fly to Hog town? I thought well, maybe I am making a mistake, but we got here and I found that having a medical school on the main campus, provided opportunities really, for research between very, very basic core scientists such as in engineering, with clinical scientists in medicine. I met some people here and nurtured that a bit which became very important later in the department. As I met many of the chairs here in the various departments, there was an emphasis on youth, people were not selfish and they were willing to work together. I ran into some people who I knew, Jerry Scheibler [Dr. Gerold Ludwig Scheibler, UF, department of pediatric cardiology, 1960-present], who was then the chairman of pediatrics. Jerry was an intern on pediatrics when I was a junior medical student at the University of Minnesota. Our faculty member assigned to the two of us was Dr. Richard Smith, who by then was the chairman of pathology here at the University of Florida. So there was a certain camaraderie here and also it was a very small department. I was concerned that if I went to a large department, that I would have to give up my research. I thought that I could continue to do research and teach and still administrate the department here. As things would happen, I thought about this and went back home. This was the crossroad in my professional career. In January of 1969, both Manny Papper [Dr. Emanuel Papper] and I were going to give post graduate courses on one of the islands in the Caribbean, I do not remember which. He had just interviewed as a dean candidate at the University of Miami and I had just come back from interviewing for the chairmanship here. Our plane was delayed for a couple of hours so we sat in the Miami airport talking and Manny never told me what to do, but he is the kind of fellow that once you get done talking to him, you know what to do. He has done this with countless people that I know. Many of his former students are chairmen all over the country in anesthesiology or deans and so on. So by the time that was done, I decided that if they offered me the position here I would accept it. A month later in February 1969, Dr. Emmanuel Suter, who was the dean at that time, called me and told me he wanted to talk to me about becoming the chairman of anesthesiology, which I did.

P: Were they offering you more money than Miami?

M: Yes, but that was not important.

P: What were you getting in Miami?

M: I was on a Career Development Award, so my salary was frozen at $25,000 and that was my election, not the university's and I think as a chairman here, I got $42,500. If I were not on a Career Development Award, with my same rank at Miami in the clinical track, I could have gotten that anyway. This was the least amount of money I had been offered anywhere to come as a chairman, so I certainly did not come to the University of Florida for financial reasons.

P: It was a challenge to you.

M: It was a challenge to build a different type of department, an interdisciplinary department.

P: Was Marilyn and the family happy about coming to a small town again?

M: Yes, there was no resistance there at all. They were very supportive. I have been very fortunate. I have had two wives, both have been supportive of my career. Neither one ever complained.

P: Your children did not mind leaving Miami and their friends?

M: No, I think Chuck may have had second thoughts because he was going to be a senior in high school, but for the most part, I do not think they resented that at all.

P: Get back to the challenges or the things that attracted you here.

M: The thing that attracted me here was a true university community. The medical school was on the main campus so that there was opportunity for interaction with the main campus and the people on the main campus. It was small and new, but the smallness appealed to me because in my speciality you cannot always control your load of patients, your clinical load. They are brought to you by somebody else, by the surgeons. So if the patient load was very large, it may not have left much time for the faculty to do other academic things. At that time we were only running seven operating rooms at Shands and one at the VA so I thought that I would have the opportunity to get well established, to continue my research and to grow with the department. As it happened, within a month or two of the time I got here, we opened two more operating rooms at Shands and then three more operating rooms, and then two more at the VA, so that did not

last too long.

P: So the smallness that had helped to attract you did not last very long.

M: No. When I came here we had either six residents and seven faculty or the other way around. One secretary and three laboratory technicians, two of which I had brought from Miami. When I stepped down as chairman twenty-three years later, we had about forty-five or fifty faculty members, about eighty residents and fellows, an office staff and research staff of about seventy people, so we had 200 people or more in the department. What started out as a very small department, ended up as one of the largest departments in the country.

P: When you came, were they still doing the business of a lot of indigents and referrals?

M: Shands Hospital was never created as an indigent hospital in the first place. However, not everybody believed that so we got sent more than our share. We were on a referral only basis, when I first came.

P: So you could only come if a local doctor had set it up for you, you just could not come in as you can today.

M: Correct.

P: Would you say that there was a large number of indigents in the hospital?

M: To tell you the truth Sam, I do not know. Let me tell you why. I have always felt very strongly that a patient is a patient, that the standard of care that I, my faculty, and my residents give to a patient should not be dictated by their ability to pay. Since we do not bring the patients in, then every patient that someone else brings into the hospital, that needs our services, my residents and my faculty never could tell you whether the patient had insurance or not, whether they were a banker or they were a derelict or anything in between. I was very proud of that and to a great extent that has continued to date in anesthesiology. Obviously, as I got the reports as a chairman of what percent were indigent and what percent were not, I might go to a surgeon and say, look we are going to go bankrupt if you do not bring in more people that can pay their bill, but that is kind of an overall view and a generic thing. For a specific patient, once they got in here, they got the same treatment whether they were indigent or not, so I never counted. As long as we had the resources to take care of people, we were fine. It is only when resources get tight and you look for new streams of revenue that it becomes important.

P: Where were you located in the facility?

M: My offices were on the fifth floor of the medical sciences building.

P: Were you happy with the space that you had?

M: Yes, but we very quickly ran out of space. The department grew very quickly.

P: Why did it grow so quickly? The population growth of Florida was continuing during the 1950s and 1960s.

M: Also, we started doing things that had not been done before. We did things that were not necessarily thought of as traditional anesthesia. For example, we ran the respiratory therapy department. Departments of anesthesiology do that in some places, in other places pulmonary medicine does it. We started and ran the surgical intensive care unit. The critical care medicine division of Shands Hospital has been run by anesthesiologists since I came here. That is not necessarily done in all departments. Dr. Gravenstein's emphasis was operating room anesthesia, my sub-speciality was critical care. We then in 1970, opened the pediatric intensive care unit, which in most hospitals is run by the department of pediatrics. Here it is run by the department of anesthesiology in conjunction with the department of pediatrics, but the faculty, the residents, the fellows are all hired by anesthesiology. We established the hyperbaric medicine facility here because of some close ties I had with Captain George Bond who was the head of the Man in the Sea Program in the navy. That requires additional people. We started a pre-anesthetic clinic which was something new and different at that time. We became the medical directors of the post-op anesthesia care unit, which takes additional people. I also felt that we should participate in the administration and the oversight of many other things in the hospital related to us, like cardiopulmonary resuscitation, like emergency medicine and things like that. So the scope of the department grew to the entire span whereas before I came here, it was pretty much limited to anesthesia in the operating room for surgery. The other thing is our business grew. The surgeons brought in more patients that needed care so we were driven by that. The third thing is, we established an educational program to meet the educational needs of our students, not to be driven only by the patient caseload. So that when our residents were in training, we did not figure out how many residents do we need to take care of the patients, we figured out how many residents do we need to give them a broad education. If part of their residency is a month doing something new and different, not related to patients, we expanded to do that. As a result, we ended up with what was thought to be one of the best, if not the best residency programs in the country. People all over the country applied to the program. We had over 1,000 applicants per year for residency at that time. Our residents scored above the 90th percentile every year on the National In-

training Exam. That means we were in the top 10 percent of the country year after year after year. We emphasized academia, we emphasized research, we emphasized education. During the twenty-three years that I was chairman of the department, we published 2,733 papers, abstracts, and book chapters. For twenty-three years in an anesthesia department, that is a lot of publications. We graduated over 400 anesthesiologists that were residents and fellows in our department. It was one of the largest teaching programs in the country. I think there were fourteen of my former residents and junior faculty members, that ended up as department chairs in major academic institutions. That in itself is unusual. Our goal was for excellence in all areas of academia and we had fun doing it. In the beginning, the department was kind of like a family and we worked together, we shared what we had with each other. It was an esprit-de-corps that you do not find these days. I notice now as I am going back to clinical medicine after being exclusively in administration for six years, it is not the same. There is not that same feeling of esprit-de-corps. People would rather hold their ideas to themselves for fear someone will steal them, rather than share them with someone else so there is mutual benefit. It was a different time and a different climate.

P: It seems to me that what you are saying here, is one of the main reasons that attracted you to the University of Florida's Medical School, was that it was small. But you are responsible for growth and enlargement.

M: But I told you it was small so I could grow with it. In other words, I did not inherit 100 people with problems. The worst thing to me would be to go as a chairman at a place where 100 people each have their own agenda and all they do is bitch and complain all the time. I inherited a few, very good, very loyal people. Then I tried to recruit new faculty that just finished their training or just got out of the military, but had not been in another academic department. It is interesting, because when I started here, I would get calls from very senior faculty from other places, they wanted to apply for jobs. I figured that if you had been there that long, and you now want to leave, what is wrong? You are unhappy about what they have for you? I probably cannot even give you as much as they do. I would rather start out with a young person, who is just thrilled to be here, who has got a lot of bright ideas, who is not old and tired, who is not cranky and looking for what is wrong with the world, but rather to build what is right for the world. And to give those people the opportunity and the responsibility to build something of their own, that they can have pride in and they can put together. I have always said that if I have been successful, and people think that I was really a good chairman, it is because I could select good young people with drive and motivation, that were better than I was, that could make me look good. If there was someone that I was concerned that they might be better than I was, I wanted that person. I know many chairs who would not touch people like that for fear that maybe they would not look as good. I have always said, if you have got

somebody who is better than you are and you give them the opportunity and the growth and development, that is success in academia. That is our job. It is a bit of a different attitude I guess.

P: The things that you are saying now, about your attitude towards recruitment is almost exactly what Dean Harrell said. When he was building the first faculty, he was looking for young people who were just on the cutting edge. Young people who did not have a long career. He wanted them to make their careers here in Gainesville, at the University of Florida.

M: That was very similar. The first couple of years, the people I recruited, not necessarily in any order, Dr. Dinesh Shah is a good example. Dinesh is a biophysicist in chemical engineering, a surface chemist. That first year, what I needed was people to take care of patients. What was I doing hiring a Ph.D., who the only things he knows about patients is when he gets sick, he goes to the doctor. He was a fellow from India, who got his Ph.D. at Columbia University and was on the faculty at Columbia as an instructor and who was interested in pulmonary surfactant, which is something I had published on. He contacted me and he seemed to be very bright and with Dr. Robert Walker in chemical engineering, I hired him in 1970. Dinesh went on to be one of the foremost international authorities on surface chemistry. He won the President's Scholar or Teaching Award at the University of Florida when Steve O'Connell [Dr. Stephen C. O'Connell, UF, president, 1967-1973] was president. He won it when Marston [Dr. Robert Q. Marston, UF, president, 1974-1984] was president, he won it. When Criser [Dr. Marshall M. Criser, UF president, 1984-1989] was president, he won it and he was the Marshall of the Blue Key homecoming parade under Lombardi [Dr. John V. Lombardi, UF, president, 1990-present]. He was named the Scientist of the Year by the Florida Science Foundation for two years of the time he was here. He attracted several million dollars in grants. He was essentially drafted to be chairman of the department of chemical engineering, when Dr. Berry, the old chairman was killed in a plane crash, which he agreed to do for three years and three years only. He did and now he is back to teaching and doing research. There was Dr. Charlie Gibbs, who is now the chairman of anesthesiology at the University of Colorado Medical School and who has been president of the Society of Academic Anesthesia Chairman. Dr. Shirley Graves, who did not go on to be a chairman, she went on to be my wife, but certainly had that capability and is a national leader. She was the first woman ever to chair the Annual Scientific Meeting of the American Society of Anesthesiologists. She is on the ACGME Residency Review Committee, on the Foundation for Anesthesia Education and Research and things like that. Dr. Bob Kirby, who went on to be chairman of anesthesiology at the Tulane University. Dr. E.F. "Bud" Klein, who is currently chairman of anesthesiology, University of Arkansas. I can go on and on. This is just the first class of recruits. Dr. John Downs is another one who was president of the Society of

Critical Care Medicine and is now chairman at the University South Florida. So out of the first class of recruits, almost every one of them went on to be national leaders.

P: Were you criticized for not recruiting more women, for not recruiting more minorities? I suspect there were not many blacks in the pool then.

M: Let me tell you. Well there still are not. There are very few blacks in academic anesthesia. Let me tell you a story about that. I do not remember what the year was. I am going to guess it was probably mid-1970s. Whenever it was, the first year that this became a real thing at the University of Florida, to recruit more minorities and in Tigert sent questionnaires to all the chairs in regard to the number of women and blacks and this, that and the other. At the bottom you are supposed to come up with, for your department, what is the minority, and what are your plans to recruit more people than that. I filled that out and I do not remember the exact numbers. I think I had two Filipinos and I had three women and two or three Jewish people and a couple of Catholics and Dinesh Shah is Indian. It came down to the bottom, the minority was Charlie Gibbs, the only Anglo-Saxon American Protestant in the whole department. I wrote back to them and told them that I thought one was enough. What are you going to say? I have always recruited minorities. Initially the number of blacks in academic anaesthesiology, were Dr. Mel Wyche, who was chairman of one of the departments in Philadelphia, and Dr. Clyde Jones, who was chief of anesthesia at the naval hospital at San Diego. Those were the only two blacks I knew in academic anesthesia. I called them and asked them, do you have any friends? They laughed and said, Jerry, there are not any. You take a young black person, and you take them out of an impoverished home life and you give them a residency where they can go out and make up to $400,000 a year in private practice, or you offer them $60,000 as an academic, where are you going to find them? That was true, as far as women were concerned, the first group had Drs. Dina Saga and Shirley Graves. We only had twelve faculty members. Then I recruited Dr. Laurie Davies, I recruited Dr. Betty Grundy. I have always recruited women on the basis of merit, not on the basis of sex. The other thing is, if you look at the Department of Anesthesiology and our salaries when I was chairman, the second highest paid person in the department was a woman. They were all scaled according to rank and accomplishments.

P: Were you able to sell that argument? The feminists bought it?

M: Yes. I have always had excellent relationships with Dr. Jackie Hart. If I have had special situations, I have called her and we would work them through. I have never had a problem.

P: She is now the associate provost.

M: Yes, I saw that. I have always recruited people on that basis. As far as women in anesthesia, there were not a lot of them when I started in academia. One of them was Dr. Dola Thompson and she was chairman of anesthesiology at the University of Arkansas. I do not know if you remember, but in the early 1970s, tied to the legislative appropriation was a thing that said you should not call yourself chairman, you should be chairpersons. I changed all our stationary. I went from being Jerome H. Modell, M.D., Professor and Chairman to Jerome H. Modell, M.D., Professor and Chairperson. I had to write to Dola about something and I got back a letter from her saying, “Dear Chairperson.” She said, I am the chairman, underlined man, at the University of Arkansas and I am proud of it and I hope some day they give you your gender back. Another person that I knew was Dr. Virginia Apgar, a very famous woman from the Apgar Score and the National Foundation for Children's Birth Defects. She is deceased now. She had been chairman at Columbia before Manny Papper. The person who was chairman of Boston University, Dr. Marcello Willock, took the job I turned down, is the only black woman, anesthesiology administrator that I know of in the whole country, so there really were not that many people in those days to do that. But I do not think I have ever been accused of not looking at minorities.

P: One of the things that attracted you to the campus was the relationship that the medical school had to the rest of the university. Of course, that is another thing that Dean Harrell talked about in his interview, how anxious he was to have the faculty become part of the larger university and its students take courses "up the hill" as he put it. The medical school faculty participating in all the activities of the campus, serving on committees and all of those things, but that did not really happen. By the time you got here, it was two separate communities.

M: We have had a lot of relationships with the College of Engineering. We have people with joint appointments in chemical engineering, electrical engineering and mechanical engineering. If you read the *Engineering Quarterly* magazine, about three months ago the front page was the anesthesia simulator, built in our department by engineering students that I paid their stipends and they got their Ph.D.'s while in our department, working with our faculty. The biomedical engineering course that now is being done, most of that is funded by the Department of Anesthesiology.

P: But you see the point I am trying to make. I think that Harrell envisioned that as being something more than those kinds of relationships. It may be that the campus was smaller, the medical school was smaller, but it is true that today, 1998, and throughout the 1970s and 1980s, you had the medical school here, down in the valley, and the rest of the university up there. Have you ever served on a university wide committee?

M: I do not think I have been asked to.

P: The question I asked you is the question I have asked everybody here, and almost everybody says the same thing, they have not.

