KS: Ladies and gentlemen, we are privileged today to have the opportunity to interview Dr. George Schreiner for the ISN Video Legacy Project. The interviewers will be Dr. Agnes Fogo and myself, Dr. Kim Solez.

I think, George, we’ll start at the beginning. If you’d like to tell us about your birth and early childhood, and we’ll take it from there.

GES: Well I was born in Buffalo, New York on April 26, 1922 and went to school in a little school which was part of a generalized education campus which consisted of three institutions: a girl’s academy, a private parochial school - St. Vincent’s, and Canisius, which is a graduate college.

My house was directly across the street from the entrance to the college and I could go by the library and sit in the park. at the carousel in the library you could look right into the window of the living room of our old house.

KS: So if we skip ahead then, what happened next?

GES: I was in high school. Well, I went to Canisius Prep, which was a Jesuit high school and I got into debating and oratory and a little baseball and a little basketball. The only letter I won was in basketball and most of the time I was traveling with the debating team which had a very difficult schedule and we debated similar schools in New York, New Jersey, Philadelphia and Boston. I went all through prep school and my team never lost any interscholastic debates so we had a great record then and I did a great amount of public speaking. It was estimated that I talked live before more than 350,000 people before I was 18. This included all kinds of things, including 40,000 people at New York State Race Track, under the aegis of George Abbott who was the Mayor of Salamac............... and the father of George Abbott, the great Broadway producer.

As valedictorian of the class, I was offered the President’s Scholarship at Canisius College and although I also had some offers from other schools, I liked it so much there and I liked the fact that we had a place in the country in the summertime, a farm that we enjoyed, so I didn’t see any great reason for going out of town because I had all the things that you would want to have and a college handy to my house without any transportation problems. So I just stayed there and enjoyed myself.

KS: So once you we there you majored first in philosophy?

GES: Well I started taking Latin and Greek and history and heading toward a philosophy major and thinking that I might be interested in going into Law. As I did more and more talking, I realized that there were two parts to oratory: one was technique and voice and those things, and the other was content in that I saw that, in a
way, once I felt very comfortable about the technique it began to get worse with the content! So I thought that I would like to have something more concrete and got interested in science and decided that medicine would be a very interesting road to travel. Then I took a full major in pre-medical subjects, comparative anatomy and chemistry and physics and so forth. I enjoyed the biology particularly very much.

KS: So how did you choose where to go to medical school?

GES: Again, even though it was war time, I was having a great deal of fun in college and I was very active in all forms of extracurricular activities. In fact, my father and I built the first arena stage in western New York for a play that our Drama Club put on and we had an excellent actor as a mentor, a man named Porter White, whose father was a Shakespearean actor and whose uncle was a playwright - in fact the first playwright who had three plays running simultaneously on Broadway until Mike Nichols did it just a few years ago. So he was very interested in experimental theater and wanted to build an arena theater. They had no theater at the college but they did have a classroom which had steps going up - wooden steps with the seats on the steps. So he went to the President and asked if we could make an arena theater out of this. So I went to my father who was a pretty good carpenter, very handy with wood, and we took a chainsaw and we sawed the whole grandstand of the classroom into pieces of pie, put them on rollers and rolled them around, leaving a section out, and put on the first arena play which was about a man who was going to his execution in the electric chair. I enjoyed the acting part very much and as I was leaving the stage - the arena in front of the audience - this woman threw herself on me and said, "Don’t let them take you!" So I thought that was a convincing demonstration in communication!

Then we had 24 hours that night after the play to put the pieces of pie back together again, as it was to appease the President the following Monday morning, so that was our venture into theater building.

Then, I continued on taking science subjects so that by the time I graduated I had a full complement of hours for a philosophy major and a full complement in pre-medical biology, the sciences that were required.

I was accepted actually into medical school after my junior year by the University of Buffalo Medical School but I was having so much fun that I wanted to graduate and get my college degree. Also there were additional subjects that I really wanted to have, so I passed it by and then the Draft Board started to give me great grief because everybody was seeking to get into medical school to avoid the draft and they couldn’t understand why I would turn an acceptance down.

I finally persuaded them to do so and I was accepted in several medical schools and took Georgetown because I thought it would be very interesting, particularly in wartime. And it was. We had three or four major professors from Harvard who were here in the military during the war and taught. So we had a really marvelous Faculty plus many refugees from Europe came here because it was the capital. I took a course
in the psychology of prejudice, a graduate course, from one of Freud’s leading assistants and we really had some very marvelous teaching.

Early Years in Renal Medicine

**KS:** When did you first sense that renal medicine was your interest and how did this come about?

**GES:** Well it really wasn’t specific although I enjoyed the kidney in physiology and I did an experiment. We had a seminar for honors students in physiology and I took that program and the experiment that I remember we did was to make a trephine hole in the skull and then apply pressure and you could produce reflex pulmonary edema by raising intracerebral pressure of a dog and we graded the response - the amount of pulmonary edema produced and so forth, and the amount leakage in relationship to the pressure. I enjoyed that experiment very much so I like physiology particularly but I didn’t know enough about the kidney to make any sort of decision at that time until I got into my internship.

I interned at the Boston City Hospital and at that time that was fairly unusual for Georgetown. Georgetown had an excellent University Hospital but they also had a little bit of an atmosphere of provincialism so they regularly took about 12 out of the top 14 or 15 students in the class and kept them as their own housestaff. I did not want to do that so I went to Boston City Hospital and became an officer in the House Officer’s Association which had previously had ariot to try to get paid and they found out the Head of the Housestaff Association was a communist, so Mayor ?Curley wouldn’t have anything to do with him and the housestaff were getting treated sort of roughly, so we turned to a more diplomatic approach toward Mayor ?Curley

While I was there, I did a couple of interesting things. I came out of the House Officer’s Building one morning and we had a place called the East Boston Relief Station, which is on the other side of ?Summer Tunnel and this was to help out the people who lived in East Boston in case there was tunnel failure, there would be some medicine there for them. They maintained this small hospital really in East Boston, just for that purpose. So we had to do a rotation out there. It was quite a long way and took a lot of time by public transportation. So, when I walked out one morning from the House Officer’s Building, there was a chauffeur driven Cadillac parked there and I talked to the driver and we got chatting and got friendly and he said, "What are you doing?" and I said, "Well, I’m going out to East Boston Relief Station." He said, "Well, I don’t have anything to do, I’ll drive you." So he took me out in his chauffeur’s uniform in the Cadillac. We got very friendly and he started picking me up and taking me twice a day and one day Dr. ?Maneri, who was the hospital superintendent came out looking for his car and he said "Where is my car?" and someone said, "An intern has it!" He said, "What’s that guy’s name? Have him in my office in 30 minutes." So I went in and he said, "I’ll give you two seconds to tell me why you shouldn’t be fired." And I said, "Because you need good doctors." He said "Elevator operators are hard to get, doctors are a dime a dozen." So we kidded around and we became good friends and I promised not to steal his car again.
AF: Dr. Schreiner could you tell us about your experiences that led to your interest in renal medicine during your internship?

GES: Yes indeed. Because of the organization of the 999 system during the war, as we went through summers we had 36 months of school but it was done in 3 calendar years, without any vacations. So I started at Boston City on April 1st but there was a housestaff still there from the previous year because they were switching over to July. So in effect they had two housestaff, so we became residents before we were interns.

I was a resident on what is called the South Department which is the Infectious Disease Division, thinking it would be a very easy time. In fact I had in mind to try to associate with ?Thorndike and get some research done. On the second or third day that I was there, somebody came in with a sore throat and it turned out to be the beginning of the great Boston diphtheria epidemic and we had something like 8 patients in the South Department the day started and by the end of the month we had over 450 patients. My partner and I set the all time Boston City record by admitting 63 patients. This means history, physical, blood work, doing all the slides ourselves, the urinalysis, everything and cultures on 63 patients within one 24 hour period. I don’t think this has ever been surpassed. So we worked to exhaustion through the great Boston diphtheria epidemic.

After being a resident, I went back to being an intern again on the regular medical wards. Meanwhile, the Boston City Hospital treated its housestaff rather poorly. There were no salaries. The only thing we got was living and uniforms and you were allowed to bring your date or your wife to dinner on Sunday. That was whole return you got for your work. So everybody was very anxious to start getting paid. Another chap named Herman, and myself undertook to try to endear the House Officer Association to the hospital. So we wrote the first House Officer’s Manual together and that’s also still being used at the Boston City Hospital. I think the last time I saw it still had a similar cover. They change it of course from time to time. Then we started this House Officer Association and I found out that all of the GIs coming back were entitled to a payment from the Government which was supposed to be for educational institutions and that was if you took a graduate course and you were on the GI Bill of Rights, the institution that you went to received something like $500 which was supposed to pay the overhead of your studies and the supplies and that sort of thing. I just asked myself where was all this money going into in a hospital, which alReedy had those things? No one seemed to know. Anyway I did a little detective work to track it down and found out that it was all being banked in some hospital account and I got the only woman trustee at the Boston City Hospital on my side and we managed to get the mayor to approve taking this, by now, rather large amount of money and with it we established the Boston City Hospital House Officer Lecture Series with dinners, beautiful evening and so forth and had Dr. Castle appointed as a mentor to the House Officers. We had absolutely outstanding scientists from all over the world, literally every other week.