M: I have just been appointed to the universities's evaluation committee for travel RFP, but I expect that is because I started this in the medical school. Within our department we had people with joint appointments in other colleges and in other departments, which again I think, contributes to some of the success of the department. We had faculty in anesthesiology with joint appointments in internal medicine, pediatrics, OBGYN, surgery, neurosurgery, veterinary medicine, pharmacology, chemical engineering, mechanical engineering and electrical engineering.

P: You have had a lot of cross over within the medical college.

M: And within the other colleges in the Health Science Center and within the College of Engineering.

P: As I say, this is not what Dean Harrell envisioned in the 1950s which did not happen by the end of the 1960s or 1970s.

M: I think part of the reason for that is that as the place has gotten so big, there are so many other demands on your time. Even now, it is a different world now than when I was chairman. Some of the young faculty have so many purely clinical demands on them to bring in enough money to keep the medical school afloat, they do not have time to do the academic things that we did when we were younger. There is a reason for that. I think in a way it is their own fault, in as much as they demand high salaries. To do that, you have to bring in money.

P: Do your students come here as freshman, or do they go to the university first and take course in history and English and then come to you?

M: They come to us as medical students. They have already had four years of college. The residents already have an M.D. degree.

P: What were your teaching responsibilities? Or were you just filled up with being an administrator?

M: As the chairman of the department, I was the program director for anesthesiology, so I had the ultimate responsibility for the entire residency program and also for the medical students. I had people in the department that were assigned to organize those things, but I guess there are hands on chairman or hands off chairman, and I guess I try to be a hands off, but I always know

where the hands are. I would appoint people to put together the medical student curriculum for anesthesiology, but it never went out until I reviewed it, until I talked with that person, until I gave them my thoughts on it, until I critiqued it, so that I always knew what was happening. Same thing with the residency program. I knew what was happening at all times and I probably influenced a lot of what they did with my own thoughts and ideas.

P: Did you actually go into a classroom and teach a class and grade papers and give exams? Right from the beginning?

M: Yes, sir.

P: Have you continued that over the years?

M: Not in the last five years. I tried very hard to maintain my ties to students, research and clinical work in the last two years. However, being the executive associate dean and the interim dean, in a time when the medical school was in terrible financial trouble, you cannot do it.

P: As chairman, did the administrative responsibilities overwhelm you?

M: No.

P: But it took a lot of your time, to interview and find these people.

M: It did. Everybody develops their own style. I come to work very early in the morning, I stay late, I work on Saturday and Sunday. I may work here or I may work at home. I sometimes wake up in the middle of the night, getting an idea, and I dictate it into my pocket dictator or my dictating equipment is hooked up to the telephone. I dictate driving to work, I dictate driving home. I now have responsibilities in Jacksonville and I dictate in both directions. I try to utilize my time in that way, that when I am doing something, or have something to be done, I get it done. My desk is clean, it is clean every day. If something is in my office more than twenty-four hours, it drives me absolutely up the wall. So I get everything answered, no matter what it is. The things I do not do that with, like if I am writing manuscripts or papers, I keep them in my briefcase so that if I suddenly have a few hours, nothing to do, I will pull them out and work on them. I work on a lot of airplanes. If I go out of town, I do not go out with the boys or whatever at night. I eat, when I need to eat, have room service, stay in my room and I work until I fall asleep.

P: Are you a workaholic?

M: Yes, probably. That is what I enjoy. People say what is your hobby and I

guess it is work. I do other things. I have horses. Sunday, I spent the whole day on my tractor and with the truck fixing things on the farm.

P: I asked you about space when you first came here and you said you did not have enough. Did you eventually get what you wanted or needed?

M: You never get what you want. I was always able to get what I needed, but I sometimes got it in unusual ways. This building down the street, the apartment building, that was the highest building in Gainesville at one time. It is now owned by a church, Lakeview. I rented the penthouse floor of that and that was our administrative and editorial office for the department because we had no space. I rented space right across the street in Summit House. I rented two apartments there until the zoning board threw us out. I rented two apartments in Brandywine until they came in and vandalized it and Phil Emmer would not let me put steel bars on the windows. I had space over in the Surge buildings [off Archer Road near 34th Street], nobody else wanted to go there. I went ahead and put carpets on the floors and air conditioning in one of those buildings and that was our administrative suite. I will never forget, one day people called me and asked me to come quick. They said there is a ten foot alligator in the parking lot, we are ready to go home, get rid of it. I said, I do not know a thing about alligators. I always looked for other things. When we built the anesthesia simulator, I needed a place to put all the engineers and physicians working on that. That was a very major undertaking and it was something that is available worldwide now for which we are famous. I could not find any space, so where this building sits [the 1329 building], the FCPA owned this lot and in the middle of it, there was a four bedroom house that was rented by some students. It was like a pigsty, so I went to the president of the FCPA and I told him that I would give him one and a half times the rent. We got an exterminator to come in and we got rid of the bugs, the mice, and the students. I now had a research building for the simulator people, all they needed was water and electricity. They did not have chemical stuff there, just computer stuff. So they had four bedrooms, a living room, a dining room, two bathrooms, and a kitchen. They thought they had died and gone to heaven. I have never been one to say I want your space. I would take whatever was available. When I first came here, the space that Manny Suter promised to me was not available. That was a time that, you mentioned Bob Cade [Dr. Robert James Cade, UF, chief of renal medicine, 1961-present]. Bob Cade had his laboratories in the basement of the pharmacy building. Bob had just done the Gatorade thing and he was going to leave and go to Africa as a missionary. Remember the students were all up in arms? So they moved him across from the post office in the medical sciences building. I was right there to take over Bob Cade's space. Somebody said, why do you want it? The fire marshall condemned it and you cannot bring animals down there because you have to walk them down the stairs. You cannot get a cage down there, because to get into the sub basement, the water lines were

there by the elevator. I said, that is just what I want. So I took it over. Once you got inside of it, it was nice. Nobody bothered you. I also figured that when the fire marshall complained loud enough, then the dean is going to have to find me space. If I have got an NIH grant, got things going, got people working here and we are starting to publish things, they cannot stop the program. Sure enough, when the fire marshall complained enough to get us out of there, we suddenly were given a teaching lab on the fifth floor, which to this day is now the anesthesiology laboratory. So I did not care where we were, as long as we could work.

P: Is a separate building in the works for you?

M: For anesthesiology? No. There will not be and there should not be.

P: Were you pleased with the medical school library? Was it set up to help you with your research projects?

M: To tell you the truth, we had a departmental library that we had the key journals we needed for our teaching and speciality programs. I also personally took a number of the basic science journals so I did not rely on the library too much. When I needed something, yes, they were there. We had a lot of our own information.

P: The library was set up for the students rather than the research faculty?

M: I do not know. Most of my research early on was in drowning. I spent some time at the National Library of Medicine and got copies of every article printed on drowning in English language from 1650 to the 1970s. I have given some thought to redoing the book I wrote twenty-five years ago. I have asked where that stuff is and I am getting different answers from people. If I do redo it, I will need that information. If not, I guess it will not matter.

P: So you would look at the anesthesiology program that you were responsible for beginning in 1969 as being a success on the basis of all of the statistics you have given me as far as the people and where they have gone and what they done.

M: I sure hope so. I think you will find that most people in the field feel that it has been one of the most successful in the country. If not Sam, I doubt seriously that I would have been asked to do the autobiography that you asked about.

P: You knew when you came here that you were going to have this relationship with the VA hospital? What does that consist of?

M: Yes. Different things at different times. When I was a chair, we were

responsible for all anesthesia at the VA. We had faculty and residents over there. I think that is undergoing some change now with the new administration. They may be separating the two a little more than they did before, but I ran it as one unit.

P: I heard doctors at Shands have always supplemented the medical staff there. Can you answer that?

M: I had the same medical staff. In other words, I had full time University of Florida faculty members at work in both places. They were our department members. The chief we would leave there, but the other people we would rotate.

P: Did they receive an additional supplement for the work they were doing at the VA?

M: No. That was part of their responsibility. We had a contract with the VA and they would compensate the college, but not individuals. Not only that, but Malcolm Randall always claimed that the VA gave more money than services they got. He would say that locally, nationally he would say he has the best anesthesia department in the country. I have all the numbers and each year I would calculate how many dollars we contributed to the VA over and above what they gave to us.

P: From the beginning, did you have the kind of budget that would allow you to offer salaries that were competitive with other medical schools throughout the United States, as you were bringing all of these young, budding people onto the campus. Was it a generous budget?

M: I do not know about generous, we had to generate our money. I think I managed it pretty well. In twenty-three years, I had more revenue than expenses, twenty-two of the twenty-three years. That is not because the state poured all its money at us, because they did not. When you say competitive, there are a lot of things that you can sell to new faculty members. If you say, did I pay them the same gross salary as they would get in wherever, probably not. But I would point out to them, that there is no state income tax in the state of Florida and how much state income tax do you pay in New York? What do you need to make to do that? Ok, well there is $10,000. I would point out to them that there is a sales tax, but not on groceries, medications and services. What is the sales tax in New York City and what is covered by that? I would point out that they can probably never buy another pair of overshoes as long as they live and they do not need sheepskin coats and they do not need snow tires and so on. I would point out to them that my farm did not cost me three million dollars, it probably did not cost me any more than your house cost you in the Bronx. I would point those things out to them, that you do not have to live on Long Island

and drive an hour and fifteen or twenty minutes or take the subway and a train to go to work. From the farm, in fifteen minutes I am right here at the front door. There are two red lights between here and there. I go home in the evening. I do not have to sleep in the hospital when I am on second call because nothing ever happens that I cannot be here in twenty minutes. So you would put all those things together and suddenly, Gainesville is worth a lot more money. Those are some of the things you sell. You sell the people you have, you sell the opportunities for other people to work with.

P: You have been very successful and I think the medical school has been very successful over the years, in attracting some really, very important people.

M: I appreciate that.

P: Doesn't this medical school rate with the best in the United States now?

M: I think it does. It all depends on how you rate them. There is no foolproof system. It is not like asking a sportswriter who is the best football team.

P: One of the things I had never heard until I read your manuscript is setting up this hyperbaric chamber by Jerry Jerome Johns, Charlie Johns' son. I want you to tell that whole story.

M: There are a lot of underwater caves around here as you know. People dive in them and they get the bends and they have to be recompressed. So when I got here, Dave Desautels was the chief of respiratory therapy and Dave was a professional diver. I do not know that he got paid for it, but he was as good as anybody. He actually has mapped out the geography of all the caves in this area and he used to go try and rescue people. He was very interested in hyperbaric medicine. They had a single person chamber which looks like an iron lung and that is it. It was in Shands, in a small room. They used it as a minor surgery room and a bunch of other things at the same time. If somebody was really sick, you could not take care of them, because you could not put an attendant or a physician in there with all the patients. We got interested in trying to do something better. I had met Captain George Bond, who was in charge of the Man in the Sea Program when Scott Carpenter sat on the bottom of the ocean in this bell for awhile and they did studies on him. I called George because I heard that he was retiring from the navy, and we were kind of chatting and he had been doing some work with hyperbaric oxygen and stuff in Pensacola, which is where he was.

P: What does this chamber do?

M: It pressurizes you. In minutes you can go to several atmospheres of pressure. If

you have bubbles in your joints or in your blood, it compresses them to the point that the bubbles disappear. Then you have to be careful as you slowly take the pressure off, that you do not reproduce them. So we talked and he offered to give me his hyperbaric chamber when he retired from the military. His chamber was in a building in Pensacola. The chamber was in the building it had been built in so you would have had to knock a hole in the building to get it out and furthermore, it needed to be updated. So that did not work. He put me in touch with the fellow who was a head of Cape Canaveral at that time. NASA had built a hyperbaric chamber for the astronaut program in case an astronaut should get into trouble and have to be compressed. They had a chamber, which was on the bed of an eighteen wheeler, which is a self-contained unit that would hold four people at once. So I went over there and I got them to agree to give it to us, loan it to us, with the understanding that if they needed it back, they could come get it. So we could not put it inside the building, we had to keep it so you could pull a truck up to it and pull it away. Then we got the chamber and the other thing was, if they had an astronaut who got into trouble, we would treat him for nothing. Well the chance of having to treat an astronaut for an air embolus was extremely remote.

M: Of course, it would not fit it any building that we had. We had to get power to it and water to it and so we had the chamber and no place to put it. I was making rounds one day and we had a farmer from Starke who owned a trucking company, who had been driving his tractor and hit a tree, and ended up with gas gangrene of his leg. He was in this little tiny chamber like an iron lung, because one of the treatments for gas gangrene is hyperbaric oxygen. We stopped to make rounds on him and he was just coming out of the chamber. He said, Dr. Modell, I am very pleased to meet you. He said, they tell me you are in charge of this department and your young people have saved my life, I am very grateful, but goddamn you can get claustrophobic in this thing. I said well, I have a large chamber covered up out in the parking lot with a tarpaulin, because I have no place to put it. He said well what do you need? I said, we need a building, not a big building, but a building to put right next to Shands that will house it. He said, I will have my son-in-law call you. That was about ten in the morning. About one o'clock I get this telephone call from Tallahassee, it was his son-in-law, and he was on the House of Representatives appropriations committee, he could have been the chairman, and he said Dr. Modell how much money do you need? My daddy-in-law called and said how you all saved his life, but you need to build a building around this machine. I said let me call you back. I called the building people here and they said about $125,000. I ran into Dr. Scheibler and he said, Modell what are you doing? I said, I have to call this representative about this. He said, do not ask him for more than $99,000. I said why? He said if it is more than $99,000, the governor can line item veto it. If it is less he cannot. So I called back and asked for $99,000 and the next day he called and said it passed our committee and it has passed the senate

committee and my wife's granddaddy is going to come up here and lobby a few of the resistant people, so we will get it passed. I said, well who is that? He said, Governor Charlie Johns. That night, Charlie Johns came to visit his son, and I was introduced to him. Within a couple of days, we had a bill passed in Tallahassee, giving us $99,000 to build a Jerome Johns Hyperbaric Facility.

P: Is that what it is still called?

M: Yes. Indeed it did cost about $125,000, so I took money from the Department of Anesthesiology Academic Enrichment Fund to make up the difference. We built the building and put the chamber in it and it has been there ever since.

P: I want you to talk about this controversy over the nurse versus doctor anesthetists. Your argument was that the nurses should not have the authority to do what many of them wanted to do.

M: There are anesthesiologists and there are nurse anesthetists. I think you first need to understand, the lay public do not appreciate much of what occurs when they are being operated on. As far as they are concerned, I get a shot of Thiopental, I go to sleep and I wake up. That is about all most people know. Some of them are very afraid that they will not wake up, but very few of them recognize that really the role of the anesthesiologist is to be their intensive care physician during that entire time period. Things can happen to them, unrelated to the anesthetic experience, but are medical problems that need to be treated. For example, if you went into congestive heart failure under anesthesia. You can have renal problems under anesthesia, things can happen that will affect your brain; your breathing. So there is a course of study to become a nurse anesthetist and a course of study to become an anesthesiologist. Let's compare the two. First of all, you have to accept the premise that anesthesiology is the practice of medicine. Just as surgery is the practice of medicine. It is not the practice of nursing. Pediatrics is the practice of medicine. A pediatric nurse is not a substitute for a pediatrician. An anesthesiologist requires a college degree. Nurse anesthetists also requires a college degree usually in nursing. An anesthesiologist requires an M.D. degree, which is four years of medical school, to learn to be a doctor. Nurse anesthetist do not have that. An anesthesiologist requires four years of speciality training in anesthesiology after obtaining your M.D. degree. A nurse anesthetist requires one year of experience as a nurse, and two years of school in anesthesia. On the one hand, you have a physician with four years of medical school, four years of pre-med and four years of speciality training. Then you have a nurse with four years of college, one year of work experience and two years of anesthesia school. Those educations are not comparable. A nurse anesthetist does not have the background to make the medical diagnoses and prescribe medical treatment in the course of a few seconds in the operating room to be able to treat you

appropriately when those things happen. The nurse anesthetist claim they do everything an anesthesiologist does. They put a needle in your vein, that is true, they give you thiopental, that is true, they stick a tube down your throat to your windpipe, they hook it up to a machine, those things are all true. Those are technical things. Those are not the medical knowledge that makes the diagnosis and prescribes the therapy that you need a physician for when you are in trouble. What they claim is, there is no reason for them to work under the direction of anybody, they can practice medicine, practice anesthesiology without going to medical school. Same thing is true of a surgical scrub nurse, can she practice surgery? Can an optometrist operate on your eyes? Can a pediatric nurse, who might be able to do the well baby physicals and give shots, do you want the pediatric nurse taking care of your grandchild when they are desperately ill, or the most dangerous part of their life? No. So they are not comparable. I think there is a role for nurse anesthetists to act as a physicians assistant to the doctor, the anesthesiologist, just as advanced registered nurse practitioners in pediatrics act as an assistant to a pediatrician. But to say, we are going to give them the equivalent of a medical school education two additional years of anesthesiology residency by law? So they want to do the same thing with six years less of formal training. And they want a law that says, the law will give us the equivelant of an M.D. degree, is basically what they are asking for. No, I violently object to that.

P: Have you won the argument?

M: The Health Care Financing Administration and Congress is going through that right now and there is a meeting in Washington on the twenty-third of April about it.

P: Are they asking for a national law, a federal law?

M: Yes. They are asking for state laws also. They are trying to get it wherever they can. I will be in Tallahassee Sunday and Monday to address this issue.

P: So this is before committee now in this session?

M: I do not know yet, I will know after this weekend. The other thing is, they will say, well anesthesia is so safe now. Yes, it is a lot safer. But there are seven times the number of board certified anesthesiologists as there used to be. The other thing is, all of these advances that have been made with the different types of monitoring equipment, the different types of anesthetic agents and so on, they have not been made by nurse anesthetists. They have been made by anesthesiologists. If you read the nurse anesthesia journals, they are comprised primarily of review articles of topics they read in the medical journals. They have not done the original research.

P: Who is on your side of the argument?

M: I do not really know to be honest with you. The American Medical Association and the Senior Coalition are. The AARP should be, but I am not sure they recognize that yet. They have not gotten into it, but the population is getting older and the incidence of disease increases as older people are getting operated on and they have heart disease and they have cerebral insufficiency and they have renal insufficiency, or they have a lung problem. They, more than anybody, need an anesthesiologist overseeing their care. But so far, the president of the AARP has not taken sides on this issue.

P: Have the women's organizations been fighting you?

M: One of the problems with the women's organizations is they think all nurse anesthetists are female and all anesthesiologists are male. The fact is, that there is a very large proportion of young nurse anesthetists who are militant males and there is a much larger portion of anesthesiologists today that are females than ever before. So those ratios are reversing.

P: Is your name the one that is the most prominently identified with this controversy?

M: I do not know. I know there was a time when the nurse anesthetists targeted me and they targeted me because I was asked to come to Tallahassee to testify before one of the committees, and asked by the committee chair, I do not remember which committee it was, as to whether nurse anesthetists and anesthesiologists receive exactly the same education. And having run the school for nurse anesthesia in my department, and the residency for anesthesiologists, I clearly had the information and the data to show that their education is not comparable. Once I testified, I was called by the lawyer for their national organization, threatening that if I did not retract my statement, they would do something. I do not know if they ever said they would sue me, but they had lawyers calling. I never retracted my statements, and I ended up being on the front page of their national newspaper. I guess it was being the enemy. If you go back fifteen to twenty years it is probably true. Today, they probably have someone else to blame.

P: You and the dean of nursing here get along alright?

M: I do not have trouble with the dean of nursing. We have never discussed that issue. There is no question that nurse anesthetists as a rule, are well trained. But they do not have the background that you need to make the difference when all hell breaks loose in the operating room. You do not have time. That is not to say that every anesthesiologist knows the answers and no nurse anesthetist

knows them. But statistically, if you have somebody with six more years of formal training in a speciality, you would expect them to be more knowledgeable and to be better able to take care of you than one that does not.

P: Now tell me about acupuncture. I do not know anything about it.

M: Acupuncture is a traditional Chinese method of ancient Chinese medicine.

P: You learned about this when you went to China?

M: Yes sir in 1974. It was used at that time in China extensively as a mode of anesthesia for surgery. It was used to treat chronic pain, it was used to treat a variety of medical diseases.

P: Did you bring this skill then back to Gainesville, to Shands?

M: When I came back here, we did do some studies on acupuncture anesthesia and pain control. Did I personally do them? No. I had a fellow in my department, Dr. Peter K.Y. Lee, who came here for a sabbatical, who was the chairman of anesthesiology at the National University of Taiwan and Dr. Lee stayed on the faculty after that year. He is a very interesting story. His son was the legal representative for Taiwan in the United Nations. He had a Ph.D. in law from Cambridge University. That was at the time that Nixon and Kissinger spent time in mainland China and we subsequently recognized the People's Republic of China, supported their having a seat in the United Nations. So Dr. Lee was concerned about going home for fear they would invade Taiwan. It so happens that his son subsequently represented the People's Republic of China in the United Nations and then became the world's foremost authority on space law. Dr. Lee stayed here and Dr. Lee actually did the acupuncture for those studies. We did do studies on acupuncture anesthesia and also acupuncture for pain control here.

P: Do we still do that?

M: For anesthesia, no. For pain control, they might do it occasionally. The incidence of success is quite low. Our conclusions were that you needed an extremely motivated patient. The percent of times that it was successful was a very small percent.

P: Is it being done at other medical schools in this country?

M: I do not know. If it is, it is not very extensive.

P: Is it used here for pain control?

M: Occasionally. Some people do get pain relief with acupuncture. The studies we did show the incidence of pain relief was not anymore than with placebos, but nevertheless, even though a small percentage of people get pain relief with placebos and a small percentage with acupuncture, if you are one of those people, and acupuncture gives you relief and therefore you do not have to suffer or you do not have to take addicting painkilling medications for the rest of your life, then it is worthwhile, it should be used. As far as being a therapeutic modality that is successful in a very high percentage of cases, it is not.

P: What role did you play in convincing the Florida legislature to provide support for the patient services tower? You make reference to Jack Gordon there without calling his name.

M: Yes, as matter of fact, I saw Jack Gordon about two months ago. I saw him in an airport in Asheville, North Carolina. He is working for Hospice right now. I came up to him and said, Jack Gordon. He said, how did you know my name? I did not have anything to do with the original proposal, the lobbying or anything else. As you know, there was a proposal presented in Tallahassee, for the state of Florida to provide Shands Hospital with a forty million dollar interest loan to build a new patient's services tower, to be paid back in ten equal yearly installments, once we started admitting patients to the tower. That was in response to the fact that we received a very poor report from our JCHO accreditation process for the hospital.

P: They were threatening to lift the accreditation weren't they?

M: Absolutely. Part of that was that the building did not meet code and could not be brought into code, because the walls and floors were too thin, something like that. I do not know the details. I think it was Dr. Jerry Schiebler and Alvin Alsobrook who did the lobbying very effectively and got this approved, but then it came to the governor and the question was whether the governor would approve it or veto it. He convened the Cabinet to discuss this issue and I got a call early in the morning, from Dr. Lee Dockery, who then was the acting dean, saying to be at the airport in an hour and to call this one and that one. There were about five people, Ed Woodward [Dr. Edward R. Woodward, UF, professor of surgery, 1957-1985] was one, I was one, Dr. Ken Berns who is our dean now was one, Dick Smith [Dr. Richard T. Smith, UF, chairman of pathology, 1958-present] went, Dr. Jim McGuigan went and Schiebler met us there. We were told to go to Tallahassee because the cabinet was going to discuss this at one o'clock and word had it that they were probably going to recommend that the governor not support this. We went out to the airport and they had a chartered plane for us, we all got on and Ed was a little late so he was the last one to get on and he sits in the back seat and the plane goes backward. It broke the tail wheel. So we

all got off the plane and they bring another plane and we all get on and take off. I looked out the window and Ken Burns was sitting next to me. I said, Ken quick, look around and see if anybody is smoking. Why? I said, just look around. Well nobody was smoking. Then I said, tap the pilot and ask him to look out at the right wing and ask him whether the gas is supposed to be coming out of the wing. What they had done was refueled this plane in a hurry and did not put the cap on the gas tank. The pilot looks out and here is gas pouring out of the wing, and he suddenly comes right in for an emergency landing, and they refueled the plane and we left. So we get to Tallahassee, it must have been about five before one and the meeting is supposed to start at one o'clock and we have had kind of an eventful morning and UF President Bob Marston came over and said, Jerry and Jim, we are going to ask each of you to get up and talk for at least twenty minutes, no more than thirty, to tell the cabinet why we need this building. But first, they may have some questions. They started with some questions and John Ives, the CEO of Shands, was sitting there and Ralph Turlington says to John Ives, Mr. Ives, there is a nation wide nursing shortage and even if we build you a new building, where are you going to get the nurses to staff it? John Ives says, we won't have any problem, we have all those young doctors running around, we won't have problems getting those nurses at all. One of the staff people was a very elegant looking black lady who I think was one of the officers of NOW or something like that, who gave the dirtiest look and started whispering in the ear of whoever she was working for. At that time Bob Marston got up and said, Mr. Governor, Dr. Modell has something to say and then Dr. McGuigan. So I got up and I said my piece and Jim McGuigan got up and said his piece and to this day, I cannot tell you what I said. Ken told me, we were at a reception about a month ago, and he brought this up. He was remembering this and he said, what you told them about the operating rooms would have caused anybody to build a new hospital. So Jim and I gave our talks and the cabinet then voted to table the decision for two weeks and we were asked to put together a white paper on the future educational needs for health care professionals in the state of Florida. Apparently this was something they had been asking of the Board of Regents for a couple of years and never received. A group of about five or six of us met every morning at six-thirty or seven o'clock and we would dictate certain things. It would then be typed that day and into the night. We would come back the next morning to edit it and add other things and we put together that report on time. We agreed if any of us had commitments out of town, we could not catch an airplane until eight-thirty in the morning. We were there every day and got that done and they approved the loan.

P: How did Jack Gordon get involved in all of this?

M: When this thing came up in the Senate, according to Jerry Schiebler, that is when Jack Gordon got up and said that the goddamn place is in the wrong city anyway, what we should do is blow the damn thing up, not give them more

money. So Jack Gordon was the only one that voted against it. That is the story on that building, which to me has been very interesting. At that time I was chairman of the department of anesthesiology in the medical school and chief of anesthesiology in the hospital and as administrators and people come and go, there has been a certain competitiveness between the hospital and the college. Are you in the hospital or the college? I have always thought that I am in the whole thing. It is my health center, if one part goes down, the whole thing goes down. If another part is successful, everybody is successful. Being that they are separate corporations so to speak, unfortunately I do not think that pervades around everybody in those systems.

P: In 1979, Shands became a private, not for profit institution. How can that happen? I thought it was a state operation.

M: It was, but it was a disaster. I remember we needed to buy a new piece of monitoring equipment to do open heart surgery. These things are not cheap. We had to put it through and it had to go through and get approved here, then on the main campus, then up in Tallahassee. By the time the thing got approved, it took so long, we missed the end of the budget year so we did not have the money to buy it anymore. This went on for two years in a row. It took forever to get things approved. As far as nurses were concerned, if we had paid a dollar an hour, lets say, for somebody to work, and AGH needed nurses, they would pay a dollar and a quarter, overnight. For us to then raise what we paid to be competitive, we would have to go through the whole personnel board up in Tallahassee. They would do a nationwide survey, it would take two years and by that time we had lost everybody that we had and we have to retrain people. The response time of doing everything all the way up the system and back, was such that you could not run the place as a business. The hospital became more and more of a business as time went on. By making it a private, not for profit hospital, we then could make decisions here locally. That machine that I needed to monitor in the open heart room, I got in less than thirty days after Shands became a not for profit hospital.

P: Weren't you using state money to buy the equipment?

M: Not after it became a not for profit hospital. All of the money came from patient fees and earnings and contracts and things like that.

P: Shands is built on state property with state dollars.

M: The building is still owned by the State, it is on lease for a dollar a year or something like that to Shands. It was essential for survival. We never would have survived without that.

P: What would have happened? You would have closed up?

M: Either that or the state would have gotten hit with an enormous bill, but we could not function, we could not do business. A lot of hospitals owned by governmental entities have gone to private, not for profit status. The University Medical Center did, Tampa General just did, other medical schools.

P: What about Alabama, your son is there?

M: I do not know what their structure is, but I can tell you the legislature in Alabama is far more generous and flexible with money than it is here. I was up there a couple of months ago and spent some time with Will Deal [Dr. William Brown Deal, UF, dean, college of medicine, 1964-1989], who is now the dean there, and they have money coming out of their ears. They receive enormous support from the state and from local industry.

P: Are you getting enormous support from private donors and from drug companies and agencies like that?

M: Not anything like they do. We have done well, the College of Medicine increased its endowments by about 20 percent during the year and a half that Ted and I were in the dean's office.

P: What is it about now?

M: Last time I saw it, it was about $121 million.

P: Is that good by comparison with other institutions.

M: It depends on who you compare it to. Compared to Harvard, it is nothing, it is a drop in the ocean.

P: So this is a not for profit operation now. Who pays the salaries?

M: The hospital. It comes from the business operation.

P: So the hospital does not have a budget that is state supported?

M: They do get about $9 million a year from the state for the support of educational programs and indigent programs.

P: All the faculty then are paid by the hospital?

M: No, the hospital does not pay any of them. They are paid by the University of Florida College of Medicine. They might be paid by the state, they might be paid

by grants, they might be paid by patient care income. Only 7 percent of my departmental budget, when I was chairman, came from the state of Florida. The rest of it came from grants, contracts and from patient care income.

P: Were you told how to spend that 7 percent?

M: No. They did not dictate exactly how it was spent. Some of it was in faculty lines and that had to go to faculty. Some was in career service lines and had to go there. Some was in expense money and had to go there, it came in different categories. The College of Medicine gets in the neighborhood of $25 million a year from the state. The college's budget last year was $260 million.

P: When we talk about the patient returns, this has nothing to do with the so called Enrichment Fund does it?

M: All of our professional fees go into the Florida Clinical Practice Association. The monies then are transferred into the Academic Enrichment Fund, or miscellaneous gifts and grants to pay bills.

P: Who supervises the Enrichment Fund?

M: That is an agency fund of the University of Florida.

P: Is there still the same amount of flexibility in it as there once was? For parties and leased cars and transportation to conferences and so on.

M: Most of that is paid from the FCPA now, but I think the answer to your question is yes. The reason I am hesitating is, depending on who the dean is determines how much involvement they want Tigert to have as opposed to doing it locally. I think historically the College of Medicine has kind of tried to keep its own thing. When I was executive associate dean and then interim dean, I shared everything with Jerry Schaffer [Gerald Schaffer, UF, vice-president for administrative affairs, 1964-present] and his people. We worked very closely together because we had no secrets from then. I got the feeling that they thought we were hiding something from them, which we were not. I think people that preceded me in that role were concerned that they might try to be restrictive and try to micro manage. I never had that fear, so I probably shared more with them than anybody else had before and it worked fine. The medical school books are pretty much squeaky clean, probably more so than many of the other colleges. Because we do have flexible funds in the FCPA and AEF, people are always looking for us to make mistakes with that, and as a result I think we always scrutinized it very closely. For example, for travel, those were all approved by the chief financial officer when I was in the deans office. We were very strict. Once we put in a travel office, or contract, if we had people that got tickets from another travel office for more money, they did not get reimbursed. They would

end up appealing it and it would end up in my office and I would turn it down. So we were very strict. I think we had to be in order to make sure that we put the college on a sound financial and business basis.

P: What is the story behind the relationship to the hospital in Jacksonville?

M: That is an affiliated institution. The faculty over there are University of Florida College of Medicine faculty.

P: How did that come about?

M: Jerry Schiebler can give you the details. Basically, it was 1988 and the legislature mandated that it would be part of the University of Florida. The legislature granted a certain amount of funds for faculty support there.

P: That had been a locally operated hospital to begin with?

M: Yes. The hospital is still locally operated. It is a private, not for profit hospital. They are in discussions with Shands in regards to becoming part of the Shands family.

P: Were you involved in this development in Jacksonville? Have you had any connection with it?

M: Oh yes, a lot. My involvement there is that the Department of Anesthesiology there, when I was chairman, was part of our department. They were our faculty, but stationed in Jacksonville and I used to send residents over there. That relationship is far more tenuous now than it was at that particular time. The other thing is, when their practice plan owned a for profit business, which is in violation of the Board of Regents policy, I was sent over there by John Lombardi and David Challoner [Dr. David R. Challoner, UF, vice president of health affairs, 1961-1998] to try to investigate that, which I did along with help from Bob Garrigues and Frank Smith [Dr. Franklin L. Smith II, UF, assistant dean, college of medicine, 1990-1998]. They got rid of that company and that resulted in the associate dean over there resigning and I worked very closely with the interim associate dean, who is now the permanent associate dean over there to try to get it back on its feet. Then I left, I was done with that. I stayed on their board of directors, but that was it. Although two weeks ago I was asked once again to spend time there as a consultant because they are now having financial problems with billing and collection of professional fees. So, I am spending a couple of days a week there.