Sam Levine was the first one and one of the speakers was Homer Smith and so Dr. Castle had a reception for him after the lecture, at his home, and invited me and that’s where I met him and spent the evening talking with him so I got interested and Reed a
few of his things and then when I finished my internship, I ate lunch about one or twice a week with Dr. Castle and he became a very close friend and mentor. Also Max F. the infectious disease man. Later all three of us served on the National Drug Research Board in Washington. I told him what I wanted to do. There were no fellowships the way we understand the word today. So you had to sort of apprentice yourself as a research assistant and he suggested three people that I should go and interview and he wrote letters for them and one was at the Cleveland Clinic, and one in California, and the other was Homer Smith. So I couldn’t get to California, but I got the Cleveland Clinic and I went to Homer Smith’s place, where I set up an interview. When I got there for the interview, he started asking me very detailed questions and went into philosophy and theology and my family relationships and what I did for hobbies and things I’d written and all sorts of things. It lasted over 2 and a half hours almost three hours. I couldn’t understand this because he had over 30 research assistants in the Department, some of them outstanding people - Irving Schwartz and Marvin Levitt and ?Mario Gardino and people like that, and I’m sure that he couldn’t possibly have spent that much time with all of these research assistants. So I really was sort of baffled by the whole experience and then suddenly he stood up, put his hand across the desk and said, “You have the job.” He said “Don’t come to New York, go directly to the Mount ?............... Biology Laboratory in Maine - Salisbury Cove and then come back down here in the Fall and we’ll try to work out how you can get a room.” It turned out of course that Larry Wesson, who was also in Boston City and who also been recommended by Bill Castle, had an apartment and wanted to share it so he and I became room mates the following Fall. But that summer I worked at the Mount ..................... and worked on marine animals and did lot a work on the sculpin which becomes progressively aglomerular as it gets older and we were injecting inulin to see what happened to the inulin when the glomeruli disappeared. Of course it continued to circulate through the extracellular fluid. So it also became a way of measuring extracellular fluid by the dilution technique. If you could manage to hit a blood vessels in a sculpin twice, which we sometimes did. We did some work with the physiology of seals and I remember also catching flounder for John Taggart who was using the tubule of a flounder to concentrate PAH and measures TMs and what affected transport of PAH in the flounder tubule. So it was a very fruitful summer and I got back to New York and went in to see the secretary and she assigned me to a laboratory and most of the people there, as I said, there were over 30 research assistants besides all the faculty, so the Department was extremely crowded and sometimes there were 4 or 5 people working in a single small room and I was assigned this lovely laboratory which was right opposite Dr. Smith’s office door and again I couldn’t quite understand what was happening and I sat down at the desk, opened it up and there was a slide rule inside. In the corner was scratched "RFP", for Bob Pitts. That’s of course Dr. Pitts, who is a very famous renal physiologist, actually originally a neurophysiologist who was nationally famous and came to spend one year with Smith to learn the techniques because he wanted to study the choroid plexus as a capillary like the glomerulus and he got so fascinated with Smith that he stayed and became one of the great renal physiologists. Anyway, he’d just left for Cornell to become the Chairman of the Department of Physiology, so I was given Bob Pitts laboratory which really sort of bowled me over because I couldn’t understand why.
So I went ahead and started my experimental program and did the assignments. He assigned me to take apart the inulin method and take apart the creatinine method and see if I could improve it and I was doing a dog one day and the secretary came in and said, "Why aren’t you downstairs." I said, "Why should I be downstairs?" She said, "Well, Dr. Smith is giving his famous annual lecture on how to teach" and I said, "Well, I don’t see why I have to attend that" and I wanted to get these experiments done and she said, "It’s mandatory!" I said, "Well, why is it mandatory?" She said, "All the Faculty has to go and listen to this lecture on how to teach." And I said, "What does that have to do with me, I’m a research assistant." She said, "Oh no, you’re in the Faculty." So was now almost four months later and that’s how I found out that when he said, "You have the job" with his handshake, he didn’t mean that I had the job as a research assistant, but had a Faculty appointment. Of course I began to sweat bullets and realize that I had to stay up all night in order to stay a few hours ahead of the class in my Reeding because I really hadn’t had that much background in the subject. But we managed it all right and Larry Wesson and I became partners running the student laboratory.

There is an interesting nephrology story - we decided that we would do actual techniques on the students. I liked to teach them the methods but also to get some normal data. So we decided to do filtration rates and blood flows and also studies on antidiuretic hormones, so we divided the class into groups and those who drank water and didn’t take antidiuretic hormone and those who drank water and did take antidiuretic hormone, and those who took small amounts of water, and those who took large water and we did all the variables in these groups. It just happened that one afternoon the last group to take the water and the antidiuretic hormone were a group of boys who lived in Green Point, Brooklyn. That’s far out on the Brooklyn subway line and so the biologic half life of antidiuretic hormone is about 25-30 minutes. So they left the laboratory at 5, jumped onto the subway in the rush hour and when they got out to near Green Point, the antidiuretic hormone had run out and they had these huge water loads of 2 and 3 liters and of course they had to get out of the subway fast. Every time the subway opened in flowed about 1000 people, crushing and pushing them back into the car. So they couldn’t get out and to the bathroom. They reported Larry and myself for unnecessary cruelty to students, to the Dean’s Office and we had to go in and explain that it was not intended to be cruel to the students, but they’ll never forget what antidiuretic hormone did.

**AF:** If they had known their physiology better, they might not have gotten into that predicament. Tell me about the evolution from this time in Dr. Smith’s lab to your subsequent Faculty position at the University of Georgetown.

**GES:** Well, I stayed with Smith for 3 years and of course I was interested in clinical nephrology and so I spoke to Chais.......... and Goldring, who worked the unit for human clinical research which was in Belle Vue Hospital but it was supported entirely by Homer Smith and was really his unit but of course he was not an M.D. so Goldring and Chais....... were nominally in charge and this was the unit where many wonderful things happened.
For example, it is little known that André Cronado, who won the Nobel Prize came over to America from France. He had done one of the first catheterizations of the central circulation using the ................. catheter and he had this concept of a whole series of experiments he wanted to do to study pulmonary function in relationship to blood flow through the lungs and so forth, all the things for which he won the Nobel prize.

The people at Columbia Presbyterian when they heard that he was going to put a tube in the heart became very frightened and said he could not do it on their service. And so Homer actually invited ?Vernon who had a Columbia appointment to do his experiments and the NYU unit and that is where he did all of the work that won him the Nobel Prize which is very interesting. In fact, Homer helped him write the speech that was given for the New York Academy of Medicine that helped get him the prize and also helped with his acceptance speech because his command of English was not very great. They were both really excellent speeches and reflected, of course, Homer's unusual literary ability.

So it was a very reactive place. We had five or six Nobel Prize winners within 300 feet. We had a very active group of people. I think 12 or 13 chairmen of physiology departments came out of that lab within a couple of years, in places like the University of Virginia, Parker Anslo?????. Many schools came there to recruit chairmen of medicine. So it was an extremely exciting period and really the golden age of the Smith years at NYU.

I wanted to get this clinical background so Goldring-Chasis???? made a clinical fellowship, so by day I was a physiologist and by night I was a clinical person. I worked the clinics for perivascular disease, and postgraduate hospital, and also made rounds every day on Goldring-Chases’ patients, the problem cases, and presented the problem cases to them on renal rounds and did experiments on hypertension with them. So I had a full clinical program as well as the school. And it was interesting, of course, with many brilliant people around there but Homer wanted to mix basic science with clinical investigation as much as he could, so he started a seminar series in which a junior faculty member in physiology would be paired with a senior person in medicine. My first assignment was Ludwig Hifna???? who later became Chairman of Medicine and was one of those people who wrote those series of articles when he went back through medical school and took medical school all over again to see what the experience was like and write about it. And Sal Sherry who was one of the people who worked with streptokinase for years and became Chairman of Medicine at Temple University. So we would present cases and have discussions before a senior group and when I joined Sherry the first group that when I came there, a young man had stood up and asked me a very, very convoluted, complicated question. And I said "What is your name young man?" and he said "Eugene Brownwall", became a university professor at Harvard and now has a partner’s health clinic I guess in Boston.

Einstein

AF: 9; You met Albert Einstein also didn’t you one day?
GES: Yes. I was in the same lab doing a dog again, and there was a knock on the door. I opened the door and Albert Einstein was standing there with his shock of white hair and I sort of clicked my heels and came to attention, since I had never personally seen him. I was familiar with his pictures before and you know he could not be mistaken for anybody else. So I said "What can I do for you Dr. Einstein?". And he said "Do you know a fellow named Domingo Gomez?" And I said, "Yes." He said "Can you take me to him?". Now Gomez was a Cuban who had headed cardiovascular research in Havana and was kicked out by Castro and became a refugee and Homer gave him a laboratory. He built a complete model of the human circulation with all of the pressures and resistances and everything to make it work. He also had the first oscilloscope that I ever saw in my life that he had gotten from a military airplane, and that then is a monitor. Of course we are familiar with those things now but there were no such screens for measuring curves and for finding curves in those days.

And so as we were walking back, I said to Dr. Einstein "Do you mind my asking a personal question? Why are you looking for Domingo Gomez?" Very few people in the department even knew him. I used to eat lunch with him because he was a very interesting man. Einstein looked at me and said, "Well I am having trouble with an equation and I thought I would come down here for some help." I said "From Domingo Gomez?" And he said, "Yes. Don’t you know he is one of the five best mathematicians in the world?" So that is how I met Einstein.

Military Experience

AF: Dr. Schreiner, with all of these hours in the day, you must have more than most people, you managed to do a first rate research fellowship and clinical fellowship in a remarkably short span of time.

GES: Yes, it was very remarkable in the time period, but everything was so convenient there and we lived in the lower east side right close to Belle Vue Hospital, so my travel time was minimized really and I had many interesting experiences. The pay of course was very, very low, and by this time we had two children, and I had to think about where I was going to go in clinical medicine and things were beginning to warm up in the world. I had a very close friend, a high school pal of mine, who went on to become an ophthalmologist and he was doing a residency at New York Eye and Ear, and one of things I did in my clinical fellowship was to work in the Goldring’s Hypertension Nephritis Clinic and I started doing retinal photography to study the blood vessels and I found it very difficult. So I got this fellow’s name, John Loure. He was very anxious to get research experience, and so we started a study on diabetic retinopathy and some of the retinal photographs of the vascular regions with drawings and photography. And he came up to help me once a week at the clinic, and then one night he said he found a wonderful deal. I asked him what it was. He said all I had to do is some physical examinations for the Navy Reserve and I would get paid this money and it was very easy and I would be learning stuff and enjoying it. He said, "You ought to do something like that." I said, "Well aren’t you concerned because the world is looking a little rocky you know?" And he said, "Oh no." I think he was only there for three weeks and he disappeared. The next thing I knew I got a letter from him from Korea. He was in the
First Marine Corps. That was the first unit activated out of the Brooklyn Navy Yard and immediately sent to North Korea and he had a terrible time during that winter. You know, people were freezing, getting frostbite, losing limbs and everything, and he was such a wonderful person. A very tough fellow. So he sent me letters.

I realized that I had to move on in my clinical training in order to qualify for my Boards and so forth, and so I got a residency at the Veterans Hospital in Washington that January. And then I met Colonel Stone and talked to him about coming into the Army, although I was not subject to the draft because I had been in the Army and I had an honorable discharge from my B-12 unit which I had been in as a medical student. I still hadn’t done any real active duty except as a midshipman. I didn’t know, it wasn’t really clear, that it constituted as a payback for the draft or not, nobody was really quite sure because it was a unique situation that our unit was discharged. That one moment was the only time that happened in the war. Plus they had no place to send us so they discharged us. So I talked to him and he said that sooner or later with Korea heating up the way it was and the war started already very viciously, that he agreed that it wouldn’t be a bad idea. And then he said he would put in a request for me because he was anxious to build the staff over at the research institute. So I did that and volunteered for the Army and then got a captain’s commission.

I wrote a couple of papers at the Veteran’s Hospital and had a chance to work with Ed Fries and we did the first studies on afterload which were published in the JCI and were adopted by the cardiologists for 19 years before they realized the importance of lowering the blood pressure in patients who had myocardial infarctions. We were doing cardiac outputs by direct indicator dilution technique and then getting samples of blood from the femoral artery in order to make the dye curve go for measuring cardiac output. So I would do the femoral punctures and set up the measurements and the committee and the head of medicine there said we couldn’t stop doing conventional therapy which was what we wanted to do to see what was happening to the physiology because everybody was loading up these patients with fluid when their blood pressure would drop with myocardial infarction they would give them fluid and of course all they did was go into pulmonary edema and get worse. So we wanted to find out what was happening physiologically. It was Dr. Fries’ hypothesis that it would be better to reduce the resistance peripherally than to raise it which you were doing when you infused albumin or plasma or blood into these people and a lot of them were getting transfused, the worst thing in the world for them. That was the conventional therapy for cardiac shock.