P: Tell me a little bit about Shirley Graves. What is her full name?

M: Shirley Ann Graves. She was born in Ackerman, Mississippi, which is a small town. She grew up in Columbus, Mississippi. Her father died when she was very young. Her mother, as a child, used to work in the cotton fields. A very poor southern family. Later, her mother had a diner, a restaurant. Her mother then married her stepfather, who was a driver for Trailways Bus Company. Shirley went to Mississippi State College for Women in Columbus. When she graduated there, she went to New Orleans for a year at med- tech school at Charity Hospital. After graduating from there, she went to Jacksonville and worked as a medical technologist. The person she worked for encouraged her to go to medical school. She then applied to medical school at Florida and Miami, got turned down at Florida and went to Miami and graduated from the University of Miami and received the Quinlan Award in pediatrics as the outstanding student at the University of Miami. She then went to Vanderbilt University for her internship in pediatrics and from there she went to the University of Texas in Galveston, medical branch, as a pediatric resident. I think after a year of pediatric residency, she came back to the University of Miami as a resident in anesthesiology. She finished her residency in June of 1970. The first of July, 1970, she came to the University of Florida as an instructor in pediatrics and was immediately made the chief of pediatric anesthesia and the medical director of the pediatric intensive unit, which opened shortly after she got here. She has been here ever since and established herself as one of the country's leaders in pediatric anesthesia and pediatric critical care. In 1977, seven years later, she and I got married. In 1987 she was the first woman to ever be elected president of the Florida Society of Anesthesiologists. She has been very active nationally in pediatric anesthesia circles. Roughly three years ago, she was named the chairman of the annual sessions committee of the American Society of Anesthesiologists. This is the chairperson of the committee that puts on the annual meeting which attracts 15,000 to 20,000 people, so that is a big job. It is interesting how our careers were done backwards. I was chairman of that meeting in 1972 and she became chairman about twenty years later. She was president of the Florida Society of Anesthesiologists about ten years before I got elected to be president of the same organization. She has continued to be the chief of pediatric anesthesia here. She gave up the directorship of the pediatric ICU maybe six years ago. Also, she is the medical director of the post-anesthesia care unit here. She is a member of the Residency Review Committee of the ACGME. At the time that she was elected to membership, it was an election by a very small body, the American Board of Anesthesiology Accreditation Council for Graduate Medical Education and the AMA. There were ninety-three nominees for a single position and she was the one elected. She serves on that group and she also serves on the Board of Directors of the Foundation For Anesthesia Education and Research.

P: She was not married prior to your relationship?

M: No, she was not married prior to the time that we got married and, of course, did not have any children. Fortunately, my kids have taken her on as though she is their mother, and they have not divorced their own mother, so it worked out real well.

P: What is her present position?

M: She is professor of anesthesiology and pediatrics. She went from full time to 85 percent so she would have a little time to herself. Basically her salary is cut 15 percent, but her time is not and she still takes two briefcases home every night. All last weekend, she was working at her desk on a pediatric fellowship application.

P: I want to talk about you now as a medical administrator, which begins in 1986.

M: Actually it begins in 1969 as chairman of the department.

P: Of course, you are an administrator there because you are an administrator because you are responsible for the operations of the department. In 1986, you were appointed by Dean Deal to be special assistant to the dean for professional support services. The reason for that is because of the pending disaster here at the hospital?

M: No, the reason for that was that our professional fees collections, which is the biggest part of our budget, had deteriorated significantly. We actually had converted to a new computer system that did not do what was anticipated. So, there was a bit of chaos. It could not really tell if their was a priority for billing and collecting money as opposed to building a data bank. You know what happens when you go to new computer systems. They do not always do what is advertised. We were rapidly looking at the potential that we would have to live on our reserves and that they would not last too long, so I was asked by Will Deal to spend a significant amount of my time there and at that time they were in the old temporary building. So I spent about two days a week over there for fifteen to eighteen months.

P: This crisis did not come overnight. Hadn't it been building for a long time?

M: Let me put it this way. It got the dean's attention overnight.

P: Or every week, month, whenever. You have a balance sheet.

M: Part of the problem that I found out much later, is not everybody did that. I had a balance sheet for my department. Dr. Ted Copeland had a balance sheet for his department. There were many departments that I do not know that they really had a meaningful budget. The College of Medicine did not have a unified

budget by unit. They could not follow the budget of each department because they were not on a common system. So it was very difficult to manage that process.

P: How did Deal talk you into taking on this headache?

M: I have a basic defect in life. When people ask me to do something, I say yes. I was asked to help them and in a way I was a bit flattered that they would think that I could do that. I do not have an MBA or anything like that and I am computer illiterate. I was happy to do it because the thing is, if there is no money, the whole place goes broke, not only the college, but also my department and everything I am responsible for. So through the hard work of a lot of people, a lot of dedicated people, we did manage to straighten things out to the point that we became financially solid.

P: You got solvent so quickly!

M: No, we were solvent about a year later.

P: And then according to what I read, you were suddenly very rich.

M: We were making more money than we were spending and we had built up our reserves so that by the time Will Deal left as dean, I do not know the exact amount, but we probably had $50 million in reserve. That is not a lot when you stop to think of the fact that we have a $260 million a year budget.

P: I understand, but the question how were you able to resolve this problem? How were you able to get departments in line to start doing what they needed to do as far as a budget is concerned and to curtail expenditures?

M: We did not do that at that time. I had nothing to do with expenditures. I did not know what their expenditures were. My charge was to collect physicians professional fees. What I found was, we put in a new computer system, it was very fancy, it could do all kinds of special reports and special programs and I think this is a simplification, but I think that a number of people were so enamored with all this extra data that they did not know what to do with it.

P: They did not know how to ask Mr. Smith to pay his $27 dollars.

M: You got it. People would request new reports and they would work on getting new reports and no one figured out that if you do not collect the money first, you do not have the money to pay for the new reports. We put a moratorium on all projects. We had, maybe 75-100 projects, and we just stopped them.

P: How did you get Mr. Smith to pay the $27 dollars that he owed for three years?

M: Well Mr. Smith did not always pay that. We tried to get them to pay it. We sent some to collection agencies. We wrote some off. Basically our first, second and third priorities were to get the bills out and collect money.

P: I remember reading how every year the legislature would authorize Shands to write off all these bad debts.

M: Remember, Shands is Shands, the College of Medicine is the University of Florida. They are two completely separate entities.

P: Are we talking about Shands or the College of Medicine?

M: College of Medicine. Shands was not my problem.

P: Shands does not dispense the services of the physician?

M: No, that is the University of Florida College of Medicine on behalf of the Board of Regents.

P: So when Mr. Smith comes here, he has two bills? He owes the doctor and he owes Shands for whatever services they rendered. Was Shands in trouble?

M: Shands was in trouble before we built this new building. At that point in time they were in trouble, but since they became a not for profit organization in a new building, they have done quite well.

P: In 1979, the $40 million dollar building? I forgot to ask you whether they paid the $40 million dollars back.

M: No, very ingeniously, and I think Paul Metts gets credit for this, the legislature was committed to build a research building for the College of Medicine. The Academic Research building as you know it now, was to be built by the legislature. Well the legislature never appropriated the money for it, but we were desperate for space, truly desperate. Any survey you did, comparing us to anybody, main campus or other universities, we were desperate for research space. It was hard for us to go forward and get grants from foundations and grants from NIH with no place to do the work. I think it was Paul Metts who got the idea that if Shands paid the state back with dollars today for what they would be worth for the next ten years and paid off the loan in one lump sum, they could use that money to build that research building. It so happened, I am going to say if it took ten or fifteen years to pay back $40 million dollars, then if you paid $20 million today, with the interest that would accumulate, it would hit the forty million. So Shands put up about $20 million dollars. The building cost about

$35 million. So the physicians, and very few people know this, the faculty put up, or went out on the street, and got bonds for fifteen million dollars to complete that building, which was then donated to the state.

P: Did the faculty sign for it?

M: I signed for it as a secretary of the FCPA, Jim McGuigan signed for it, I think he was the president. We paid the interest on those bonds for ten years out of our patient receipts, which is our pockets, it is our money. Those bonds were just retired, or are in the process of being retired. We paid between a half million and a million dollars interest every year for the past ten years.

P: Has the building every gotten a name?

M: It is the Academic Research Building.

P: The only building that is named is Stetson, right?

M: As far as I know. One wing of the Academic Research building is named after Ben Hill Griffin, because he gave six or eight million dollars.

P: He gave $19 million dollars total and out of that the stadium was refurbished and Floyd Hall was to be restored. Now in January of 1990, Dean Allen H. Neims [Dr. Allen H. Neims, UF, department of pharmacology and therapeutics, 1978-present] asked you to become senior associate dean for clinical affairs.

M: I was asked by Allen to become the senior associate for clinical affairs, which I did. I told Allan I would do that, but I would not give up being a chair of anesthesiology.

P: Neims takes over after Deal leaves here?

M: Correct. When Allen asked me to become the senior associate dean, I told him I would not do it full time because I had recently trained some residents and fellows and hired some faculty that I did not want to abandon. I still felt that they needed some time with someone who would promote them to be able to achieve success. So I did both that and also was the department chair. That job expanded rapidly.

P: What was the job?

M: It was to do most anything in the clinical arena that Allen asked me to do. I know that does not tell you much. For example, I chaired the university's Physicians Advisory Committee, I oversaw indirectly, the billing and collection

arm of the college. I represented the College of Medicine in all negotiations with insurance companies for managed care contracts, which were just coming into their own at that time. Charlie Fieldus, the CFO of Shands, represented the hospital. So the director of Managed Care reported jointly to the two of us. I oversaw the Self Insurance Program. It is a big company. They have a significant number of employees and it is the equivalent of a reasonably sized insurance company. I also started to get involved in affiliations. People would contact the college and say they would like to become affiliated with us for clinical reasons, educational reasons or whatever, so I started doing that sort of thing. I started coordinating policies and procedures in relation to the clinical aspect of the dean's office.

P: Did you have an office downstairs near where Neims was?

M: No, I did not. Then in 1992, there was another reorganization to the vice-president's office and the dean's office and the affiliations had grown, the insurance company had grown, the vice-president's contract office had grown and was not disorganized, but was probably not as efficient as it could be. I was asked by Vice President for Health Affairs David Challoner and Allen Neims to become the associate vice-president for the University of Florida Health Science Center Affiliations, throughout Florida. At that time I did that and I retired, resigned, whatever you want to call it from the chair of the Department of Anesthesiology.

P: Were there a lot of these centers around Florida?

M: The ones that are there, most of them I negotiated or set up. The first job I had, had to do with Jacksonville. That was at a time when they had trouble with the Board of Regents and the for profit company, so I spent two days a week in Jacksonville. I set up an affiliation in Pensacola so that we now have residency programs in OB/GYN and in pediatrics there at Sacred Heart Hospital. I set up an affiliation in Leesburg where we ran the Cardiac Catheterization Laboratory and for a period of six years, almost all of the open heart surgery from that laboratory came here. I set up an affiliation with Miami Jewish Home and Hospital for the Aged in Douglas Gardens. I set up an arrangement with North Broward Hospital District where we have a residency program in Family Practice in that community. I set up an affiliation in Melbourne with Health First, which is the old Homes Regional Health Center, plus two other hospital facilities. The Heart Institute at that institution is run by a full time member of our faculty. I set up an affiliation in Naples, set up a clinic in Ocala for pediatrics, set up a family practice clinic in Fanning Springs. There are a lot of these things. I kept the managed care, I took over the contracts office.

P: When you say that you had this affiliation with these centers that you have set

up, what does that mean? Does that mean you send students there?

M: In Pensacola for example, we have about a dozen University of Florida faculty members and twenty-seven residents, who are University of Florida post-graduate students, but are stationed there. They live there, they practice there, they are full- time employees of ours. We may send medical students there for electives also. Each one of these is different. In 1992, I went full time into the vice-president's office and I resigned as chairman and as senior associate dean.

P: Who takes over as the chairman?

M: Nick Gravenstein took over for a year as the interim chair, then they appointed Roy Cuchiara as the chairman. Then he stepped down and Nikolaus Gravenstein is the chairman now.

P: First father then now son.

M: Father, then me, then son as the interim chair, then Cucchiarra, then son as the chair. About January 15, 1996, Allen Neims called me and asked me if I would become the executive associate dean of the College of Medicine. Specifically he told me that the college was having financial difficulty and that one of my primary responsibilities would be to assist him in trying to solve that problem. I met separately with David Challoner and also with John Lombardi because clearly I wanted to know what their views were on this. Those meetings were more like I was being recruited to play on the football team than anything else. It was clear to me that all three of them clearly wanted me to do this. None of them could clearly define the position other than they expected a financial turnaround.

P: You were going to be the quarterback?

M: Either that or the SOB that told people you cannot spend money you did not have. The reason I say that is that I asked John Lombardi, how will I know if I am going to be successful? He said, well Jerry, they are losing a million dollars a month over there. You will be successful if, when you are through, you made money and there enough people who do not like you, but they follow the rules and you are solvent. I think he is right. I came into the office the first of February and for the first two or three months not much happened. While Allen and David and John asked me to do this, I am to this day, not sure that the other people in the office were enthralled that I was there. I have a reputation of even though I am fair, I am tough. I do not like to let things go. If something is to be done, I want it done right now. I want to know why it is done, and if it is not done right, I want it fixed. I am very frugal with the university's money. When I was

chairman and I was faced with a time when it looked like we were spending more money than we had, I made sure that nobody bought colored paper clips and I stopped buying those little Post-it things and told them to cut up the scratch paper and use it for notes and things like that. That is the reputation I had.

P: People were not wasting money were they?

M: I do not know. I am just saying that I think there were people who were concerned about my being in that role. About the third month, then Frank Smith, who was the associate dean for administration, got very ill and literally overnight, I had to take over his responsibilities, which included the fiscal office of the college. Then suddenly, I had all the numbers available to me. About that same time, we hired an external consultant and they worked with us and helped us. We established what we called the Rapid Action Committee to look at things we spent money on, to set priorities, to decide other programs that should be downsized, other benefits that are not necessary. People had to truly justify if they were going to replace personnel. They had to have the money to spend before they could purchase something. It was a time that I was not terribly popular. I did most of that for Allen, for the reason that I thought it was important for the dean not to be the hit man on the front lines. If they are going to get mad at somebody, let them get mad at me. That is the way that we went. While Allen might conduct the meetings, if they were not going to the point that it looked like the money was going in the right direction, I would speak up. I will never forget one meeting we had with the chairs, where I announced to them that because they continued to spend money faster than they have made it, effective immediately, 100 percent of their expenditures were frozen; except for items that they considered emergent. One of our chairs asked, well how will I know if it is emergent? I said, everyone of those will come through my office. If you have personally signed it, not with a stamp, not your business manager, not your associate chairman, I will not question it, it is emergent. If it does not have your signature, it is disapproved. They said give us some guidelines. I said look, you are all chairmen. You are all supposed to be able to run your business. This does two things, one it makes you think about it and two, when you are all done, we will have a report card on every chairman to find out if they understand what emergent is. They were still arguing about it and Ted Copeland got up and said, well let me tell you what is emergent. He said the American College of Surgeons is meeting in San Francisco next month and my chief resident has a very important research paper that has been accepted in competition out there and I am not going to cancel his trip. That is emergent. He said, I also have an airline ticket to go out there and the main reason is to have dinner with some of my old friends, that is not emergent. I am disapproving that and I am turning my ticket in today. That is the kind of meetings we had. We started then to create budgets, and we started then to not continue to lose money, but to start making a little bit so that although we were projected to lose $12 million, we ended up

losing a lot less than that by the end of the year. In three or four months, we stopped spending more money than we earned. When it came time to approve the budgets for the next year, they had to have a loss approved and know where the money was going to come from to have a budget that lost money. We established a committee, the Executive Fiscal Affairs Committee, that met every week, reviewed everybody's expenditures and we would tell them who was out of line and they would call these chairmen in on the carpet and raise cane with them. So the thing worked. That is the direction we went. People had to have an approved budget. If they had people in the budget, to hire people, the question was, what were they going to do, what were they going to produce, why were they needed, where did the money come from. If they cannot answer the questions, they are out of the budget. We monitored them, we went on to a system whereby we got expenditures to budget every month. The third Wednesday of every month, we got a complete report from every department, including the dean's office and the divisions of the dean's office and the group practice. Their budget, their revenue, their expenses and whether they were out of line or not. Every month these reports went to the executive fiscal affairs committee, we presented that data and we distributed to every chair, every other department's results. So they all got to see everybody else's results so they were keeping each other in line. The next thing that happened shortly after that, the first of August or so, Allen Neims resigned and Ted Copeland became the interim dean, which from my standpoint was terrific. Ted and I had worked very closely, with him as the chair of surgery and me as the chair of anesthesiology.

P: Do you want to comment on the factors leading up to Neims' resignation?

M: I think Allen was bloodied. The faculty council came out with a vote of confidence, which you probably saw in the newspapers. It is interesting how you look at that. That was like two or three months after I got in the office, before I was able to do anything and I was on there too. About 25 percent of those who voted thought that I could help them. Half of the faculty did not vote. I was very depressed. I was ready to tell them, I do not need this. You are voting on me before I even have a chance to show if I can do something. That came out, I think on a Saturday morning, and I happened to go to Reddick Brothers Hardware in Micanopy, which is where I buy the feed for my horses, and Ken Reddick said to me, hey Doc, how does it feel to be the most popular person in the College of Medicine? I said Ken, what are you talking about? He said, I read this mornings paper. This guy got 8 percent, that one 12 and that one 14, and he said you got 25 percent, you are more popular than any of them. After going to my feed store and hearing that, I decided OK, I will stick with it. But after that survey, Allen was not the same. His office and mine at that time, were right next to each other. We would see each other at six-thirty in the morning and at six o'clock at night. He was pretty well beat up and Allen worked very hard to try to get things balanced and was important in getting that initial budget

approved for each of the departments. I worked with the departments and the fiscal office and I was the hit guy that told them, I am not approving this budget and I am embarrassed to submit this to Dr. Neims, so you go home and cut it. In the final analysis, he orchestrated the meeting where we ended up deciding who was going to come up with a shortfall and he is not given much credit for that. He was very tired and beat up and I think the faculty coming down on him, he will not admit it, but it hurt his ego and his pride.

P: Why do you think the faculty came down? It could not have been just this one thing? Was it something that had been building up for a long time?

M: The college had lost a tremendous amount of money. I would rather not get into the reasons for that.

P: Were they looking for a scapegoat?

M: They were looking as to why and where did it go. I am not going to comment on that. I have some of those answers, but I will not comment because it was very difficult to try to identify that. No one stole the money, let's put it that way. Investments were made in the future, some that may have been prudent, some that worked, but they were not just an error in judgement. There were perhaps, other negotiations with other business partners that could have been tougher, and things like that. But they were done. The faculty were upset because at that point in time, we had gone from a surplus of around $50 million dollars to a question as to whether we could cover the bond covenants on the research building or we would lose that too. It was a company that essentially went broke and people were talking about everybody taking a 10 percent cut in salary. If you tell every faculty member that they are going to get 10 percent cut in salary because we spent all your reserves, it does not go over to well with them. So Allen resigned and Ted came in. Our working relationship has always been excellent and we essentially divided the dean's office. Ted announced to everyone that I was responsible for the budget and for the fiscal matters and keeping us solvent. He did not ask me about it, but he announced it in public. That was fine because I would have done that. He was taking care of things like promotion and tenure and politicians and some of academic fodder that you need to do. We worked together as a team for a year and he said he would do it for one year and he did it for exactly one year to the date. Then when he stepped down, I filled both the role of executive associate dean and interim dean, the two of them for two months. During the time that he and I were in the office, from August 15 of one year to October 15 the next year, we had a turnaround of nineteen and a half million dollars. We went from losing money to making money. Indeed, we replenished a large amount of our reserves, we replenished about half of them. On October 31, the last financial report that I submitted, the college had nineteen million dollars more than it had on February 1, 1996. We

were either lucky, good, or something happened by accident.

P: When donors make a contribution, whatever it is, is that supervised by the foundation or is there another agency?

M: No, they give it to the foundation. They handle that and the same rules apply as for any other college. If it is an endowment than we have the opportunity to spend five percent per year of earnings. A lot of things happened. We brought in more money. The first of January, 1997, the president of the faculty group practice resigned, so I also took that on. Once again, I was in charge of the billing and collection operation of the college. I met with those people every week and we got pretty pointed and pretty tough on each other and with the same people, we turned that around so that our collections increased 7 percent over the course of that year. Considering that insurance companies are paying less and less for medical care with managed care, to increase your collections by 7 percent is a substantial change. That improved at the same time. Our faculty were very successful in obtaining extra mural grant funds. The number of extra mural grants that we got from foundations, from NIH, and so on went up considerably. It was a very substantial increase. Our endowments in the Foundation went up by about 20 million dollars. Everything that had to do with the financial picture of the college improved. That was due to a group effort. I had nothing to do with people getting grants. I had a little bit, but not much, to do with people donating money. My major contribution was in controlling expenditures and increasing collections of income from patient care sources and negotiating contracts. So that is the way that was. Ken Burns was appointed Dean on October 15, 1997 and for the next two months, I served as a resource person and answered questions for him and summarized where we were on everything with him and actually provided him with two huge notebooks about things in process and all the backup and so on, so it would be a smooth transition. On January 1, 1998, I left the dean's office totally.

P: What is the story behind the relationship between Shands and the other hospitals around?

M: Shands purchased the investment that Santa Fe Health Care had. That is Alachua General Hospital, Lakeshore Hospital in Lake City, Bradford Hospital in Starke and Suwannee Hospital in Live Oak.

P: Is this a wise decision?

M: I do not know. That is not my job to comment on that.

P: But as you look at it. You have been part of this operation for a long time. What are we doing in Starke?

M: I think the idea there was to get a feeder system into the hospital. A lot of hospital corporations are doing that. Whether it is wise or not, I do not think you are going to know for awhile. It is kind of the way the industry was going.

P: When the arguments developed in the late 1940s and early 1950s about locating the college and putting the medical school here rather than Jacksonville or Orlando, the argument was made that there was this great need for health care in the sixteen counties surrounding Alachua County, which were very poor then, much more so than they are now. This operation would be the feeder, not only would people come in here, but doctors would go out and do this health care. I am wondering, is this what is happening now?

M: You cannot force doctors as to where they are going to practice. The Program in Medical Science in Tallahassee, the same thing. We have a program with Florida State University where they accept students to medical school and they get their first year there and finish here. Well that was set up to try to recruit physicians from the Panhandle, so when they finish medical school, they will go back to the Panhandle and practice. Well, you give them an M.D. degree and with that degree, they can go to New York City. Why should they go to Chipley, where there is nothing there and where everybody is broke and they cannot make a living, when they can go to into the middle of Orlando and make a fortune. I think you need to have a feeder system of primary care for a specialty hospital and I think their thought was probably that. If we have the primary care docs in Starke, Live Oak, Lake City and they send their specialty care in here, then that would be good. Because more and more, specialty care is staying wherever it is and not coming here. Why? Because you train more specialists and they practice out there, but also insurance companies are trying to keep people away from specialists. It may actually be cheaper, but it cost too much at the front end. It may be cheaper long term, because if you see a specialist early on, you may get something done that prevents long term complications and therefore it is cheaper. But the insurance companies do not think that way yet.

P: What was this announcement that you made on your sixtieth birthday?

M: That is when I announced that I would be joining the vice-president's office and giving up the chairmanship. At my sixty-fifth birthday, I was the interim dean of the College of Medicine and within a couple of days, they announced that Dr. Burns would be coming as the dean, which I was thrilled with. I wanted to spend the last few years of my academic career not worrying about administration, but maybe doing some research and mentoring. So what happens? Two weeks ago I get a call from the dean saying they are going broke in Jacksonville, we think you are the only one who can help straighten them out, so would you go there? So I spend Monday and Tuesday in Jacksonville. He wanted me to go

over there for a few months and I told him Ken, forget it. I will go over there once or twice a week. I lived at the Hilton Hotel Monday and Tuesday night and last Tuesday and Wednesday. I am going to live there next Tuesday and Wednesday. But I will spend one or two days a week over there and try to help identify their problems and help them if I can. I will be going over there for awhile, but I was hoping that I would not have to do that. I wanted to relax and do some other things, which I did start to do. Since the first of January, I finished the autobiography, I have had two chapters in textbooks revised, I have had two original manuscripts accepted to refereed journals in the last two months and I was looking forward to spending up to three days a week in the operating room.

P: You must have been flattered and pleased with the establishment of the professorship. That was wonderful.

M: That was wonderful and I almost missed it. It was a graduation ceremony and it was getting very late and I had just gotten back from traveling someplace and I was so tired and I told Shirley, let's go. She said, no you have got to stay till the end.

P: She knew about it?

M: Yeah, she knew about it. I said, well you are going to have to drive home. I am not sure I can drive the thirteen miles. So we stayed till the end and the last thing, they gave me that plaque.

P: That was absolutely wonderful. A million dollars. Was that all of it, or was that $600,000 and the rest of it is matched?

M: Part of it. It was originally $600,000 plus the $400,000 match.

P: That was a chair, $1,000,000.

M: Yes, but now the value of that is close to a million and a half. It has continued to grow.

P: That is amazing, where did the money come from?

M: I do not know. It came from donations; some individuals; some of the companies that we had done research for and things like that donated money. There is even a better story than that. I got that in 1993, so I was sixty-two years old. The chairman now is known as a Jerome H. Modell M.D. Professor and Chairman. I got a call from my son Jack about six months after that and he said, Dad, I have a patient whose father said he is very grateful and wants to

know what he could do. I said, does he have a lot of money. He said, I think so. I said, well why don't you tell him to endow a chair in your name. He said, well what does that take. I said, well about a million dollars. He said you have got to be kidding. Anyway, I get a call about six months later and Jack says, you know, the former president of the university who is now in charge of fund raising, called me and told me that Mr. so and so had just endowed the Jack Modell chair, but he is only giving part of the money now and the rest of it in his will. I said, take it. You got your chair twenty years before I did. That was wonderful. I asked him, what did you do to deserve it. He said, well they had a daughter who was in her thirties, who had locked herself in her room and had not come out to use the bathroom, eat or drink for two days and they called her family doctor and nobody would come to the house. So they called the Department of Psychiatry and I happened to pick up the phone, and I said yes, I will come out. He said, I made a house call. I guess a psychiatrist has never made a house call in this state before. He said, I talked her out of the room and she is in therapy now and she is back working and so on. So they were very grateful.

P: Where is Jerry Modell going now with his life?

M: Jerry Modell is sixty-five. Jerry Modell, when he moved from the dean's office back to the vice-president's office, David Challoner was very gracious and asked me what I wanted to do. He told me that I earned the right to do pretty much what I wanted to. So what I described to him was a combination of, I would spend most of my time in anesthesia, but I am supervising the Self Insurance Program and I am supervising the vice-president's Contract and Grants Office. Those things take about one-fourth of my time. I am in the department. Now forget the Jacksonville thing, because that has kind of screwed it up a little bit. But I would like to spend the rest of the time teaching students and hopefully mentoring some young people and helping them get started in career development. I do not know how long I want to work.

P: Are you thinking about retiring?

M: I told David, what I would like to do is to have some security in that position for a period of three years. Then at the end of that time, I would like to be made a Professor Emeritus, and I want an office and a secretary and the college to pay my professional expenses, but I work for nothing. He had trouble with that. He said, I am not sure we have ever had anybody work for nothing. He asked, can we do that? I said, yes, legally you can do that, but that way, if I feel like working after age sixty-eight, I can work full time, I can work half time, I can do whatever I do and whatever contribution I make will be positive, but I will have the freedom of my own time so that I can feel almost retired, but yet be productive. On December 31, 2000, I will retire from full time activity, but stay on the faculty to work at my pace, but without salary. That is not so bad. I have

enough money to live on.

P: You can devote more time to your horse business.

M: Actually Sam, it takes more of my money than it does my time. Anybody that tells you they go into the horse business to make money, forget it. Unless they are a trainer or something like that. The horse business started when Julie went off to school in Tallahassee, to Florida State for her first two years. At that time, Marilyn and I were separated or divorced depending on what month it was. I lived in an apartment and Julie would come in occasionally on the weekends and she loved to go horseback riding. So when you have a daughter who is nineteen years old, who is off at school and you are living in a one bedroom efficiency apartment and your daughter comes and says dad, let's go horseback riding, you go. It may hurt, because I never really knew how to ride and so the horse goes up and I go down and all that. We would go to various places and rent horses and you never know what you are going to get. Each horse is different and they do not like to go riding anyhow, they like to run back to the shed and so on. When Shirley and I got married in 1977, one of the cardiopulmonary machine techs at the hospital was moving to Atlanta and she had two horses she had to get rid of. Shirley said, why don't we buy her two horses and that way when Julie comes to town, you will have something to do. We purchased a place which was five acres, which at that time was out in the country and now is almost in the center of Gainesville, out on SW 20th, but in the woods by Haile Sink, off of Sugarfoot Prairie. So we bought two horses and that is how we got started. They were not the youngest of horses and one of them was an Arab gelding and the other was a half Tennessee walker, half quarter horse. I think I paid $300 for one and $600 for the other, so you can imagine they were not too fancy. We used to go riding in the woods and I got Shirley on a horse. We did a lot of horseback walking, because every time we went faster than walking she would get a little nervous. She learned how to stay on most of the time and Julie would come home from school and we would go horseback riding and it worked pretty well. Then Jack graduated medical school from the University of Colorado and went up to the University of Vermont for his residency. He and Judy were moved there the weekend that we were in a meeting in Boston, so we went over there to kind of see what Burlington was like and to see if we could help them get settled. On Sunday, we decided to take a ride in the country and we saw a sign that said UVM (University of Green Mountains, Vermont) Morgan Horse Farm. Well, we had heard about this so we went by there and stopped at the store and got some cheese and crackers and stuff to sit down on their lawn for lunch and they had a tour. You pay a dollar and get to see all their horses. This was the original Morgan Horse Farm, it is very historic and very picturesque, so we went through there and as we went from stall to stall, there was one very pretty horse and she came over and put her

head on my shoulder and her name was UVM Hester. She was named after Hester Patterson. Mr. Patterson was the treasurer of the University of Vermont and they named the horse after his wife. Well, we really liked her and I guess that was apparent to the people that ran the place, and we came home and three or four weeks later, Dr. Don Balch, who was the director of the University of Vermont Morgan Horse Farm, called me and asked if I would be interested in Hester. I said, she is a very nice horse, but it was midnight last night before we fed our two horses. Shirley was on call and I was in late meetings. He said, well if you want her, she is in heat and I will breed her and I will send her down to you pregnant. I said let me talk to Shirley. So I talked to Shirley that night, who said, we do not even have time to take care of the two horses we have got. The next day I called Don Balch on the speaker phone and Shirley was in the room and Don again said, I'll breed Hester and Shirley said, well you should not have said that, my Jewish husband, if he gets two for the price of one, he will probably buy the horse. And I did. I bought the horse and built some fences and we now had three horses and one on the way. That was OK, then the horse arrives, which was kind of interesting. I had built this little barn with a stall, I did not know how to do it, but I had put the doors about a foot and a half off of the floor and I was getting ready to leave town about the time Hester was ready to foal, so I had fixed up a stall and put lots of hay in there so it would be a nice maternity stall and I had put an intercom between the barn and my bed stand so I could hear what went on out there, so if she foaled in the middle of the night, maybe I would hear her. I listened to that thing for two or three weeks. I heard the mice and I heard the birds, and heard Hester once in awhile. I finally got used to sleeping through all of this. One night, I jumped out of bed, the night before I was supposed to leave town, at two in the morning, and I said Hester has delivered. Shirley said, I do not hear anything, how do you know? I said, I woke up, I heard something different, so I ran out there. She made me take the dog in case there were burglars. We had this big chocolate lab retriever. I get out there, here is Hester in the stall, here is the foal outside in the aisle way. She had backed up to this hole in the door and squirted him right out, so she was all upset she could not get to the baby and the baby was bewildered and could not get out of the sack, so I took the amniotic sack off and I picked him up and carried him back and gave him back to her. So then we had four. Later, I went to get hay for them and I saw a real cute little filly in the pasture, so I bought the filly. We went ahead and put Hester in training that next year, we put her baby in training and we put this little filly in training. Hester was the grand champion mare at the Florida State Fair. Her little colt was the champion yearling colt at the Citrus Cup Regional Horse Show. The filly was the Reserve World Champion at the Grand National and World Championship Morgan Horse Show.