I remember vividly one man who was clutching his chest and was screaming in pain and I opened the femoral artery and we took out quite a bit of blood to do this cardiac output dye curve and so as the blood was draining out of him he said, "Now you guys got the treatment, the pain went away." It was obvious that Ed Fries was correct and we did some very fine studies and published them in JCI. It was 18-20 years before anybody in cardiology bought enough of this idea to corroborate it and finally develop blocking agents and ways to reduce peripheral resistance was an unheard of concept at that time.
Colonel Stone commissioned me and I went out on the faculty of Walter Reed Army Graduate School, one of the first. What they do is they use the young officers as assistant teachers for the faculty and they have an excellent visiting faculty. I remember the first one that I was assigned to was to Dewitt Stettin from Harvard and was a very brilliant man. So we had a very good educational experience and a very good research experience. I was doing all sorts of studies on arteriorenal fistulas. Frank Epstein and I did a whole series of papers on the physiology of arteriorenal fistulas including the fistula, for getting ?naturesis from salt water and so forth and I did a bunch of studies on what happens when you open and close the fistule and stand up. We had made this into a center and we were collecting all of the arteriovenous fistulas from around the world. I won a prize, the Davidson Award, for writing a review article on the physiology of arteriovenous fistules.

Then he suddenly decided that the first six months of the war there were too many deaths on the battlefield that were unexplained by the surgeons, and so he set up the first field research team. It was my understanding that at the time that they never actually had a formal field research team working directly out of the Surgeon General’s office. They used to attach themselves to the local unit. They had research people in the field but they would attach themselves to the local unit and this was the first time that it was directly working out of the Surgeon General’s office which proved to be a great boon because they were so short of doctors in places out there. I had one General call me in the second army and he said, "Just give me two good reasons why I shouldn’t rip you out of this research job and put you to work on casualties" I said, "General, you know I don’t have to answer that, the Surgeon General has to answer that. I will do everything. I’ll work at night and help as much as I can, but unfortunately only he can change my orders. I can’t respond to your threats or requests or whatever." So we did this and we actually did a lot of work and one of the first things that I did in Pusan, and I have written a paper about this recently, is that I came down with a train full of wounded to go to the hospital ship. "Hope" and "Repose" were in Pusan Harbor and I spent four days on the troop train and I was really beaten up. The commanding officer of the hospital ship was a man that I knew from Bethesda Naval Hospital and later became the head of surgery out there, a very nice person, and I called him up, and he said, "I know what you need." So he sent the boat in for me and let me take a shower in his room because we hadn’t had a lick of water for about four to five days and was dusty and dirty and so forth, and then he gave me a lovely steak dinner on Saturday night.

I later went back in and made rounds in the hospital and the first case they showed me was a boy with conjunctival hemorrhages. I have never seen anything quite like that. The only thing that I could think of was that he came from a malarial region and that maybe has a quinine hypersensitivity because I had seen one case like that in my lifetime who had conjunctival hemorrhages and then we went along the ward and about four or five patients later another young man with conjunctival hemorrhages was there. I asked "Where have you been?" He was in the same region north near the Han River, and so then we had another patient come in and they started coming up all over the place. The very next day Colonel Hollinghorse came in, who flew in from Tokyo. He
said we have just translated a Japanese paper and found out that when they occupied Korea around the marshy areas, they ran into a very strange disease in which the patients got renal failure, hematuria, albuminuria, and sometimes conjunctival hemorrhages. It turned out that I had seen the first two cases of a renal syndrome of Hanta virus. Of course it wasn’t known to be a virus disease. The Japanese had a different name for it. So we got that study set up and it went onto to turn out to be one of the definitive clinical studies on this disease, but it was years before Dr. Lee and a virologist from the midwest, whose names escapes me for the moment, worked and recovered the Hanta virus. And of course, as you know, it is still here, and I recently wrote an article called "Hanta Is Coming" and we had one possible mild case in a laboratory worker from Fort Dietrich when they were doing bacteriological warfare research at Fort Dietrich, although he recovered. He just had urinary findings and never lost function. I saw cases in Belgium and I saw them in Greece and in other places, and of course it is throughout the world. It is a rodent disease and in the so-called Diablo Canyon epidemic that we had in the Indian population a couple of years ago is the same disease basically. That was a very interesting experience.

We eventually studied the air evacuation system, and we examined all the kidneys taken from the battlefield deaths in the first six months of the war and found a very substantial percentage of them with tubular necrosis, and even documented some deaths inside of 14-15 hours from the time of being wounded. These surgeons had no explanation as to why these people were dead so we decided that it might be acute tubular necrosis in the early stages and that they were dying of hyperkalemia. So we wrote our report, came back, and recommended that certain studies be done and I recommended that a renal lab be set up over there with a freezing point osmometer and a flame photometer to measure potassium.

We did something interesting - we found that when these people got into treatment in some out-of-the-way places or the Italian aid stations or reflecting stations further up. Very few people know that the first time human blood transfusions were given in wartime was in the Korean War. You could win a trivia quiz with that one. I've asked the students that over the years, and some say the Civil War because technically we could give transfusions in the Civil War but we did not do it. And we didn’t do it for one ridiculous reason - there were no refrigerators to keep the blood in. So it wasn’t until the helicopter came in that the air evac could fly a case of blood on dry ice out to the Italian aid station in the morning, handle the wounded, and then fly back to the evac hospital or the field hospital in the evening with what was left of the blood and put it back into the refrigerator. We found out that some of these patients were getting very sick and collapsing soon after they got a blood transfusion, and so then we did studies and found out that when you stored blood and it was not really cold the serum gained potassium at a rate of approximately 1mEq/L per day which meant that when you were getting blood out 20 days old or 25 days old that you can have a serum potassium of about 15-20 mEq/L. A person was already hyperkalemic, and if you put that blood into them, they would often go into cardiac arrest. So we decided on a cute little trick and that was to take the blood and spin it in a bottle centrifuge, remove the serum while it was cold, and take the potassium off and turn the red cells into potassium sponges.
and then resuspend them in physiologic albumin, put them into the patient, and then instead of giving the patient additional potassium who was already hyperkalemic, we used the red cells as potassium sponges to take it in as they warmed up when they got the glucose in the blood. It worked quite well.

**AF:** Some of the major advances there were because of your reports leading to the initiative to have battle-site field of landing.

**GES:** That lowered the death rate from acute tubular necrosis by almost 50%. And we also advised to send out a kidney, an artificial kidney. An artificial kidney, except for Boston and Washington at Georgetown, who got the first two Kolff kidneys and of course Mount Sinai had one. It was really not well received in the academic community and Kolff was not able to make a lot of progress even though he tried very hard. He went around and gave lectures and demonstrations and everything but he really was pretty well brushed off, I would say, by most of the academicians in America at that early time. So when the dialyzer got over to Korea and grafted on top of the renal lab tent ... had in the evacuation hospital and also they sent one up to the MASH Hospital, Colonel Stone had mentioned to me the possibility of going back to Korea. I had three little children at that time under 3, and so he gave me the choice of staying at Walter Reed which I did and we had a series of studies measuring body fluid spaces in these trauma cases and in arteriovenous fistulas and other vascular injuries. Paul Teschian set up the kidney and we have in our ICN Archives some of the original movies of setting that unit up in Korea under very difficult conditions, and Paul did a really beautiful job. He used an airplane gas tank as the tank for the rotating drum and so forth. The Surgeon General sent the kidney that was at Walter Reed out there immediately and then they ordered additional kidneys. And it was the reception that that got in wartime which gained so much favorable publicity that really broke through the resistance and made dialysis much more acceptable to a larger number of hospitals. I think that the military experience played a very crucial role. It might have died if it weren’t for that.

The Artificial Kidney

**AF:** You had already seen the artificial kidney while you were still in medical school.

**GES:** Yes. That was the Murray kidney. It was made in Toronto. It bore a superficial resemblance to the Alwall kidney, although everyone that I have talked to said it would have been an interesting thing to pursue, but they seem to feel that there was no communication between Alwall and Murray. We have established that Murray paid $8000, which was a lot of money in those days, out of his own pocket to research this kidney in his own home. He had a lab set up in the basement and he certainly used his team and there are pictures in Toronto Western Hospital of using this. He was a very innovative, controversial figure. He also was the first person to replace aortic valves with animal valves. He did some very innovative cardiac surgery and also open heart surgery. So he was quite a fellow and he got interested in this.
But the kidney I saw was brought to Mount Sinai in Baltimore, that had to be before I graduated, March 17 Saint Patrick’s Day, in 1946, so it had to be before March 1946. I remember very vividly driving over to Baltimore. There was a urologist at Mount Sinai Hospital there who had devised an operation for the treatment for polycystic disease and it was thought to be effective. What he did was he did five, six, seven hours of surgery, unroofing all the large cysts and causing them to sclerose and of course some of the patients then had acute renal failure after the surgery because it was a bloody and long procedure. He wanted some way to tide the patient’s over and recover and he thought they could recover kidney function if you decrease the pressure from the cysts on the remaining parts of the kidney tissue. It turned out ultimately not to be a fruitful approach. But he did have some patient’s that were just right, just on the borderline of the right kind of cysts and the right type of kidney function in which he got very good results which was very striking. So I wanted to see this. And when I went over it was not an operation. What I saw was in a laboratory in the basement, and I went over the machine and talked to him about it. All I remember, I know that it had to be sometime between Christmas and the time that I graduated which was March. I suspect that it was probably around February or March 1946.

It is kind of crucial because that is just about the time that Kolff was doing his first work on the artificial kidney. And Alwall, in his book, doesn’t claim priority before 1947. So I think that it is quite possible that Murray actually did devise this independently and maybe out of some prior things that influenced them both. But it was a lot like the Ahlwal kidney in that it has a container, fixed volume, and you could produce ultrafiltration either by increasing the pressure on the blood side or by decreasing the pressure on the fluid side. Whereas in the Kolff rotating drum, of course, the loops were hanging loose in the fluid and so you could not put in enough pressure to ultrafiltrate because it would break the tubing and it could not have equally negative pressure in that it would collapse the tube.

Artificial Organ Society

AF: 9; And you also had very early exposure to another type of artificial kidney, Dr. Keil’s experience was one that you were interested in.

GES: Yes. The first flat kidney in America was Skeggs and Leonards, which is very interesting. I knew Skeggs sort of peripherally, but Jack Leonards was a very good friend of mine. He was one of the founders of the Artificial Organ Society who had a very small group of people. He was a very regular attendant at the early meetings. The Artificial Organ Society had it’s first meeting on June 5, 1955, and I remember that very well because my youngest son, Peter, is one of the few birthdays I can remember because there are only 12 or 13 in a century, or I mean in a millennium, that have the same numbers. So he was born on May 5, 1955 which is 05/05/55. Of course there is not another one until 06/06/66 so it is a long time in between in getting those numbers, so I can always remember his birthday very easily, 05/05/55. Anyway, I went to Atlantic City when he was only a month old and my wife Joanne was not too happy about that because she was struggling pretty hard at that point with all these children and Peter was just coming home from the hospital and just getting started.
But anyway, I felt that it was very important because this was the pioneer meeting. There was a paper that never appeared in the first issue of the Transactions that is an interesting story. It was given by a man from upper New York State. It was about an artificial uterus. He presented designs saying that in people who had premature delivery or premature labor, you could remove the fetus, put the placenta in one chamber, neutrify it and clean it with this miniature artificial kidney, and put the baby in the fluid solution in the other chamber and you could raise him to term artificially. He gave a paper titled "Artificial Uterus". I came home from the meeting and jokingly said, "Guess what Joanne, science is marching on. We can now have three babies a year instead of just one." She started picking up a piece of frozen vegetable package to throw at me. But anyway, we had a lot of fun with that one. And the man at the end of his talk, I happened to be at the back of the hotel, and he was an obstetrician and he walked back and never turned in his paper, and stopped at the bar, belted down a shot, walked out of the boardwalk, and nobody ever saw him again after his paper on the Artificial Uterus. Nobody knows who he is or where he went.

AF: He may have gotten hit with that frozen package of something hard!

GES: So that was our first meeting in Atlantic City which was a very rich meeting you know. The artificial heart was first presented there as well. Many of Kolff’s things were presented there. It was a terrific meeting. The first volume of the Transactions was actually put out on mimeographed paper by Peter Salisbury’s wife and I had to do the editing and two years later I became the editor and remained that for 29 years.

AF: You took a very important role as an editor deciding to publish some work that was not presented at a later meeting.

GES: Right. Scribner had started his first chronic patient with the teflon shunt in 1961 but couldn’t get it Reedy in time. He didn’t have enough information to get it to the program committee so it never got on to the program. But he brought the shunt along and he demonstrated how to make them up in his room. He had Quinton and other people up there and he demonstrated it in his hotel room. He said that it is a shame that we are going to have to wait a year for this. We were on a sixty day publication schedule and I said to him if he could get it to me in a week, I could exercise my editorial privileges and publish it even though I wasn’t supposed to publish anything that wasn’t actually entered in a program. But it was so important that I thought not to wait a year would be kind of a silly, conventional way of doing it. And so he did and I did and it is in the 1961 Transactions even though it was not supposed to. So we did break the rules but it paid off.

KS: How much is there to this point of the first Reeding of the ISN?

GES: We wrote our report which was in classified in the Imperial Hotel we were in Tokyo.

AF: Who were the members of your team?
GES: Dr. Simeone, who was the Colonel and a Surgeon. He was a surgeon and Professor of Surgery and he was the vascular surgeon in the second surgical team of Boston in the later part of the Italian campaign of World War II. He was in the Army Reserve and he returned to active duty for this mission. He was our senior officer. Then there was Major Curtis Arts, who was the first person to do skin grafting between identical twins. He later became Chairman of the Department of Surgery at, I believe, Mississippi University. He was a very innovative person. Captain Russell Nelson, who had finished his surgical residency at University of Minnesota at the Mayo Clinic and was a vascular surgeon. And I was the only internist. Dr. Nelson became the head of vascular surgery at the Latter Day Saints Hospital in Utah and then eventually became one of the 12 Apostles in the Mormon Church and he is still doing that. He has stopped his medical career and he is full time with the Mormon Church. I understand that he is a potential candidate for presidency of the church. He is a very dedicated person.

AF: So you were an internist then?

GES: I was the only internist, yes.

AF: There were no nephrologists yet were there?

GES: No. I considered myself one and it is so interesting actually that you should ask that question because I was writing letters to Dr. Goldring and visited him once or twice in New York when he heard that I was going to stay in Washington. I had a chance to go back to NYU and the faculty, but I wanted to stay in Washington. Dr. Kyle and Jeggers who were beefing up the full-time faculty at Georgetown and Kyle taught a regular course in metabolism, calcium metabolism and phosphorus metabolism at the Walter Reed Endocrine Unit which was quite good, both the unit and the lectures. So I got to know him better. He had also been at Boston City Hospital. As a matter of fact his wife had worked with me as a nurse at the South Department during the diphtheria epidemic. He and Dr. Jeggers were very anxious to get a Georgetown graduate in the department. They had imported most of the people from Boston, Frank Harley was from the Brigham, Charlie Rasmussen, the head of hematology was from Harvard and Brigham, John Currier was from Boston University. Practically all of the division chiefs that he brought in were from Boston and some from New York. And there was actually no one who was a Georgetown graduate as a head of a division. So they were recruiting me very actively after the sessions at Walter Reed. Then one day in the parking lot Dr. Kyle put his foot up on the bumper and said, "You owe it to Georgetown to come back here". So he convinced me that I should come back there and take over the artificial kidney which was there. It had been run by fellows and had only been run I think four or five times in the year before.

AF: And this time it was clear that it was a faculty position.

GES: Yes, yes. This time it was a faculty position, very clear. And we had a wonderful place because when the Georgetown Hospital was built during the war, at the time the blueprints were drawn, the District of Columbia was segregated and had to have a black and a white obstetrical suite. So the hospital had to go ahead and build, on
Federal Hilburton funds by the way, the way the plans were made. So they built the full, complete obstetrical units but they never operated them as segregated units because in the interval between the time the plans were made and the hospital was finished, segregation was kaput in D.C. While I was a medical student at first they desegregated the public transportation, and then the restaurants, and then the hotels, and gradually everything. So it was gone. So there was this lovely delivery room with tile floors, spark-proof switches, and operating room lights and it was just perfect for acute dialysis. We took that over and my first fellow was one of Dr. Kyle’s metabolic fellows who was intrigued by the kidney and came to help me. He then switched over and became a pathology fellow.

AF: And which year was this that you discovered this?

GES: This was in 1952. As I had been away from it when I was in Korea I went up and spent approximately six weeks with John Merrill as a refresher. He was very kind during that time. We were friends already and I just did it because I wanted to get some quick, condensed experience and so I went into the Brigham and worked with him for a while just to get refreshed again and came back down and took over the kidney. Then I started working on the dialysis of poisons and drugs and started a long series of firsts. We were the first to dialyze ............ and the first to dialyze salicylate successfully which is in almost every sedative you can name and methanol, ethanol. We devised a technique of blocking the metabolism of methanol with more ethanol and then dialyzing them both out because you could competitively stop the formation of formalin from methyl alcohol and prevent the blindness. It sounds crazy but you made the patient drunk and stopped them from being blind.

AF: And it is still the state of the art of treatment. Did you give the alcohol orally or IV?

GES: IV.

AF: They could appreciate it if it was orally!

GES: We had to get it in fast as we were putting on dialysis. In fact, sometimes we continued giving it during dialysis because it was important to keep the competitive inhibition fairly equal. Julian Markareal from Montreal, who is now the head of nephrology at Hotel Dieu Hospital in Montreal, worked with me and that paper was published in the JCNI. We did a whole series on poisons. We also did the first putting human blood over a synthetic resin and I didn’t even know that we were the first for years and years and years. As I always thought that Dr. Yatcedes? in Greece was the first person to use hemoperfusion with sorbates. And he was with charcoal but he didn’t use the resins for many years. We had a pharmacologist working with me, Art Cholata, and he helped us make lactate loaded ion exchange resin and we put it in one of those glands that you saw in your silent film in the archives where that was used for where you saw the blood pumping through the gland. We used one of those and filled it with this lactate loaded resin and brought the blood from the patient up through it. We actually did a human experiment, with voluntary permission of the patient and the ethics committee. We gave relatively small doses of Phenobarbital but we gave
enough. It was interesting who we picked for a research subject because the only people that they would let you do experiments on were people who had fatal diseases. We had thought that a person with metastatic carcinoma if they volunteer you can use them as a human research subject. That was allowable under the ethics code and guess what we picked at that time as an inevitably fatal disease - chronic renal failure because there was no treatment for chronic renal failure. So we gave Phenobarbital to a patient and removed the Phenobarbital with the resin and showed at least that it could be done.

I did not know that we were the first. I think we published an abstract somewhere around 1953 or 1954. Years later I was invited to a hemoperfusion congress in Russia. I got to Russia, it was just an ordinary invitation. I didn’t take it in any special way and Joanne went with me and we were enjoying our first trip to Russia. And I got there and they started to roll out the red carpet. They put me on Russian national television in an interview and then Ukrainian national radio. I said what is going on here? And they said "Well you were the first person in the world to put human blood over a resin" and I didn’t even know that. I said "no Dr ?Yatcedes is the one." And he said "Oh no you were nine years ahead of him." So nobody in Washington got excited about this at all and I didn’t find out that this was the first time until 19....

AF: Your division also pioneered in dialyzing a child.

GES: Yes. I think that we did the first child under 1. I could hardly see the artery and how Dr. Huffnagel got a canula in, I do not know. It was a child who had swallowed a large amount of oil of wintergreen which is a salicylate. We managed it successfully although it was a very difficult problem to maintain blood pressure because we had to use one half of a twin-coil kidney and that was the smallest kidney we could get. They didn’t have any of the other ones at that time so it was very touch an go. We also had the first boy go all the way through high school on dialysis in the country. We also had the first person dialyzed more than six months on dialysis without having a shunt and it was just about that time when Scribner and Quinton made their first teflon shunt and then chronic dialysis began in serious terms.

Professional Societies

AF: With all the activity from your unit, you became very active with the professional societies for artificial organs and took out leadership role also.

GES: Yes. I had been very interested. Of course I was one of the founders of the ASAIO, and I was also very early a member of the Southern Society for Clinical Investigation and later became its President. I also became the Chairman of the Eastern section of the American Federation for Clinical Research, and then spent 13 years on the Council of that. I became their Secretary and ultimately the President of the American Federation for Clinical Research. At that time it was the largest, I think that it had 10,000 members and young researchers. But we didn’t have an American Society of Nephrology then, so the ISN started with a meeting between Hamburger, and Merrill. Merrill had taken a sabbatical and he got interested in transplantation. He
went to England to study and I always envied him because in the 40 years that I was at Georgetown I should have had 5 sabbaticals and I was never able to take one because clinical loads were so heavy. And for the first six or seven years, I was the only one on the East coast between New York and Atlanta. Hopkins had no dialyzer so we did everything on the whole East coast. For the first two years I didn’t have a technician, or a secretary, and for the first seven years I never went through a Christmas time (as the kids know) without having to do an emergency dialysis - either Christmas or New Year’s, one or the other, every single year for seven years. It was a very heavy load.

We also had a Monday night hypertension clinic that we ran for seven years. I used to put a sign up saying one night a week for seven years is seven years of nights. It was a year of nights. I got an assistant by that time and turned over the night clinic to Dr.? Mar, who ran it. It was a very long period of being alone and there just wasn’t anybody else around to do this work and this was a very busy place with a lot of medical institutions. I did all the biopsies for the NIH, there was nobody there that could do a renal biopsy. I did a few at Bethesda Naval Hospital and Walter Reed.