P: What did you name the colt?

M: Hester's Trophy. The sire was UVM Trophy. The other little one that I thought

was kind of cute, won the reserve world championship that year. She was already named Double M Blue Velvet, Twinkie is her nickname. Now I had a reserve world champion horse and I am told you can raise horses for ten years and never do that. I had a regional champion and a grand champion. So now I've got five horses and five acres was not enough so I started looking for a farm. We bought a farm and now we have eighty-eight acres and now I needed more than five horses. We went to a horse show in Atlanta and they had an auction. I looked over the horses and there were three of them I thought I might want to bid on. One of them, named Serenity Jackie, I started bidding on her and this was in an area where there is a grandstand on one side and they bring the horses down the middle. Shirley did not want me to bid on the horses. She was getting so excited she had to go to the bathroom. She was so upset, she walked into the men's room instead of the ladies room, meanwhile, here were 500 people watching her. She came back from the bathroom and there was a bottle of champagne sitting on her chair, which means she had just bought a horse. I bought three horses that night. The one that I bought while she was in the bathroom was the dam of that black stallion, who four years later was the 4 year old world champion western pleasure horse. Another one that I bought, we bred her and her first foal was a stillborn. Shirley and I just happened to be there, so we did mouth to mouth resuscitation and closed chest cardiac massage on this baby horse and we got him back. His name is Gradell's Miracle and he was reserve world champion three years in a row. We sold him to some people in Oklahoma and there child is showing him and he has done wonderful. The third one was kind of a hard luck horse. So that kind of got us started. We bought a farm and started building the farm and we bred a lot.

P: But you do not grow anything on this farm?

M: I have horses and cows. I have the cows to eat the underbrush and the grass in the woods where I do not have horses. We send the calves off every year. We bred a lot to this stallion up there and I decided it might be cheaper to buy half of him than keep breeding to him so we bought half of him. He was been the number one or two sire for Morgan horses in the country for each of the last four years.

P: How many horses do you have out there now?

M: At one time we had as many as thirty-five. Right now, I have nine on the property and two are leaving tomorrow, I just sold them. Then I have one that is supposed to deliver any minute, at our trainer's, another one in training down there and the stallion is down there so that is three that will be four, plus nine is thirteen. Then I have three in training and a mare, that is another four up in Vermont. So I have got seventeen.

P: How many cows do you have?

M: We have about twenty. It truly is a business. We are one of the better known Morgan horse farms in the country now.

P: What is the name of your farm?

M: Gradell.

P: That would be for Shirley Graves and Modell. There is a big sign off 441.

M: A little sign. It is off 441 six tenths of a mile west of 441 on the county line road. You take a right and go down six tenths of a mile. It is not open to the public. I enjoy doing things on the farm and I do not have a lot of time to do that, but that is one of the things that I am going to do in the future. If I can slow down a little bit, I will spend more time out there. I enjoy getting up on the tractor and doing tractor work and working with the hired help.

P: Is Shirley a gardener?

M: Yes, but lately she has not had time to do anything.

P: Do you read?

M: Occasionally. I may read medical stuff, but as far as reading novels and stuff, I almost never have.

P: Are you a TV person?

M: Only for the news and sporting events.

P: Do you all go to the movies, go to the theater?

M: The last movie I saw was “Schindler's List” with my son at the NCAA finals when Florida was in them in Charlotte four years ago. The movie before that was “Silver Streak”, which Shirley and I saw twenty years ago. I am not a movie person. If I have some time I would just as soon work on the farm and get outdoors.

P: Are you all very much to the social activities?

M: We are into it when we have to be. The positions I have held academically, you have got to go to this and you have got to go to that.

P: But you are not a party person?

M: No. We are really not.

P: What is your philosophy of life? If you are talking to your grandchildren, what do you say?

M: I have never thought of that. I think that you should take advantage of every opportunity available to you. I think you need to think about what you are doing, not just for yourself, but for other people. I think if you are in a position whereby you can assist and help other people to achieve what they need to achieve, I think that is a real blessing. I think initiative is important. I think that you should accomplish as much as you can if you want to do it. You do not accomplish things only for other people, you do it for yourself. If you are doing something you do not like, get out of it. There are enough things to do that will give you pleasure. Above all, it sounds corny, but you have to be good to your fellow man.

P: Have you had a happy life?

M: Yes, I have been every fortunate. You read my autobiography; I do not think many people have those opportunities presented to them. If I had to live it all over again, I am not sure if I would do anything any different.

P: Have you felt that being Jewish ever hurt you?

M: Physically it did a couple of times. [laughter]

P: Obviously it did not affect your career development in any way. You would not have arrived where you are.

M: Absolutely not. I do not think being Jewish makes any difference. In my own family, I was raised orthodox Jewish; I married a Jewish girl to begin with whose brother is a rabbi, yet she was the type of Jewish person who would pull an apple out of her purse and eat on the steps of the synagogue on Yom Kippur. Our children were raised Jewish and my oldest son is very much traditional Jewish, but he is married to a girl who is Lutheran. Their two oldest kids, one has been bar mitzvahed, one bah mitzvahed. Carol raises the kids Jewish even though she has never converted. Jack was raised Jewish and pretty much became an atheist. He married a girl who converted to Judaism, brought him back to the synagogue and now they belong to an orthodox synagogue. When his son was bar mitzvahed, he conducted the entire service from beginning to end in Hebrew and never missed a note. They go to schul every Friday night, so you never know. Julie married a nice Jewish boy and is divorced. I am married to a

southern Baptist woman who is more observant of the Jewish traditions than my Jewish wife was. When we got married, Shirley went to school at night to learn how to do Jewish cooking and Regina Plutsky taught the course. She learned how to make chicken soup with matzo balls in it. The first Passover, she made a Passover dinner for just the two of us, made a Sader with a Sader plate and had everything in the right place on the plate. She ground her own horseradish and cried from it. We went through the Sader and everything was just perfect. The plate was there, we had eggs and salt water. We had gefilte fish at the right time, we had fresh ground horseradish.. Then she served the main course and I just kind of sat there stunned. She looked and she said, oh my god. She had made a shrimp casserole, and she said shrimp isn't kosher is it? I said Shirley, this is going to be new for me, but it is just as kosher tonight as any other time of the year. Since I eat it at other times, let's eat. That was our first Passover. So within the family we have multiple religions. I related a story in my autobiography of how one summer session I went to get the one extra course I needed to enter medical school, we had a number of ordained ministers in our class. That was a very interesting evening because we discussed religion as though everyone came from the same place. There was the birth of Christ, some believed and some did not. There went Christianity. Judaism and three branches--Orthodox, Reformed and Conservative Judaism and you have got Catholicism and Presbyterianism. It was a most interesting evening discussion. I have always felt that the person's religion, or for that matter the color of their skin, really does not matter. The question is who are they, what are they, how good are they? If they are being considered for a certain position, is their educational background consistent with it.

P: Have you involved yourself in the community at all?

M: Not that you would know. The reason I say that is I have not been involved with community service as such, but I have gotten to know some people in the community in southeast Gainesville, the black community. People do not know it, but at Christmas and Thanksgiving, I have a friend who cooks for people, I buy the stuff and they deliver it. I have helped put a young lady through college that does not know where her dad got the money from. She was a model citizen when she was a student in high school, mayor for a day and so on. She is now married to a professional football player, but I do not think she will ever know where the money came from. I have done things like that for people that I think deserve it. Her dad was very helpful when we built the farm. From that standpoint yes, but as far as serving on the Chamber of Commerce, no.

P: And you are not a political person?

M: I am not political in that I do not run for office, but I do contribute to a significant number of campaigns. I have lobbied both in Tallahassee and Washington. I

have been a representative of the American Society of Anesthesiologists as the chairman of Governmental Affairs Committee in Washington. I have done similar things in Tallahassee for the Florida Society of Anesthesiologists, so I do not consider myself a political person, but I am very knowledgeable in the political arena. I have actually have written some language for law at the request of committees that have ended up being implemented or influenced how other things should be done. It is more a behind the scenes thing. I do not really want to be known as a political character. If I believe in something, then I will do what needs to be done to get it done.

P: Today is Friday, April 3, 1998. We are back in Dr. Modell's office. It is part of the J. Hillis Miller Health Center Complex. Today we are going to discuss Dr. Modell's research activities over the years which spread across all of his professional life. When did your research activities begin? I gather when you were first working with Dr. Watson and Dr. Schwartz or does it go back before that?

M: Actually the first research job I had was with Dr. Watson and Dr. Schwartz, primarily with Dr. Schwartz. Dr. Watson was the chairman of the Department of Medicine at the University of Minnesota. Dr. Samuel Schwartz was a very interesting individual. He graduated medical school at the University of Minnesota, became very interested in basic research and never practiced medicine, but rather had an entire career in research. He was actually the individual that designed the test that would later become known as the Watson-Schwartz test for diagnosing porphyria. It is a very rare, hereditary disease in humans that has many manifestations. One of them is photosensitivity; they frequently have psychiatric problems, they have problems with the heme system involving their blood and liver and urine. I began working for Dr. Schwartz, actually the first job I had was cleaning out rabbit cages of rabbits that they had given a medication to, to produce artificial porphyria. It was kind of a messy job. This makes their urine red and it stains everything in sight, including your hands. That is why we wore gloves, even in those days. I started out cleaning rabbit cages and very rapidly I became more involved with more experiments that were going on. During that time, he began experimenting by using a commercially prepared compound called hematoporphyrin. They made this out of beef urine and beef blood as I recall, I may be a little off. He injected this into patients with inoperable radio-resistant cancers, using this compound to try to increase the sensitivity of those tumors to radiation therapy. He really got some very spectacular results. There were people that had very large tumors that were thought to be almost preterminal, where the tumor shrunk and in some of them, they completely went away. This caused a tremendous amount of excitement at the University of Minnesota. I was fortunate because he permitted me to help design experiments in mice where we actually implanted a certain strain of breast cancer in the mice, then we treated them with this

combination of hematoporphyrin and x-ray, to measure the size of the tumors and the magnitude of the response. Indeed, their tumors did shrink. We did these studies at that time together with Dr. Merle Lokken, who was the radiologist who was doing the radiation therapy. We actually demonstrated, we never published at that time, the fact that if you make a tumor hypoxic, give it less oxygen than it normally gets, it becomes more resistant to radiation therapy. If you give it more oxygen than it needs, hyperoxia, it becomes more sensitive to radiation therapy and indeed the radiation therapy is more effective. Since hematoporphyrin can cause significant changes in the physiology of humans, I did studies at that time, looking at the effect of the injected hematoporphyrin in animals again, and these were again primarily in mice. We studied their metabolic rate, how much oxygen they utilized per minute time and also some other parameters of respiration and circulation. That is really where I had my mentoring to learn how to do controlled medical research. It was a very exciting time and near the time that I was about to graduate. The company that made this hematoporphyrin for Dr. Schwartz was the Mann Chemical Company. They sold out to Merck, Sharpe and Dohme. Merck, Sharpe and Dohme prided itself in producing pure products, whereas the Mann Chemical Company did not. The material that Mann supplied was about 90 percent hematoporphyrin and 10 percent other impurities. So Merck, Sharpe and Dohme started delivering pure hematoporphyrin and the pure hematoporphyrin did not work. So, it was one of the impurities in the original compound that actually caused the tumors to shrink with radiation therapy. Sam Schwartz spent, probably the next twenty years of his life, trying to find which impurity it was. As far as I know, he never did find it. He died last year at the age of eighty-one, never unlocking the secret to his research. He was a fantastic fellow, very religious man.

P: So this is what stimulated your enthusiasm which remained as part of your professional life from then on.

M: Yes, that is where I got started. I guess in today's modern terminology, you would call that chemotherapy. These days chemotherapy is an important thing in the treatment of cancer, so I had the opportunity in the mid 1950s to get involved in a very new field.

P: I noticed here you worked with a Dr. Donald Schumrick?

M: We did not do research together. Don Schumrick was one of my classmates in medical school and a fraternity brother. We lived across the street from each other. He was a little older than many of us and had a masters degree in physiology and was a graduate assistant, teaching and tutoring some of the Minnesota football players during the banner years when Bernie Berman was the coach. They had a fantastic team in those days. In fact, many of them became all pros. I remember Gordie Soltah, who you may remember held the record for the old American Football League for points scored. Later, he was an end for the

San Francisco Forty-niners and a place kicker. Bud Grant, who later coached the Minnesota Vikings for many years. Leo Nomellini, who was an all pro tackle, I think with San Francisco. Clayton Tonamaker, who was an all pro center with Philadelphia. They all played on the same team and Don tutored some of these people. Don was quite an entrepreneur. We were all married at that time, we all had families. Don went out and made arrangements with some of the private hospitals in St. Paul, Minnesota, which was only about ten miles from the university campus, that we would stay in the hospital nights, in the delivery room. We would work up the patients that came in about to deliver, take care of them, and call their physicians. We were acting like interns although we were medical students. If the obstetrician or family doctor did not get there on time, we were there to deliver the babies. We also did histories and physicals on patients throughout the hospital because they did not have interns or residents. That was a major source of income for many of us in being able to pay our way through school. It was done at night. If it was quiet, we could sleep, if not, we may have been up all night and then have to go to school the next day.

P: But you were getting medical experience. You were not just packing groceries or something.

M: No, but I did some of that too. I also worked at a delicatessen on weekends, at Cecil's.

P: The next step in your career, you go into the navy?

M: When I was a junior medical student, a navy recruiter came to the University of Minnesota and informed us that if, as a medical student, we entered the Navy, we would get a commission and our last year of medical school, we would actually be on active duty. We were assigned full time to the university as a student, but we were paid as though we were on active duty as in ensign in the Navy. In return for that, we had to spend a minimum of three years in the Navy, including a year of internship. So I signed up for that and entered the Navy just before my senior year of medical school, July 15, 1956.

P: What about the research work that you did once you moved into that area of your career? You were still in school.

M: I was still in school, I was still working for Dr. Schwartz at that time. When I graduated medical school in 1957, then I went to the US Naval Hospital at St. Albans which is on Long Island in New York City. As an intern, obviously, one does not have much time to do research, number one, and number two, there was not a lot of research going on at the naval hospital. That was primarily taking care of military persons. But while at that institution and during my residency there, we did do some clinical studies. By clinical studies I mean

looking at the effects of certain types of new drugs in the way of new anesthetic agents and new ways to anesthetize people and things like that. I did a little bit there and I also became very interested at that time, in patients who had serious difficulty in breathing. In the mid to late 1950's, about the only people that were put on mechanical ventilators were people with polio. They used to use rocking beds and iron lungs and things like that, which were not terribly effective compared to the equipment that we have today. We were fairly crude by comparison. But I developed an interest in that and with one of the other interns, Dr. Ross Moquin, who happened to be my next door neighbor and later was a resident in internal medicine there when I was a resident in anesthesiology. We started the Intensive Care Unit and also the Respiratory Therapy Department at St. Albans. This was a 1,300+ bed hospital and it was the center for the Eastern half of the United States for chest disease so we had a significant number of patients with tuberculosis and people who had their lungs operated on and things like that.

P: Are these all military people and their families?

M: Yes, they are military people, dependents, retired military. I do not know if that was the first Respiratory Therapy Department and Intensive Care Unit in a naval hospital. Some people think that in San Diego they started one before us and some people think they started after us, but it does not matter. That is where I started to get experience in critical care medicine and respiratory therapy which now is a separate specialty, but at that time most people were self taught or you learned from someone who knew how to do that in an apprenticeship.

P: Now you were fortunate to work under some very prominent medical practitioners and research scientists at St. Albans weren't you? I have the names of those included here, Dr. Lundy for instance?

M: No, Lundy I never worked under. Lundy was the Chairman at the Mayo Clinic who was the first individual to use sodium thiopental. The people that were at St Albans that were very important from a historical standpoint were Dr. Emanuel Papper. Dr. Papper was the chairman of anesthesiology at Columbia University and he was truly a giant in the field and had developed one of the premier Departments of Anesthesiology in the world at Columbia College of Physicians and Surgeons at Columbia Presbyterian Medical Center. He was one of my very early mentors and as a matter of fact, probably more than anybody, has been the individual who has guided my professional career in anesthesiology since that time. Another one was Dr. Merel Harmel, who was one of the people who did the first studies of the effects of anaesthetics on cerebral blood flow. He at that time was the chairman of anesthesiology at SUNY Downstate Medical Center in Brooklyn. A third one was Dr. Louis Orkin, who was the chairman of the Department of Anesthesiology at Albert Einstein Medical School at Yeshiva University in the Bronx. The other one was Dr. Louis Wright, who at that time

worked for the Squibb Corporation. He is the individual who actually introduced curare as a muscle relaxant for use in surgery to Dr. Harold R. Griffith in Canada who used it on the first human being. I had the opportunity to be exposed to some real giants in the field very early on.