**Renal Biopsy**

**AF:** 9; We have always relied on your very fine sense of touch to do this.

**GES:** Claus Brun came over and stayed to do this very house where you are as a house guest on his second tour. He came first right after he did the studies on acute renal failure. He came to Washington and gave a demonstration at George Washington. Al Parrish, who was a good friend of mine, we were classmates, actually I used to date his best friend’s sister, so I knew him as a medical student even though he was at GWN and I was at Georgetown. We met some of the same people socially so I knew him. He was a very bright fellow. He was locally trained. He never had left Washington. But he saw the potential for renal biopsy and took it up at the VA Hospital. Of course when I came here I saw the results of that. But they were using the sitting up technique with a Torchell??? needle. I thought that we could get a larger biopsy be designing a thin walled needle in which I did and what eventually became a McGregor needle was the one that I designed. We refilled the tips in with metal so that it would clip off the specimen neatly. We had a very difficult time with the urologists in town because they didn’t like the idea of an internest doing renal biopsies. The professor of urology at Georgetown was very hostile and I was invited to give an early preliminary talk on renal biopsy at the Washington Urologic Society. This man was the President and he stood up in his introduction and said "I don’t want to introduce tonight’s speaker". Can you imagine a young fellow who had just arrived in town and here is a man who says he doesn’t want to introduce the next speaker but he has to because he is on the program and what I think what he is doing is malpractice, and if he does anything to a patient he is not going to get any help from me. He just tore into me something vicious. He thought I didn’t have surgical training. So I decided that I was going to be very careful when I set up a biopsy. So I did all kinds of anatomical measurements and I went to the autopsy room and I asked permission from the pathologist in selected cases to map out the kidney and put a needle in before he opened the abdomen and see where I was to make sure I had the anatomical things
correct. I tried to do a dog and I tried to do a monkey and I did several different things. I still didn’t want to do my first biopsy because I thought well if I had an accident here and this man testified in court I was dead as a young person.

This is where some of the great people in medicine show up when you really need them. There was a man at Grady Hospital in Atlanta named Arthur Merrow, who is just an absolute prince of a man, so I was talking to him just about my plight. He says if you think that it is time to do this in Atlanta. He brought me down to the Grady in the late 1950s. They had just been doing them for a year. So he invited me to make rounds and so forth and I did. I worked with him while he did several biopsies and then he let me do my first biopsy in the Grady Hospital in Atlanta. It was a very interesting patient who had malignant hypertension and turned out to have cortical necrosis. The first biopsy I ever did had cortical necrosis and it started my interest in that disease. It was uneventful and so then I stayed there and did some more and suddenly I came back and figured I was prepared and we actually the first 60 biopsies we did I think we had over 90% good tissue for diagnosis which was the highest percentage at that time that anybody had published. So it worked very well and we actually never did have a death. We had some with two small arterial fistules which Dr. Hoffnagel was able to repair without any damage whatsoever with normal function and we never really had a death due to renal biopsy. Although the national incidence I think was .01% or something like that. We had 100% for 15 years where we actually never missed a biopsy. Of course the conditions were selected and the patients were ideal and the personal care was very good and all of those things contributed. We started doing a lot of renal pathology and got Dr. Antonovich interested in renal biopsy pathology and then when Dr. Heptinstall came from St. Louis, I talked to him and he liked our material and so we set up a renal biopsy conference and people came from all the institutions from around Washington that Heppy and Tanya Antonovich conducted it and we did the clinical presentations and they did the pathology. It was really very well attended and very instructive session that went on for years. I think Heppy would acknowledge that a great part of the specimens in the books were actually our cases at Georgetown. They didn’t have that much going on at Johns Hopkins at that time. In fact Hopkins used to send their dialysis patients.

Beginnings of "Nephrology", the first ISN meeting behind the Iron Curtain and the ISN Ship

**AF:** These were very exciting years going from dialysis being a heroic unusual measure to a very busy practice for you developing renal biopsies, pathology. You then became a nephrologist.

**GES:** So nephrology...no one knew what to call this. Some people called the services renal electrolyte services, kidney services, medical kidney services, all kinds of names. And then the French came along. Hamburger was probably the most responsible. He liked the Greek term: "nephrologie" from which the French word is taken: from the Greek root nephros meaning kidney rather than the ? which the word "ren" or "renal" is from the Latin for kidney. So he always liked the Greek language. He found it a little more crisp. That word was almost unknown in America at the time.
So they formed the International Society of Nephrology beginning at a meeting at the Riviera. I don’t know who all was there except that Richet, Hamburger, and Merrill were there. Most of the information I got was from Merrill who related it to me and told me about the interest. So I was invited to the first meeting in Avian and Geneva and I went and it was a small meeting. I think it was 100 and some odd people but it was very well done and it got off to a good start. It was at that meeting at the Riviera, the preliminary meeting, and then they wrote a French constitution and they also bought a boat which was a Latine rigged fishing vessel from the Mediterranean and it enabled the fishermen to turn on a dime around a lobster pot and pull them up and it was the same way of rigging sails that Columbus used on the Pinta and Santa Maria when he discovered America. They are not used anymore except in a few places by people in very old towns in the Mediterranean. Anyway, this boat had that and it was launched at the first meeting in Avian.

AF: This was just a model of several feet, four feet long?

GES: Yes, and sent to the second meeting that was in Prague. The Prague meeting was fascinating because it was behind the Iron Curtain and John Brode who had worked with Homer Smith and whom I had met in New York was the secretary of this. He became a member of the Communist Party. In order to run the convention he had to. We decided to go to Czechoslovakia just for the experience to see what it was like to be behind the Iron Curtain.

Also there was a biochemistry congress so Joanne and I tried to rent a Skoda car which was a small Czech car. We had a couple of days between the biochemical congress and the nephrology congress and so we decided when we got there that there were only certain parts of the biochemistry congress that I wanted to go to and so I decided to rent a car. Well, you know, it was unheard of to rent a car in a Communist country and I decided that I just took it on as a challenge to go through the whole bureaucracy. I had to make out 32 different application forms at 32 different offices to get a rental car but we got one. We drove to Bratislava and of course there was no gasoline and every time you would pass a gas station there would be a line a mile long for gasoline. So it was very tricky to drive in the interior because you had to sort of gauge the time when you might run out of gas and where you could get a little here and there. You know it was very poor gasoline. So people who did try to drive in with other European cars found the motors would hardly run. It had an octane range probably around 60 or something.

So we came back to Prague wondering if we were going to make it and we got to Prague and suddenly all the gasoline in the world was available; all stations were opened, the whole thing had changed from these long lines to a complete supply because the nephrologists were coming and John was a Communist Party member and he arranged for gasoline for everybody. So there was no problem getting gasoline in Prague and it was very interesting to see. I remember we were invited to this party one night and there were five members of the Cabinet there at this table, and Frank Epstein and I were the only Americans who were friends of John. There was a man there who was from Yale who had become a Communist and who had gone behind the
Iron Curtain and disappeared and came out as a scientist in Czechoslovakia. So a lot of the Yale people knew him and in the middle of the evening they got the orchestra to play and they all stood up and sang the Communist Internationale and it was a huge big ?? I said, "Frank we can’t let them get away with that". So at the end of thing we jumped up on the chairs, grabbed the microphone and sang "God Bless America" in the hall. I followed the names of those people of the five Cabinet members who were at the table that night. I think that three of them were killed within weeks. The Minister of Culture was a defrocked priest and he had a very opulent party and he appeared in a Roman collar at the head of the stairs with this very gorgeous blonde woman on his arm and greeted everybody as the Minister of Culture. But it was a very turbulent time in Czechoslovakia.

The ship was sent to Washington which was going to be the next meeting. I didn’t even know it was coming. I didn’t receive any notification whatsoever, and I got this word that there was something waiting in Customs at the Georgetown station. I went down there and it was a wooden box all covered with chains and locks and inside it was this ship completely smashed and flattened down and I didn’t know what to do with it. I thought I talked to ?Merrill to fix it up so I didn’t want to do it and the Society refused to pay for it and so finally I had a patient who was an admiral and his hobby was the obsolete riggings of ships so he did a beautiful job and we started the whole thing. We had it here right behind where this is being filmed now on the piano. My son Bill would remember the ship being here for quite a period of time. They wanted to ship it to Los Angeles and we had a tough time getting it shipped there and they lost it in the receiving room in the Los Angeles Coliseum and so finally it got shipped to Spain and I understand got wrecked again and was sent in a flattened condition to Australia and they restored it in Sydney. We all saw it in Sydney in beautiful shape. The Australians did a wonderful job restoring it.

VIDEOTAPE #2

1966 ISN Congress in Washington

(This meeting also led to the creation of the ASN, see Gottschalk, Berliner and Schreiner, “The American Society of Nephrology and Its Beginnings”. In "A Quarter Century of Nephrology", Am. Soc. Nephrol 1992, pp. 1-8).

KS: .....and you were the person who organized that. Can you tell us a little bit about that?

GES: The Executive Committee had designated Bob Berliner as the President and myself as the Secretary-General. Mixed up with all this was what vehicle to use to first of all issue the invitations initially because there was no American Society. The International Society was now six years old but there was no American Society and (relied) on the Council and circulation of the American Heart Association. The American Heart Association at that time I estimate was giving about a quarter to a third of their grant money for kidney purposes and so there was great reluctance on the part of the physiologists, in particular, who were getting many of these grants in the Heart
Association, to loosen up on their Association. Indeed Homer Smith, who was very influential in the American Heart Association, was very influential in getting a sizable chunk of grant money for renal purposes. So they wanted to hold on to that and they thought that the formation of a separate society would alienate them. So they set up a special group authorized by the Council on Circulation. The Heart Association didn’t want to be in direct association either. They were afraid of being swallowed up, I guess, in this onslaught coming.

The correspondence, for a while, was conducted between this group of founding members which included people like Berliner, Seldin, Welt, Bricker, Vernier, and so on. That correspondence was carried on and John Merrill was made the principal investigator for seeking NIH support for traveling fellowships for Washington. Berliner was very busy at that time with expansions at the NIH so he really delegated a lot of responsibilities to me and the first thing he said was, "We’ll send out a notice to nephrologists." Well nobody knew what a nephrologist was or where they were. There was no mailing list from either Prague and very little from me. And so that, I think in the long run, may turn out to be the most important thing I ever did because I took some time off and I went to the library and I took the last three years of every journal that I’d ever thought of reading something that would be of interest to kidney work and I examined every papers and listed all the authors and the addresses and this included all archives, and annals and journals - physiology journals, pharmacology journals, biochemistry journals, endocrinology, the whole thing, everything, and listed all the junior authors as well. And so we amassed a mailing list and nobody could believe it. This was not just American journals but also the National Library of Medicine foreign journals and everything I could possibly address. Guess how many the initial mailing list was?

KS: I don’t know.

GES: You remember we started out with 100 people at Avian and a couple of hundred in Prague. And so when they said to me mail out a preliminary mailing about the Congress in Washington I spent all this time just collating a mailing list, which was actually the first mailing list of any that could be called a real mailing list anywhere in the world. I mean in nephrology. Guess how many there were?

KS: You told me something like 10,000.

GES: Yes, 10,000. No one even had the remotest approximation for that, or guess what that would mean for the people. Of course, no one had any idea of the number of people who would show up. Meanwhile, we didn’t have a place in Washington and the Hilton was proposing this new hotel and they were just beginning to dig the hole. At that stage, when it was necessary for us to establish a date for the Congress two years hence, they hadn’t built the hotel yet. They were literally just starting to dig this hole. So I went to see the manager and I signed up the whole thousand rooms at the Hilton Hotel at $10 a night, including suites and everything. Hilton tried to break the contract five times. They appointed new managers. I said, "Well I didn’t sign the contract with the managers, I signed the contract with the hotel." So we had the most fabulous hotel
by the time it was finished. It was just finished just before the conference. We had this whole place for $10 a night and we spread the thing around so it cost almost nothing for the people to stay there. I've forgotten what the official attendance was but it was in the neighborhood of 3000 - an astounding return on a single mailing of 10000. Who knows who they were! What it did was bring together all these people who were philosophically interested in the kidney. So for the first time we had the pathologists, and the immunologists and the biochemists, actually sitting together talking about the kidney and I think that this for ever changed the complexion of nephrology. It had only been the medical side of urology, let's say, or something of that sort but it now took on a much broader face and it's turned out that there are a lot more people interested in the kidney all coming from different points of the compass, and different (disciplines). It was really this mix that really has made modern nephrology.

First Renal Biopsies - Pirani, Kark, Muerchke

**KS:** You've talked about the renal biopsies that you did early on. There were other significant figures in that, of course, Pirani, Kark, Muerchke. Can you tell us a bit about those people?

**GES:** You could pretty much trace where it went by Claus Brun's first trip to the United States. I know he went to Atlanta and so the Atlanta crowd was in very early. And I know that one of the first people he visited was Al Parrish and Al everyone will know well. Harry Dowling, who was Chairman of Medicine at George Washington and a very fine person and actually a neighbor. He lives very close to here in a house called "South Downs" - it's just across the river. He was a good friend of Dr. Jaeger's so I knew him reasonably well both there and here in Great Falls. He invited Al Parrish out to give a talk and demonstrate renal biopsy because Al really was one of the leaders. He was very fast out of the dock after he learned the technique from Claus Brun.

And I heard a rumor that Kark was on his way to lunch and somebody stopped him and said, "Hey, there's a guy demonstrating renal biopsy." And Kark says, "Really, that would be wonderful, that's just what we need." He turned around on a dime and went back and watched the demonstration. Then of course the team formed and they had a wonderful pathologist with Conrad Pirani and Bob Muerke was an excellent pathologist. So they formed a very active and fast moving group that concentrated on biopsies.

So that really was about it at that time. We had the groups in Atlanta and Boston doing them and here in Washington. We worked in close conjunction with the AFIP - all of us did.

**ASN and NKF:**

**KS:** You've played important roles both in the ASN and in the NKF. When did those two bodies start?
GES: The NKF can clearly trace its origins to the "Committee for Nephrosis Research which first met on Nov.16, 1950, stimulated by a severe Nephrotic Syndrome in the infant son of Mr. and Mrs. Harry DeBold. On 12/1/50, the National Nephrosis Foundation Inc. (NNF) was chartered in NY. On 4/2/58 it became the National Kidney Disease Foundation (NKF) and in 9/21/64, the certificate was amended to the National Kidney Foundation (NKF) which was then chartered State by State. The NKF is a phoenix which has known many flights from many ashes but more of that later.

The ASN is quite a different creature I'd say it was formed to fill a vacuum made obvious by the successful beginning of the ISN. The Renal Society had pre-existed in the UK and many national societies had formed around the world under the aegis of the ISN. I participated in the First meeting of the Australasian Society for example. The ISN convened its first Congress in Evian in 1960 and its second in Prague in 1963. The ISN had extended an invitation to the U.S. to host the third Congress and since there was no ASN, they dealt with the renal section of the American Heart Association. As I recall, John P. Merrill was its Chairman and also an officer of the ISN. This group was melded with the Scientific Advisory Board of the NKF since many individuals served on both Committees. This "Founding Group" pressured by the impending Congress consisted of, alphabetically: Barnett, Berliner, Bradley, Bricker, Earle, Glenn Good, Kleeman, Malvin, Merrill, Papper, Petersdorf, Schreiner, Scribner, Seldin, Tosteson, Verenier and Welt. They met by assembly, mail and phone almost continuously under the heat of the deadline, and chose Washington, DC, Sept. 25-30, 1966 as the venue and selected Robert W. Berliner as President of the third Congress and George E Schreiner as Secretary-General. While proceeding with the Congress, there was continuous discussion about whether to formally found an American Society. There was so much feeling about having an ASN at that time, that when we proposed to form the ASN out of this founding group, Dr. Stanley Bradley who had worked with Homer Smith and was a very close friend of mine, walked out of the meeting in protest. It was years later that he called me up and asked me to propose him for membership in the ASN. Some of the political sparring was a quite natural rivalry between the AHA, its Council on Circulation and its Renal Section and the NKF, its Executive Committee, which included laymen, and its Scientific Advisory Board. The competition was both fostered and assuaged by individuals who wore from one to six hats and ripples of it still exist today.

We have a book on the first 25 years of the American Society of Nephrology and Bob Berliner, Carl Gottschalk and I wrote the first chapter detailing the people who were involved and the steps along the way.

Another energizing principle was achieved in the question "what is a nephrologist?" This took a more urgent turn when I was asked to make a preliminary announcement for the third Congress and asked, "who is a nephrologist?" The Congresses in Evian and Prague involved a few hundred people. Few records were kept and no central mailing list existed. Most estimates guessed there were under a thousand or a few over but no one knew how to get at them. I collected all the names and addresses possible from the AHA, the NKF, the constituent national societies and the grant records of the
NIH. It was still a small group with much overlap. I then took off some time and with a hand held dictating machine went through the Georgetown Medical Library and the National Library of Medicine and recorded names and addresses of all authors and co-authors of articles whose topics were considered "kidney" in flavor and who were published within the past three years. It was only in this way that we reached the early renal pathologists, pediatricians, renal pharmacologists, immunologists, infectious disease men, dialyzers, transplanters endocrinologists, hypertension cardiologists etc. Even nephro-psychiatrists and radiologists emerged! Few realize the enormous impact this inclusive philosophy had in shaping the nature of the third ISN Congress, the future Congresses and indeed the very specialty of Nephrology as it would present itself to the medical world.

All the competitors and dissidents found that they eventually had to pull together to present the face of the first American-sponsored Nephrology meeting to the world. By Congress time we had an official list of cooperating societies which included the American Federation for Clinical Research (AFCR), the American Medical Association (AMA), the American Society for Artificial Internal Organs (ASAIO), the American Urological Association (AUA), the Scientific Advisory Board of the NKF and the Washington, DC Heart Association. It would be the first major Congress held in the new Washington Hilton which we engaged totally while it was still an excavation hole in the ground.

The third Congress was enormously successful, with 2134 scientists registered and attendance of over 3000 at some events. There were 624 abstracts submitted, 75 invited papers and 224 free communications. Other things that were a first for this Congress were that it was the first time that the National Symphony Orchestra had ever played outside the DAR Hall for a formal concert. We had the conductor come out and test the acoustics in the main ballroom of the Hilton. He was very impressed. So we had a full symphony orchestra playing a concert at the Hilton Hotel for the very first time at the ISN meeting.

There were established many, many firsts. We also had at that meeting a group that met up at our suite at the behest of the NIH and the National Kidney Foundation. We had everybody who was doing dialysis anywhere in the world come to that meeting and estimate what percentage of uremic patients they thought would benefit by dialysis. It generally worked out to be about one out of every five or one out of six patients seen by experienced clinical nephrologists, that they thought were ideal patients for dialysis. That figure has held up remarkably well as we went around the room, except there were some places that weren’t doing dialysis at all and tried to cheat a little bit. The Russian fellow next to me said, "What number are you going to say?" Well, I said, "This is a fact finding exercise. We’re actually really trying to find out if the clinician sees 50 patients, how many people would he put on dialysis if he had the choice and could do it economically." And that number stayed remarkably stable for years and years.

**KS:** So the National Kidney Foundation and the Organ Donor Card was something else very important that you were central to. How did that start?
GES: We said above that the National Kidney Foundation really started out primarily for children. They used to have a scientific meeting chaired by Jack Metcoff and a whole series of books were written about those meetings. They were usually held in Princeton, New Jersey, and I went to a lot of them because many of the original immunologists like Clark West, Bob Vernier and others would come on a regular basis and they were very fine meetings scientifically. The NKF had a very very bleak period in which the coffers had declined. It looked as though it would go belly-up. I went to a meeting in North Carolina which was very well run and the content was very good but it went deeply into the red. I had really not taken an active interest in it. One night we were running another meeting at the Shoreham Hotel which is where we started running the ASN meetings after the first meeting of the ASN in Los Angeles in 1967. Joanne and I used to go down there occasionally and check the menu and see how the kitchen was doing. So we were going into the Shoreham Hotel before the next meeting which had nothing to do with the NKF. As I was walking down the hall of the Shoreham, Neal Bricker ran out of a room. They were actually having a meeting of the executive committee of the National Kidney Foundation in the Shoreham Hotel. I didn’t know the meeting existed, let alone that it was in Washington. Neal was followed by Lou Welt and he grabbed me and said, "You’re the guy we need." So he hauled me in there and said, "How’d you like to be President of the National Kidney Foundation?" Then they introduced me to a man named Harold Schwartz who later became a very close friend of mine. But it was funny. He was a businessman. He was very precise. He said, "Now tell me, what qualifications do you think you have, that would make you a good President of the Kidney Foundation?" I said, "Look, I’m just on my way to dinner and you asked me. I didn’t ask you for the job." So they put me through all these quizzes and I finally reluctantly accepted and I found out that they were $40,000 in the red and I went up to the New York office and there was a notice that they were going to be evicted and the desk was stuffed with unpaid telephone bills and the executive secretary was quitting and it was just about finished so we rallied together and I got my neighbor, Charlie Plante, interested in seeing this. Lew Welt taught me a very important lesson. He said, "Look, we have two choices. We can wreck this thing, start all over again and start a new organization, we’d have to go through a lot of name recognition all over again, or we can rescue this one." I took some time off and worked hard at that and after two years we had $2 million and we were on our way. Our Advisory Board consisted of people like Mrs. Eisenhower and Cardinal Sheehan, and Rick Clinton, head of the Clinton Oil Co. All of them contributed money for a President’s Fund that would be flexible and support a little seed research for something that was really vital. It often happens in research that if you have a couple of hundred dollars at the right time, you can do a quick screen and follow through on an idea and very cheaply sometimes without all the application going on. So that is what I had in the back of my mind.