P: Now you are not doing research, you are learning from these people right? This is the time that you were doing your residency?

M: That is correct. I did my residency there and then I stayed on one year on the active faculty.

P: What made you stay on there after your residency?

M: Because the US government told me I would. I owed them three years after finishing my residency and the US Navy may ask you what you would like to do, but in the final analysis, they tell you what you are going to do. One of the reasons why I was happy to stay there is that we had just established the Respiratory Therapy Department and the Intensive Care Unit. I was contacted by some of the people in Washington asking whether I would mind staying there for the rest of my career so that they could send other people to train under us. I thought that would be a wonderful thing since I was interested in academic medicine. It was not too long after that, that I received orders to move to Camp Pendleton to become a doctor with the US Marine Corps in California. After getting over the initial shock of that, coming from Minnesota, California was kind of the place that people liked to live, so I thought that would be kind of neat. Just about the time that we were about to sign a contract to rent a house out there, suddenly they changed my orders to the US Naval Hospital in Pensacola, Florida. I never did want to live in Florida. I never envisioned living in the south, I had heard lots of stories about the south. Outside of my uncle who practiced medicine in Jonesboro, Arkansas, I do not think I knew another southerner. I heard all these terrible stories about segregation and things like that. I really could not stand hot weather coming from Minnesota. New York City was plenty hot for me. So I went to Washington to complain and as with all good naval officers, when you go to Washington to complain, they listen to you and then they tell you exactly what you are going to do and that is what they told you were going to do before you came in to complain. So in the summer of 1961, I arrived in Pensacola. As I recall, it was 101 degrees and our living quarters were not available so they put us in what was part of the old hospital, with no air conditioning and the windows did not work. It was not a good introduction to Florida. Once I left the Navy and got to the University of Miami, I wanted to pursue my interest in drowning and Miami was a good place to do that because of all the drownings that occur there. I got together with Dr. Joseph Davis who was the Medical Examiner for Dade County and a superb forensic pathologist, probably has autopsied more drowning victims than anybody in the

world. We worked together on autopsying victims of drowning in Dade County and I got a grant from the United Way of Dade County, about 1,600 dollars, to do a couple of animal experiments in anesthetized animals to really be able to demonstrate whether what I observed in humans was real. I was able to describe what the difference was between our animal experiments, Dr. Swann's animal experiments and humans. That launched a whole career. From there I received a substantial grant from the National Institutes of Health to study drowning and near drowning and was able to hire my own laboratory technicians and office staff and research nurses, while I was at the University of Miami Medical School. Then I got a Career Development Award, which is a highly competitive grant from NIH. I think they gave out seven that year in the entire country in my speciality. But that permitted me about eighty percent of my time to pursue this type of research which I did. I am pleased to say that we were able to make a real difference. We continued those studies, both on animals and humans. We continued them when I got here at the University of Florida. The two key members of my research team from Miami came here with me. One of them stayed here for about fifteen years and the other one is still on the staff here, twenty-eight years later in the Department of Anesthesiology. So we were able to continue those studies and we published more than any other group in the world in the field of drowning. Our work has been published in journals of multiple specialities of medicine in multiple countries and multiple languages. Next month I am going to Greece as their invited speaker to speak on drowning at their annual meeting. Last fall I was the speaker at the International Lifesaving Organization and gave the keynote address at that. Six months before that, I was the keynote speaker at the Canadian Lifesaving Group and so on.

P: I know you are a modest man, but would you not seriously be considered one of the world's authorities on this type of research?

M: In all due modesty, let me say that I have been referred to as the world's authority by other people who write about drowning and I have had the opportunity to review several legal cases involving drowning accidents. Invariably, even the expert on the other side recognizes me as the world's expert.

P: Are you continuing your research activity in this area?

M: Yes and no. I still have the interest, but I am not doing anything in the laboratory in research. What I am doing is continuing to write things like book chapters on drowning and continuing to look at material to look for anything that might make it even safer. One thing that has occurred which is very important is that CPR is being taught to the lay public so that there are people at the scene now who know how to start resuscitating somebody.

P: It is a good goal that you have achieved.

M: Oh yes, it makes me feel very good.

P: What other kind of research activities were you involved in Miami?

M: That really launched a number of related studies. I got very interested in lung disease and we branched out into many other areas of research. Also critical to this was, that I started the first Intensive Care Unit in Miami at Jackson Memorial Hospital in the mid 1960's. Prior to that there was no Intensive Care Unit there. So I was involved in the care of patients with multiple reasons for why they had pulmonary problems. In those days, mechanical ventilators, the machines we used to help people breathe, were kind of in their infancy and there were a lot of problems with them. We designed equipment to be able to better ventilate these patients. I got a team about me there and here and it is hard for me to separate exactly what happened there and here because in the transition, we brought the research and technicians with us. I spent a couple of weeks with Dr. Farhi and Dr. Rahn, in Buffalo at that time. These were two giants in the field of respiratory physiology. They reviewed much of my work and gave me advice. I also met people like Dr. John Severinghaus, who I consider to be one of the few geniuses I have ever met who really did a lot of work on why we breathe and that sort of thing. I met Dr. Mike Laver who was then was at Massachusetts General Hospital and who established the first blood gas lab to measure oxygen in blood in this country. So these people became my friends and colleges and we would share data. Through all that, we started doing studies in Miami on humidification. In those days, when you were being breathed mechanically, people used to get dried plugs of secretions in their lungs, because people did not realize the importance of humidifying the gas that we breathe. When you breathe normally through your mouth and nose, no matter what the humidity is of the air you are breathing, by the time it hits your lungs, it is about one hundred percent saturated with water. We began studies there on humidification, continued those studies here to be able to document how much humidity was necessary in those circuits. We investigated different types of equipment and their efficiency in producing that. I did some of the original studies on ultrasonic nebulizers, which were a type of equipment that produced a tremendous amount of water in particulate form and actually demonstrated with that, that you could over humidify and actually drown somebody through a machine like that. The first case of that, we reported in 1969 or 1970 in a child. Because of the research we did, we picked it up and was able to reverse the situation, the child would have died otherwise. Also I met Dr. Frank Gollan at that time, who was an old time classic physiologist. He and Dr. Leland Clark had written an article in *Science* just a year or two before that, where they showed that they could take mice and immerse them in a special kind of liquid and let them breathe that and

then take them out and shake them out and they would live. That was a perflourinated hydrocarbon. It is a material that when fully saturated contains about fifty times the amount of oxygen as blood plasma contains. I started working with Dr. Gollan and we did a lot of studies with liquid ventilation. We would convert animals to breathing liquid instead of air. You would think perhaps, well they are going to drown. This particular liquid was very unique in that it did not eliminate the pulmonary surfactant, the material that holds the air sacs or alveoli in the lungs open. It contained a very high concentration of oxygen so that the blood of these experimental animals was very well oxygenated. We did this with two goals in mind. One was, at that time, cystic fibrosis, which is a congenital disease, was very poorly treated. We did not understand it, we did not have gene engineering and all those things they are talking about now, to treat it with. An individual with cystic fibrosis had a very poor life span because they would get thick, tenacious secretions that plugged up their ability to breathe. One of the things we looked at, was looked at this as a technique to wash this thick tenacious material out of their lungs. There was no way that you could immerse someone's lungs totally in aqueous liquid because they would die of hypoxia. So we did some experiments that demonstrated that indeed, we could wash that type of material out of the lungs successfully with flourocarbon. The other thing was, was that was about the time of the oil crisis and they were talking about obtaining oil from the floor of the ocean. There may be oil under there, but it is so deep, that you cannot send humans down there because of the problem of air embolism. Also Dr. Kylstra was another one at Duke who worked in this area. We found that if you filled with lungs with this liquid, and you gave enough time to be able to get rid of the nitrogen in the blood, that you then could compress animals like this, or decompress them without getting air emboli and the bends. So we started thinking, would it be possible to design some type of an apparatus that a conscious person could be breathing liquid and actually go down to the bottom of the ocean floor and come up without getting into trouble? Those studies were very exciting, they were kind of like Buck Rogers. They were things that you would never think could happen. We actually had some very encouraging results. I went first to Allied Chemical Company to have them make a specific type of fluorocarbon to our specifications, which we felt would be better than what was available commercially at that time and have less side effects, which they did and it worked very well. I went with their medical director and their attorney to the FDA in Washington to try to get permission to use this in humans. What we wanted to use this for was in terminal cystic fibrosis patients first. Once we got there, very little of this material was absorbed into the body from the lungs and what was came back out, they decided that this was not a drug, but rather it was a device. So they sent us to the Bureau of Devices and at that time, it was one office with a retired army general, medical corps type and a secretary and lots of boxes that I recall and lots of plaques on the wall as to what war theaters he was in and everything else. But they had no rules or regulations yet as to what they

could approve and what they could not. We spent most of the day there, showing him our data and showing him a movie that we had made and toxicity studies and everything else. He was very impressed and thought this was absolutely fascinating, but he could not give us permission to use it in humans because he had no guidelines to do that. I said well what do we do now, and his response was, go ahead and use it. If you hurt somebody and get in trouble, we will come after you. Considering that we were going to take people, who literally were almost dead, and desperately wanted this as a last ditch therapy, I was not willing to do that, nor was Allied Chemical. I will never forget, we went to the old Marriot Hotel near the airport, the original one. We had lunch there and a decision was made by Allied Chemical Company to get out of the medical business. They went out of it for several years. After that it was pretty much dropped. Dr. Kylstra still did a few studies at Duke with it. He was in the hyperbaric oxygenation business and did a lot of work with divers. But it pretty much died on the vine.

P: But the potential sounded so wonderful.

M: I think it still does. I was gratified, I guess it must have been about five years ago, when I got a call from a medical reporter from the Boston Globe, telling me that he had just done a story on a baby in Philadelphia with infantile respiratory distress syndrome that someone there had actually ventilated with a similar type of compound and when he started checking around, found out that I had done the original research on it. They have ventilated some newborns with this material in an attempt to save them and there are experiments going on now I think in several centers, of using partial liquid ventilation with a compound similar to this in people with very severe lung disease.

P: Has anyone given them permission to work on humans, the kind that you had sought?

M: Yes, the FDA has now done that. They are not doing it the same way that we did. They are doing it with more sophisticated equipment, but it is twenty-five years later. You have computers and equipment that we did not have back then.

P: The potential that you saw, twenty-five years ago, is now being proven by these activities?

M: Let me say that there are pilot studies to further investigate its efficacy. I would not say that it has been proven yet, but at least it has been used. There is a company that feels strongly enough that they are investing their money in it and there are people investing their careers in it. Then we went into other things. When I got here, one of the problems that we saw after anesthesia was that

some people vomit and aspirate stomach contents into their lungs which produces a very severe lesion that was fatal in a significant number of people. So we started doing experiments here on acid aspiration and studied aspiration pneumonitis and the University of Florida is now known as one of the world leaders in that area. These are studies that I started and did with some of my fellows and residents and young faculty members. Many of them have actually made a career of this since. That is the second topic I will be talking on in Greece.

P: When you came here, did they give you the laboratory space you needed to carry on your research?

M: That is an interesting way of putting it. I came here as a very young chairman, and I had negotiated for a certain amount of laboratory space, which I thought was not enough, but at least I could get started. This was 1969, you did not need a lot then. When I got here I found out that the laboratory space that they were supposed to give to me, I was not going to get. The reason why is because they had a faculty member here, in nephrology, who had been working in the sub-basement of the pharmacy building and demanded a more visible and better laboratory and they were not about to give it to him. About that same time, between the time that I signed on in early 1969 and the time I got here the last week of July in 1969, his invention called Gatorade had come out and Dr. Cade threatened to leave and go to Africa as a medical missionary because his laboratory was not adequate. When I got here, I found out that Dr. Cade was going to occupy the laboratories that had been committed to me. I moved into Dr. Cade's old laboratories in the sub-basement of the pharmacy building, which I found to be very adequate.

P: Who worked with you on that?

M: A number of people. Dr. John Downs, who was one of my Fellows. I got him started in that area. John went on to become the president of the Society of Critical Care Medicine and is now the chairman of the Department of Anesthesiology at the University of South Florida. Dr. Roy Chapman was a fellow at the same time. Roy is in private practice here in town. Dr. Charles Gibbs was involved in those studies. He is now the chairman of the Department of Anesthesiology at the University of Colorado. Dr. Phil Boysen became involved when he was a fellow in my department and he is now chairman of the Department of Anesthesiology at the University of North Carolina. Dr. Shirley Graves was involved in some of the early studies. She went astray and became Mrs. Modell. Dr. Azriel Perel who was here as a Fellow from Israel. He was at Hadassah Medical Center at that time and he is now chairman of anesthesiology at the largest medical school in Israel in Tel Aviv, I do not remember what the name is.

P: So you launched a number of important careers as a result of this activity.

M: I am very proud of all of them. I was fortunate in having good protoplasm to work with. Those studies led to us looking at patients with a variety of pulmonary diseases, whereby the equipment that we had to take care of them, mechanical ventilators, were pretty crude in those days. We developed the concept of intermittent mandatory ventilation and developed the concept of increasing the amounts of positive pressure on the airway. Those studies were led by John Downs, by Bob Kirby, who left here and became the chairman of anesthesiology at Tulane and now he is back here again as the chief of anesthesia at the VA. Elmer F. "Bud" Klein was part of that group. Bud has been chairman of anesthesiology at the University of South Carolina and then went from there to the University of Arkansas and just this year has stepped down and retired from the chairmanship. David Desautels, our chief of respiratory therapy, was involved. Dave is now in St. Petersburg running a hyperbaric facility. But there were a lot of people who were involved in that effort. That technique was adopted world wide and I think the University of Florida is still know for that type of activity.

P: That did not end your research activities though here.

M: Those are multiple things that occurred. As far as my personal research is concerned, probably at about that time I became so busy as an administrator that I did not have much time to spend personally at the laboratory bench. In 1979, I recruited Dr. J.S. Gravenstein to come back here. He was the chairman here before I was and he had left in 1969 to go to Case Western Reserve University as chairman. I recruited him back, he was a superb teacher and he was very interested in patient safety and in monitoring. As the department chair, I invested a lot of resources into things that he was interested in. Out of that came the automated anesthetic record, which is something that has now been adopted and been made more sophisticated and used throughout the country. We became very much involved in monitoring during anesthesia. We were one of the first institutions in the country to do extensive monitoring. At that time it was thought to be way out and now it is the standard of care in this country. Monitoring patients for pulse oximetry, the amount of oxygen they have in their blood, continuously, monitoring their exhaled gases for carbon dioxide and anesthetic agents. We were pioneers in those fields. The other significant event that occurred was Dr. Jan Benekin who was the professor and chairman of medical engineering at Einhoven University in the Netherlands at that time and recently retired as the dean of that university, came here. He was thought to be the father of biomedical engineering and came here for a sabbatical. Combining his talents with Dr. Gravenstein's and with some of the young residents that I had at that time, that launched the anesthesia simulator, which is a computerized

mannequin, connected to all the modern equipment that we use, whereby one can teach students to give anesthesia in a computerized simulated setting that completely mimics the clinical situation to make it safer for patients. That device is now available commercially and is being sold around the world, but that was born here as the Gainesville Anesthesia Simulator. These people that were under my direction had become international figures of their own.

P: And you are beginning to have the opportunity to go to these international conferences to present papers based upon your findings and your work.

M: I have lectured in many places throughout the world, I have presented my work in many places. I do not know how many scientific presentations I have given, it must be at least two or three hundred, but now I would rather have one of my students get up there and I prefer to sit in the audience and watch them present something.

P: But your own participation, your own involvement really begins when you are at the University of Miami? This is when you begin to have the opportunity/

M: Yes. Not with the monitoring things and the simulator. That all is pure University of Florida. The opportunity to lecture on the international scene to present papers started at the University of Miami.

P: I see you were elected as a faculty member of Alpha Omega Alpha. Is that based upon your research work?

M: Alpha Omega Alpha is the medical honor society and students in the top ten percent of their class are eligible to be elected to membership. As a student I guess I was not good enough to do that, but then every chapter each year, has the opportunity, if they want to, to elect one faculty member that they consider to be an outstanding teacher. It is based on teaching, but I think research has a lot to do with that also. In the last year that I was at the University of Miami, the students there elected me into Alpha Omega Alpha.