Then, about this time the Kidney Foundation was putting on additional affiliates all around the country and I was running all over giving speeches to these kidney foundations, running here and there. There were only about five good functioning ones in the country initially. Washington was fair but not very much and it’s interesting that we then got the council idea and got the idea of having a nephrologist as the president and the chairman being a businessman which was really the way the Heart Association
did business and the Kidney Foundation was confused because they were always going back and forth from one to the other and there were different kinds of people and it wasn’t possible to have a logical progression at all. So we straightened out all those things. We devised the council structure so we had councils on nurses and brought them in and councils of social workers and brought them in. And I persuaded Dr. Becker to stand for election as my successor and he appointed me chairman of the Legislative Committee and I came in and worked all the time on the ESRD legislation and I have just recently written the history about how the whole ESRD developed. They were running card parties, collecting Betty Crocker coupons, and I remember giving one very sardonic speech about people who were collecting Cool cigarette coupons. So I said, "Smoke yourself to death to save a neighbor with kidney disease!" It was crazy. They were collecting all these little amounts of money and it was clear that the problem wouldn’t be solved unless the governments got in on it. Well, a few states did and Illinois got up to ten or 15 million dollars a year, California got up to 20 or 30 million dollars a year, New York got up there too. Only a few states did it. Seattle did it with the private Northwest Kidney Foundation which didn’t belong and it was kind of isolated and that’s it. There weren’t any other very productive places so we ultimately opened them up in all the states and regions and that was really very rapid.

Then we got involved in the donor card, organ donor card which I’ve discussed. The Kidney Foundation got behind that and got the donor card adopted and the Committee on Uniform Legislation and the American Bar Association and Shannon at NIH was really the force behind getting that going and it was passed and there was a lot good publicity for the organ donor card for transplantation and we kept working on the legislation for HR1 .......................... Medicare and then at some point in time Charlie and I were baffled by a problem. The normal way of getting legislation is to have an authorization bill passed by both houses of Congress and signed by the President but then you have to go back through the whole process again for the Budgetary allocation. So you have to go through the Corporations Committee and that has to go through the houses of Congress and that had to be done on an annual basis at that time. So it seemed like a nightmare - what would you do if you had 5000 people on dialysis and Congress did what its done over and over again - didn’t appropriate the money. The Government can shut down but the dialysis unit can’t shut down. It was an absolute nightmare and we thrashed that out and we came up with the idea of declaring them disabled and making them eligible for Medicare under the Disability ......................... Award. That whole story is in the article I wrote for Seminars in Pathology on how ESRD Medicare (came about). There was several years spent in getting that and I think it became the pattern for the whole world because other nations adopted those kinds of methods of federal funding.

Nephron

KS: So you were the editor of the journal, Nephron?

GES: Yes. Richet and I were co-editors and we operated two offices, which was very complicated, in Paris and here in Washington, and we’d pass manuscripts back and forth and of course there were language difficulties because some of them were written
in French and other languages and some in English and I wasn’t so very good in French and he had a few deficiencies in English. So the communication part of it was very difficult.

The other thing that was wrong was the set up. I had nothing to do with the original contract which was signed with Karger and it was a poor contract in that the Society did not own the name of the journal. They should never have agreed to that in the first place. And so we had many meetings about this and we had a meeting to design the Constitution. It was held in the Hassler Hotel in Rome, at the head of the Spanish Steps, and we wrote the new Constitution. There was Thurau, Seldin, Paul Michelson, and myself, and I think someone else, but I can’t remember. Anyway, one of the things we realized was that we had to have a journal owned by the Society because we had about 1500 subscribers and we tried to get him to give it up to us and Karger wouldn’t so we just backed out of the deal and we had to change the name. So we dreamed up Kidney International and I went to New York and had a meeting to negotiate this with Springer Verlag and Ike Robinson and he was our unanimous choice for first editor of Kidney International which was really the successor to Nephron as the official journal of the ISN.

1972 ISN Controversy

In 1972 Priscilla Kincaid-Smith was President of the ISN, Hugh DeWardener was Immediate Past President, Nils Alwall was President-Elect, George Schreiner was First Vice President - later to become President in 1978 - and Editor of Nephron, and Herman Villarreal was Secretary):

KS: So what happened in that meeting in ’72, where there was an attempt to make this decision to move from one journal to the other and to require the members of the ISN to all pay for the journal? What was that meeting like, how did you find out about it?

GES: There was a lot of conversation back and forth that it would be a very long struggle to start a new journal, especially since Karger intended to stay in business and keep Nephron going. So he was going to try to compete with us from the same pool. The only way that some people felt that subscribers could be gotten away from Karger was to make it part of the membership. Other societies had done that but there was a controversy about that because of the costs that would be involved and the difficulties for people in less developed nations, and so forth. So lots of people thought of different solutions to that problem.

There was an Executive Committee meeting called in London at the hotel that is owned by the Cunard line. I forgotten the name but it is near the Hammersmith Hospital - a very big hotel. And so I came in from somewhere in Europe. I was teaching and I got there early. These aren't the correct days but let's say if it was called for a Friday, I got there on Thursday. I was very tired and so I rested and I got up for breakfast wearing an old sweatshirt and the first person I ran into was Dr. Herman Villarreal from Mexico, who ran the Mexican meeting and I was elected first vice-president at the Mexican meeting and so the Constitution called for, in the absence of the President, the meeting
would be conducted by the First Vice-President. It was very specific on that point, not by the President-Elect. So anyway, Herman said, "Aren't you going to the meeting?" I said, "What meeting?" He said, "There is a meeting in half an hour." So I had not been notified.

Priscilla was flying in and had already telegraphed Paul Michelson that she was late on the plane leaving Australia and she wouldn’t be arriving until the Friday. She thought she was going to be late for the actual meeting which was supposed to start at midday.

So I went up to the room with Herman and lo and behold here was the Executive Committee, especially the Europeans who had been notified that the meeting was going to start in advance. Dr. Alwall is sitting in the chair at the meeting and hearing motions to do this and motions to change bylaws and all kinds of things. I was sitting next to Lou Welt and he said, "Well Priscilla is going to be late for the meeting. And so Alwall went ahead and convened the meeting." I said, "That’s illegal. That is not what the Constitution says. I should be the one if I’m going to do it." Of course I wouldn’t do it without the President there. So I spoke to Alwall. Even he didn’t understand the Constitution and somebody had simply told him to sit down and chair and start the meeting because Priscilla was going to be late. He was being accommodating. He was very apologetic and it didn’t mean anything by it. But someone wanted that meeting to start so that they could get something done. So Lou Welt saved the day by making a motion to disband the meeting and not start tomorrow's meeting until Priscilla was actually there.

**KS:** So what was...

**GES:** They had a social meeting at Dr. DeWardener's house that night and I happened to be in the lobby when she (his secretary) was handing out the invitations down at the mailboxes and when she came to mine she looked at it for a few minutes and then skipped over it and left it so I didn’t get to the social session. So that created a certain amount of friction. They went on later in the Executive Committee meeting to implement the arrangement which had some things positive to say for it making the membership include subscription to the journal but I did not attend some of those meetings that Priscilla then ran dealing with the journal so I cannot speak first hand about it. But there is no question that there was an attempt to do it not in the proper way initially. And that created some hurt feeling on various sides. It was a controversial period with a lot of competition. I think it all came out well and certainly Kidney International has been very successful. Especially the move which I believe Dr. Schrier suggested that they have these clubs (joint memberships) where they can have one subscription per society and send ten copies of the journal to one address. That way people can get the journal and be able to Reed it but it was not an additional expense. That was a very good way of compromising and of getting the journal out behind the Iron Curtain which was a problem.
KS: There was quite a lot of conflict during that period between physiologists and clinicians. Can you reflect on that? Were there larger things going on in health care in general that would account for some of these conflicts?

GES: What you were starting to see was some fragmentation of what had been a cohesive broad spectrum of the nephrology group in the world. Obviously as dialysis became developed and became more commercial there were people who went in to become dialyzers essentially and to run artificial kidneys and dialysis units and who didn’t have the basic training that someone would get from physiology or immunology.

That created a kind of splitting phenomenon. You had a tendency to try to run sessions... This was aggravated by some of my physiologic friends who sort of ignored their needs. And so there were years in the ASN when you had almost no clinical papers and the entire evening sessions in Atlantic City used to be micropuncture. You couldn’t find any clinical papers in the evening sessions.

There were excesses on both sides. Some aggression and some excessive defensiveness. A lot of the initial cohesion was lost. And of course the clinical people felt that it was very important to develop the applications and so they started looking for other ways to do this.

Evolution of Dialysis

GES: And a lot of the initial cohesion was lost and of course the medical people felt that it was very important to develop the applications. So they started really looking for other ways to this and so they had a dialysis and transplantation forum as a trial for about five or six years as a part of the national spring clinical meetings of the Kidney Foundation. That worked for a while and then we had meetings that were associated as satellite meetings for the ASN and then tried to get together several times between the Kidney Foundation and the ASN. Then the ASAIO had their meetings. So there was much more fragmentation of the societies. However, each one was racing ahead of the new developments at extraordinary paces. I mean the first meeting of the ASAIO in Atlantic City in 1955, not only had the first oxygenator of air and Kolff’s kidney, I think it had six other kidneys described, and all sorts of things like heparinized canula and there were a lot of new advances of new materials. These were not the sort of things that you would expect to get at an ASN meeting and the engineers and bioengineers who were working in those fields found it more convenient and more comfortable to go to those meetings to get that kind of development than they did at the ASN meeting. But I think that what has happened recently is that the theme approach which was used in Australia, very well I thought, in which they took these sort of topics and blended again the basic contributions and the clinical contributions, and then the care statistics and the outcome statistics were kind of handled more or less as satellite meetings outside.

I think that is a very good approach and I had the sense that they are coming back together again now of some of the people with these disparate views and the little parts that flew out by centrifugal force are being pulled back together again and there
is more tendency towards synthesizing. So I see this as a normal evolution of a high pressure society. I mean if you think of it going to more than three thousand people in one meeting, from meeting to meeting, and then getting up to five, six, and eight thousand people in some of these meetings, it is just stupendous to realize the growth that’s happened. Although when you think we were talking about 100 patients being on dialysis, and then a thousand, and another thousand and then five thousand before the legislation and now we are talking about two hundred thousand in the United States and almost one million in the world it is just breathtaking to think that something new could actually be administered and delivered to the world in such a short period of time.

And a whole new industry has been spawned. I mean it has contributed to the growth of the national product so I mean just think of the number of companies we have not had since that are supplying canulas and fluids and needles and membranes and every aspect that is associated with it. It’s just mushroomed enormously.

KS: What do you see as the future? I mean, what is nephrology likely to be like 15 years hence?