P: Can you talk more about your research activities here at the University of Florida?

M: I think I have given you a sketch of where they went.

P: It sounds to me like you did not have very much time to do research.

M: After the first few years as the department started to grow, my role was not so much as me physically doing the research in the laboratory, but rather working with my junior faculty, who I considered to be my students. They were taking the course as to how to become senior faculty and department chairs. Medical

students who worked with me, residents and fellows and my role was to guide their careers and to get them started. What I started doing was taking my own research projects, get them involved, and then turn the day to day operation of that over to them so they could learn like I had the opportunity to learn with Sam Schwartz. I consider the success of a department chair is not necessarily how many research papers he or she publishes as the only author, but more important, how many people in their department they launched their careers and helped them to do this. Edit their papers, critique their research protocols, and give them the opportunity to do research and then be very supportive of them.

P: It sounds like you were able, from what you have said to put together a very splendid academic team of people whose careers were launched here and have gone onto bigger careers somewhere else.

M: I believe that it true. The time that I stepped down as a chair in 1992, I would say that we were probably in one of the top two or three departments of anaesthesiology in the country.

P: You did have an editorial office as part of the medical school?

M: I did that very early on. I hired an editorial assistant. The first one we had was Pam Warwick. She had a degree in journalism and in English. I did that because, physicians do not necessarily write very well. They may know how to take care of patients, they may know how to do research, but research is not research until it is peer reviewed and it is published. So I hired her to be able to review the manuscripts of the people in the department and to help teach them how to write so that other people understand it and how to write correctly. As a result, we started that particular office.

P: Was that an innovative thing here at the clinic?

M: I do not know if other people had it or not, but I personally had never been exposed to one before. I think you might say that we were one of the earliest departments that ever did that. We have had a number of people in that office since and the department still has such an office.

P: Is Kathy your editor now?

M: No, Kathy is my executive secretary.

P: Do you have an editor that is part of this operation here?

M: The department does. Anita Yeager is the current editorial assistant.

P: Who is this Edwin S. Munson and what was his involvement?

M: Ed Munson was an anesthesiologist who trained at the University of California in San Francisco. He then went to the University of Virginia, was at that institution on the faculty there and then went to the University of California at Davis. I recruited him from U.C. Davis to be the director of our research program. Ed was a professor of anesthesiology in our department and was a very good clinical teacher and did help some people get started in the lab. He had started the resident's conference when he was in Charlottesville. When he came down here, we started the Gulf Coast Resident's Conference under Ed's direction. That then expanded and actually took over the one from Virginia. The conference there went out of business after that. So the Gulf Atlantic Resident's Conference was started here. Just last weekend, it was held in South Carolina and our resident's from the University of Florida took home one third of all of the awards for their research presentations. It covers all of the southeastern conference schools plus the ACC schools and plus a couple of others that are a little west of that.

P: Is Munson still here?

M: No, unfortunately Ed is deceased. Ed left here to become professor and chairman of the Department of Anesthesiology at the University of Kentucky. Then after that, he left there and went into private practice and recently retired in New Mexico. Unfortunately died of a coronary shortly after his retirement.

P: Who is in charge of the operation here now?

M: There is not a director of research as such at the present time.

P: In 1978 you celebrated the twentieth anniversary of the Department of Anesthesiology. Did that call for a large celebration with research activities being spotlighted?

M: That is correct. We had a program, a gala weekend, we had a banquet and we had former residents that came back from all over the country.

P: When you refer to Nick, you are talking about Dr. Gravenstein, right?

M: There are three Dr. Gravensteins in the department. There is J.S. Gravenstein, who came here in 1958 as the chairman of the division of anesthesiology.

P: Was he the first of the Gravensteins on the scene?

M: He is the first one. His eldest son is Nicholas Gravenstein, who is also called

Nick, is currently the chairman of the Department of Anesthesiology. Then there is Detrick Gravenstein, whose nickname is Didi, who is a younger son, who is also a faculty member. At that twentieth anniversary, I convinced J.S. Gravenstein to come back to the University of Florida from Case Western Reserve University where he was the chairman. He came back as a graduate research professor and having him back here, makes us one of the few places that had the original and the only other chairman of the department for over thirty years, in the same department, working together, complementing each other and never having ego problems. He was just a marvelous person to work with.

P: What about this research association with College of Engineering?

M: Dr. Gravenstein started that with Dr. Edward Ernst, who was a Fellow here in 1968. Dr. Ernst was a Fellow with Dr. Robert Walker, who was the acting chair of chemical engineering at that time. That actually started that relationship. Ed Ernst went on to Cleveland with Dr. Gravenstein and from there he went to Alabama as the chairman of anesthesiology at the University of Alabama at Birmingham. A year later in 1970, I recruited Dr. Dinesh Shah, who was a biophysicist at Columbia University in New York. I recruited him jointly with chemical engineering and that solidified that bridge to the present. Dinesh Shah is still here and has been a marvelous success. He has received international acclaim for his work in surface chemistry.

P: You say this work together with engineering is a continuing procedure?

M: Yes, there is a new Biomedical Engineering Program that relies very heavily on faculty in the Department of Anesthesiology. Engineering is very proud of its affiliation with the department in that many of the people involved in the simulator design are actually engineers that were hired by the department in the medical school.

P: I do not understand this relationship. What did they do? You do not ordinarily think of engineering being related to medical science.

M: Why not? Think about it. Medical science has progressed a great deal because of the tools that are available to us now. Most of those tools come out of engineering. We have a course here that Dr. J.S. Gravenstein started and Dr. Paulus has been very involved with, for engineers from corporate industry, where people come here from all over the world. These are corporations that build medical equipment. Their engineers come here to a two week course to see how it is used, they actually rotate into the operating room, they observe our faculty and residents in caring for patients. They have didactic classes, so they have an understanding of the applicability of what they are doing and the need for new equipment. The relationship with engineering here, has been primarily

through the simulator project in designing the engineering components and the computer components for that particular simulator and being able to simulate how you breathe, how your heart beats, how you take up and distribute anesthetic agents. It is a natural marriage. Other things, Dinesh Shah developed artificial tears, for patients with dry eyes, a horrible disease. With his work with surface chemistry, he worked with people in the Department of Opthamology and developed the artificial tears that you can buy at the drugstore now. He has worked with people in gastroenterology in looking at some of the coating of the gastrointestinal tract, the different diseases that alter that. He has done work in using model membranes to predict the potency of anesthetic agents. How rapidly they penetrate a surface with a model membrane determines what their potency is going to be in humans. Our orthopedics department has worked with the people in engineering in biomaterials for example. So there are a lot of interactions there that can occur.

P: Do the drug companies have the same type of active programs with the departments?

M: Active programs is not the right word, but the seminars that we put on are attended by people from drug and equipment companies. The drug companies are fairly limited because there is a limited field of drugs applicable to the field of anesthesiology.

P: You have been a consultant in anesthesiology to the Surgeon General of the United States Air Force. Did that involve any research activities?

M: Not as such. As a consultant I would go in and inspect programs that they would want me to, primarily at Wilford Hall Air Force Hospital in San Antonio.

P: I was very intrigued by your trip to China. You were invited to do that.

M: I was part of the second cultural exchange group that went over there in 1974 when Mao Tse-Tung was still alive. There were twelve of us and we spent twenty-two days in the People's Republic of China. I left Florida and we ended up in Hong Kong. We went from there to China as a group.

P: Why were you selected?

M: I have no idea Sam; except that Manny Papper was the chairman of our group and as I told you, every time something good happened to me in life as an anesthesiologist, somehow or another, Manny Papper was there. He may have recommended it, I do not know. I was one of four anesthesiologists that went with that group.

P: Who picked up the tab?

M: The National Academy of Sciences. Once we were in China, we were the guests of the Chinese Medical Association. We started out in Canton, we went to Beijing, we were at Shanghai. We went to the West Lake, we visited some rural areas.

P: What were you supposed to be doing with the group?

M: We were called the Acupuncture-Anesthesia Study Group. We went there specifically to study acupuncture anesthesia.

P: You came away from China with what kind of feelings about their medical practices?

M: It was very primitive. Their equipment was very old. They did not have the more sophisticated, expensive therapy that we did here. But it was a fascinating time. The patients were very dedicated to getting well. As you talked with them, if they were not getting well fast enough, they tended to blame themselves for not helping the doctors and nurses enough. Mao Tse-Tung was god. I do not know any other way to state it. When Mao Tse-Tung says, thou shall help the doctors and nurses to make you well so you can go back to work in the fields and in the factories, if they did not do that, they felt like they had let him down. But they were not doing real complex things. We saw a very simple open heart procedure, but nothing complex like we were doing here. They did not transplant kidneys and hearts and livers and that sort of thing, but by the same token, they did Reanastomose severed arms and fingers. They were ahead of us in that, but the reason they did that is that if they were able to reestablish a functioning arm, the individual could go back to work. It was a society that emphasized health care to return people to factories and to farm work for productivity. It was not a society that emphasized health care to make retired people live longer or prolong the life of people unless they were strong enough to work. That is the impression we got. Whether it was true or not, I do not know. You could not converse with most of the people except through interpreters.

P: Have you been back to China?

M: No, and I do not want to go back. I have had the opportunity to travel to a number of places abroad. When I go back they are not the same as the first time I saw them. I might enjoy them, but it is not the same experience and I do not really care to see the same place twice.

P: There must be vast changes in China, the whole society including medical science.

M: I am sure there are, but the thing that was so fascinating at that time is that it was so different. These people were hungry for knowledge. We brought some books to give as gifts. You would have thought we had given each one of them a Rolls Royce, to give them a textbook that was outdated already. To see the people there, everybody wore a Mao jacket and pants and cap. You could not tell the difference between the males and females walking down the street, they all dressed exactly the same. They either walked or they rode a bicycle. The only motorized vehicles were occasionally you would see a truck with the back of it packed with people, taking them to work. The cars were for distinguished guests, such as us. The populace did not have that access. It was a very sterile, regimented society and yet the people that we met and the people that we talked to were absolutely committed to whatever principles that Mao Tse-Tung had them adhere to in order to be able to improve the quality of the country. But you have to remember that the elite had disappeared one way or another. They had either left or something else happened to them. What you had was the people who were probably suppressed before. I will never forget visiting one family in their apartment. There was one electric bulb hanging from a cord from the ceiling. A fire inspector here would condemn the place. For thirty minutes they told us how wonderful Mao Tse-Tung was because he gave them light in their house. Prior to him, they had never had light in the house except by a candle. These little things were so important to the people there. Now it is different. They are now a pretty well commercialized and industrialized society. You could not buy Coca Cola on the streets when I was there. We stayed in the best hotels that they had, which were very old and very sterile as to the surroundings and very hot because it was the middle of summer with no air-conditioning.

P: Did you go to Russia or Eastern Europe at all?

M: No I did not. I had the opportunity, I was invited to go to Russia and lecture in Moscow, Leningrad and Stalingrad. About two weeks before that, I got bilateral corneal abrasions in my eyes, and I had terrible photophobia and could not be out in the sunlight at all. I had my eyes patched for most of the summer so I missed that opportunity. I have been to England, Norway, Sweden, Denmark, Belgium, Portugal, Spain, Germany, Switzerland, Israel, Canada, and Jamaica

P: Have you corresponded with researchers or scientists from those parts of the world about joint research or such?

M: Not as such. Many of them have written to me for reprints of my work. I have met some at meetings and talked with them but I really have not done any transatlantic research projects.

P: This appointment that you had to the National Institutes of Health as a member of

the Committee for General Medical Sciences Research Programs and Projects, that sounds very important.

M: That was the group that reviewed the research applications that came in for grants from trauma centers throughout the country and also for centers of excellence in anesthesiology. I was a member of that review group that was comprised of people from all over the country.

P: What about your research activities now? What are you doing?

M: I would like to get involved in some research. I have only been out of the dean's office since January. I have rewritten three book chapters since then, I have written my autobiography and finished that. I have had two original papers accepted for publication to peer reviewed journals. That is not too shabby for two and a half, three months.

P: Do you have a research lab?

M: I do not have a lab and I do not need a lab per se. There are two areas that I will explore. One of them, I do not know if we still have the critical mass here or not to do this. But with the anesthesia simulation, if you take that technology in reverse, there is an opportunity to build a brain into an anesthesia machine. One can, on a basis of the results of monitoring your vital signs under anesthesia, if something adverse begins to happen, then through computerization, it should be able to notify the anesthesiologist or nurse anesthetist what is going on so that they can intervene and treat that before disaster occurs. I do not know if there is a critical mass of computer engineers left here because so many of these people have gone on to do their own thing. If there is then I would like to get involved in that and help direct that effort. But I have just barely explored that and do not know whether there is or not. The other thing is, I have talked with Dr. Shah, who just had his sixtieth birthday and wants to take the rest of his career in surface chemistry and apply it to biomedical engineering principles, about the possibility of he and I working together. Me coming over to his lab and doing some of the things that we started twenty-five years ago and we both got so busy that we have not had time to finish them. If it looks like it is a good combination and it looks like we could do something constructive then we will do it.

P: Is research money more available today than it was back in the 1950's and 1960's, from the federal government, state and private agencies?

M: There are more dollars available today, but there are more people competing for them. Grants were never easy to get. You had to compete for them, you had to have projects that you were able to defend and you had to convince other people that they were important. That is no different today. As far as the

federal government, at NIH they target certain diseases or certain areas. Anesthesiology is not one that has been targeted. There is not a disease called anesthesiology to cure. But by the same token, having an anesthetic today, the chance of you dying under anesthesia for no good reason is about one in a quarter of a million. When I was a resident, it was about one in 2,500. A lot of the things that we have talked about have made that safer. The monitoring equipment that we have talked about has significantly contributed to that. But we could never get funded for monitoring. You do not cure a disease by monitoring, although how many people do you save by doing it? The field that I am in is not one where it is easy to get money at any time, then or now. Industry has been more supportive than the federal government in those particular areas. I think that if you have a particular project that is really worthwhile, and if it requires funding, you go search for it. Some things you can do very inexpensively. The research I mentioned to you that I started out with in Dr. Schwartz's laboratory, a lot of that depended on the use of a metabolic chamber. There was not money for one. I went down to Woolworth's Dime Store and I got some plastic refrigerator jars, some rubber corks and some glass tubing and for three dollars I built a metabolic chamber that then was used by other people after that to explore hyper thyroid disease and other things. These days, people think if you do not have $50,000 worth of computers you cannot do anything.

P: A lot of grateful patients over the years have made generous gifts to the university and I was wondering if there was a disease called anesthesiology you would have become the recipient of that.

M: Actually there is a chair in my name and most of that money came from corporations that we had worked with over the years in doing research, but I am not really sure.

P: So you have got a future as a researcher here now that you have given up your administration activities.

M: I do not really know that for sure. As you know I just turned sixty-five. I plan to stay for three years and then after that, I think I would go crazy if I retired, so I do plan to stay on.

P: And do research?

M: It depends on what is fun at that time. I will do that gratis. Teaching is important. I love to teach, I love to be with students, I enjoy doing research, but it is hard for me to tell you what I am going to be doing three years from now. Retired, sitting on a porch drinking Mint Juleps, I can promise you that will not happen. I thought I was almost through with administration except for a couple of things I have been assigned to, the contracts office and the insurance company. But then three weeks ago Dean Berns called me and told me that

they are having financial problems on the campus in Jacksonville. Would I go over there and help them work their way through their billing and collection of professional fees. So now I am spending two days a week in Jacksonville. Those are two days a week I could have spent doing research. So primarily the last five years or so, I have been doing what I have been asked to do and I have enjoyed it.

P: Are you optimistic about the future of the Health Center here?

M: If I was not optimistic about it, Shirley and I would not have contributed money to the research endowment for the Brain Institute. If you are willing to invest in something, you are optimistic. Talk is cheap. I feel strongly that it does have a bright future. It will go through some rocky times, every health center does. It is a solid institution, a premier institution and the state is very lucky to have it. The best kept secret is that you have several internationally know physicians on the faculty here. Many people who have been recruited elsewhere do not leave, they stay here. We have others that we have trained who have gone to other places and have become the leaders of those places. We are in the academic-administrative export business here and I think that is a real feather in the cap of the institution.

P: Is this the largest medical school in the southeast?

M: No, the University of Alabama, I am sure, is largest.

P: What else should we talk about?

M: I think we are about done.

P: It has been a marvelous experience.

M: It has been my pleasure.