GES: Well, I think that nature somehow always manages to keep one step ahead of us, and so I think you know that if you add up I remember once having I think in the book having something like a war well over a causes of renal failure. So there is not going to be any such thing as prevention of renal failure. I think that is a misnomer and should not be used. There is only going to be prevention of individual diseases. Obviously infectious diseases can be handled in some fashion and viral diseases can be handled in a different fashion, and hyperimmune diseases can be handled in a different fashion, and scarring diseases can be handled in a different fashion and so forth. But there is never going to be any program that you can prevent all of the causes of renal failure and I strongly suspect that it will by the time if you did this for 50% or 60% of the causes of renal failure there would be another ten causes of renal failure that would come from agents that we do not perceive now. Perhaps environmental toxins or something in the plastic wrap of foods will show up as from time to time we do see in numerous times it has been discovered and so forth. So it is never going to be a 100% situation in my opinion in probably a century. But I think what we are going to do is to see a lot more emphasis on prevention and we are going to see a lot more emphasis on preservation of kidney functions so that the rate of progression is diminished and eventually can hopefully be stopped. And then we are going to see a lot more sophistication in substitution techniques and whether it is going to be the transgenic pig or the transgenic baboon or what in the transplantation but you know sooner or later we will come to more efficient substitution techniques than we have at the present time. So I see better treatment, better prevention, but never quite being out of the importance of kidney disease.

Medicare Legislation for ESRD Patients
AF: Dr. Schreiner there have been a lot of legendary stories of mythic proportions about the actions that surrounded the Medicare legislation for ESRD patients. Can you tell us what really happened?

GES: I think that I have written a lot of the details very recently in the article in Seminars in Nephrology and anybody who’s interested in the details can find them there.

I think one can honestly say as an overview that this legislation had a very small window of opportunity. I don’t think that either who was involved or what kind of techniques that they used, I don’t think that they could have passed the legislation four months before it was done and I don’t think you could have passed it six months after it was done. That was a very short window of opportunity. Everything just really came together and the first person who I think deserves a great deal of credit, as I mentioned in the article, was Charles Plante because he was such an extraordinary individual with a background that was unequaled by anyone in the lobbying business - 18 years on the Hill, equivalent of a Ph.D. in marketing history and civics, and he knew all of the details of the procedures and he had friends wherever he went on the Hill, among the staff members, and he had worked for three senators, and so forth.

AF: And you had the vision to hire him, with your discretionary funds at the NKF.

GES: Well I was a little angry because the Kidney Foundation which of course now takes full credit, and deservedly so, actually voted to reject the motion when I made it originally, and they wouldn’t pay his salary of $12,000. He was willing to work, I mean, you know these people in Washington get hundreds of thousands of dollars for doing this sort of thing because it requires a big staff and they have to go to political dinners, you know, and they have to play the game basically. It is not an inexpensive proposition but a lot of people are doing it so it obviously pays off in informing Congress and this is the way our government has worked for last several decades. It’s worked that way from the beginning but it’s more so in the last several decades and there just weren’t many people like that around and I saw that you couldn’t possibly finance dialysis program in the country by Betty Crocker coupons and bingo games and bridge tournaments and things like that. Those things were wonderful because they provided support and they provided the grass roots strength and the infrastructure on which you could build, but sooner or later you had to come to grips with the fact that to do it regionally was alReedy showing that this would be a disaster. People were changing jobs and moving to Washington when they set up the Foundation out there, so they got dialyzed in Washington and then they had this committee to select, and they had problems with saying who was a citizen of Washington. It would be absolute and utter chaos. Just as foreign people are coming to the United States to get dialysis who can’t get it. We had a young lady who had acute renal failure from toxemia pregnancy and her obstetricians got together in Haiti and bought her a one-way ticket to Washington National Airport and she collapsed at Washington National Airport and was brought to Georgetown and we had to dialyze her. This was not only going on between countries, but this was going on between states. When the Illinois program was set up, people started migrating into Illinois to
get treatment for their kidney disease. When the California program got big, they moved to California. This is just nonsensical inefficient way of providing for the needs of the people. It was just obvious to me that it had to be on a federal basis and it had to be in some way supported by the general tax base and the medicare trustees program was the only way you could do it efficiently without having to face annual appropriations and delays and shutdowns of governments and all things that happen when the budget’s got to be approved. That was just no way to do business for a life-threatening situation.

So I just took the discretionary funds that I had in this President’s fund and I hired him anyway and we went to work on it and he did a marvelous job. It was touch and go in many areas. As you can see from the article, there was one brief period in which if we hadn’t had the regional medical program and we hadn’t been able to keep the demonstration units going during that interval, the whole thing would have fallen apart.

We had some wonderful people. Paul Teschan, by the way, was the Regional Medical Program Director for Tennessee in the region of which that was in and he eventually actually sued President Nixon and set the precedent of actually winning a suit against the President. It was a hollow victory because by the time the courts decided and put the money back in the program, all these programs had been dissolved. So they really had no structure to spend money to get the $19 million. All they did was cutback or hire some more people but that of course was a terrible waste and mockery of justice but it was correct that he should have sued, it’s correct that he should have won, but it should have been done much faster by the courts. It wasn’t his fault. The court system is so slow in meeting that kind of a need. So, that’s why we were motivated to get the thing done right.

We had wonderful friends. Senator ?Long was one of the most effective people. I was down there so often during one period that I was using his desk phone to answer emergency calls from the patients at Georgetown. He really never has been given the amount of credit that he should get for doing this and time and again he would help. I learned so much about politics from listening to him. A little example - there was three or four other senators who were having trouble with their election campaigns and decided that they would make some little changes and they would introduce a bill. I said to him one time about one particular senator, who did it partially because I talked to him about it, and one of his family was a patient of mine. I said, "I’m worried because if this goes through, he would be listed as the author of the bill instead of you". He just looked at me and said, "George, something you have to learn - you have to decide sometimes: do you want the bill or do you want the credit?" He said, "I don’t care. Just let’s get the bill" and he said, "let him do it." So I was going to go and ask this man to hold back because we were working with Senator Long and he said, "No, just let it go." It is interesting because that man later on was on the Committee that resolves - I don’t know if you know this or not but if there is a difference of so many words between the hospital and the ?....... bill then they have a joint committee which meets and they resolves these differences. In that committee there are no records of votes so a politician can do any kind of dirty work he wants to and then go back out
and say, "Well I tried my hardest" and there's no record to disprove him, so he can claim anything. So it is very important to have the people on those committees be loyal to the proposition you are trying to support. He may very well have been one of the key votes - this man that Long told me not to dissuade. I learned a lot from people like that and it really went beautifully and the committee that met, contrary to the myths, did have actuarial help. There were two actuaries there from the Social Security Administration which provided public health experts - one from Hopkins - and they provided the data and they were not working in the dark. They were working in a normal way on Saturday morning for the legislation that was about to go through in the final form. And they had their consultants there and they sent notes out and they came back.

We went all through this with all the staff people involved in a detailed examination for the National Academy of Medicine and so it’s all recorded and these myths that keep being perpetuated are wrong.

At one point, we were already passed the Ways and Means Committee and there was one congressman who asked Wilbur Mills could he hold some hearings because he wanted the publicity and there was, what we call, a showcase hearing, which means nothing because we had already passed the Ways and Means Committee and everything was done and the process was far beyond that. So this man decided and announced to the New York Times that he was going to dialyze in front of the Ways and Means Committee to push this legislation along. I called his physician and said, "All you can do is wreck it at this point and you could be responsible for 100,000 deaths if something were to go wrong with this thing. It was just grandstanding and I didn’t like it and nobody in the Kidney Foundation liked it. The doctor said there was nothing he could do with him. He wanted his 15 minutes in the sun, and so I called him at his home and begged him not to do it. He insisted on doing it. I called his wife and she said, "He wants to do it and he’s told the newspaper he’s going to do it. He’s going to do it."

AF: Who was this?!

GES: Well, I think it’s well known. It’s been written about in Dialysis and Transplantation. His name was ?Brazier (or ?Fraser) and so he came down and I was sort of mad but resigned and there was nothing I could do about it. Sitting here at home, I got a call in the evening from Fraser, who’d checked into a hotel. Now he was a man who’d learned how to dialyze himself. So he wasn’t any dumb person, and he wanted to do this very badly. He felt that he had to do it. He put his statement out on the line publicly with the press conference in New York City. I tried to dissuade him one more time and told him all the risks he was taking in the names of all the outpatients, as well as ourselves - all the work we’d put in on this. And he just wouldn’t listen. Then he said, "By the way, can I borrow an artificial kidney?" He hadn’t even made arrangements for a machine and he was here staying in a hotel in Washington. So I called up Charlie and talked to him and said, "You know, my immediate instincts are just to say go to blazes and let him be embarrassed. He might get one from
somewhere, God knows where. On the other hand, if we provide, we will have some control over what happens."

So the Kidney Foundation got wind of this, called me and said "You can’t go because we don’t want the President there. It would just lend dignity to this circus atmosphere." So we got a kidney Reedy at Georgetown that night and there was no way to get any transportation to ship it down to the Hill. So I had to pay out of my own pocket. I paid the money for the pick up truck to carry the dialyzer down there and I sent Jim Carey, who was one of my most mature Fellows. Jim had been navy fighter pilot and then went back to Hopkins to school to qualify for medical school. He was one of our best interns and residents, a very mature fellow, having been a pilot, very cool under pressure. So I sent him down and told him to take two uterine clamps and if any trouble developed at all that he should just put a clamp on each side of the kidney and stand up in a loud voice and say, "Thank you ladies and gentleman, the dialysis is completed."

We specifically asked the patient’s wife if he ever had any heart problems and she said no. And we asked him if he had ever had any heart problems and he said no. Within the first couple of minutes he went into ventricular fibrillation. So Jim clamped and made the announcement and took care of the patient and everything was fine and the patient got the publicity and, as it turned out, it didn’t do any harm but the point was that it might have done a lot of harm. It was very risky.

What offended me was that some journalists who wrote this up and are still writing it up, one as recently as just a few months ago, said that this young man risked his professional career by defying his peers at Georgetown and going down and helping Fraser to dialyze himself in front of the Ways and Means Committee. I mean, he not only didn’t jeopardize anything but he was one of my best Fellows and got all kinds of recognition for it and he was picked and sent and I paid for it, yet he was defying his superiors! I don’t see how that represents responsible journalism but that’s the kind of thing they wrote about.

AF: It’s wonderful to have you set the record straight on this subject.

GES: I talked to his wife afterwards and she said, "I just couldn’t bring myself to deny him this. He wanted this more than anything in the world." I said, "I tell you what, I’m not going to say anything about it as long as he is alive." So I never corrected the story because I told her that I would never do it. So I never said anything to anybody until after he died.

AF: Despite the circus atmosphere, this drama really made it very personal and your control and guidance really provided a focal point.

GES: I certainly would never have recommended doing it because I think it’s a risk you don’t have to take but you can’t deny that whatever publicity happened, ended up for the good. No doubt about that. I still don’t think it’s the way to do things.
AF: It’s certainly not the way to treat patients is it?!

The Future:

AF: I’d like to move to the future again. With all of your accomplishments, there have been many honors that have come your way and perhaps some of those that you take greatest pleasure in are those that allow continued knowledge and research to move forward in nephrology. Could you share with us some of those efforts that can move forward because they have collected monies, rewards, foundations, in your honor?

GES: I’m a great believer in life, and if you believe in a supreme being of any type but even if it’s just mother luck that’s been good to you, that you have an inherent obligation to try to pay back and certainly life has been very good to me. Primarily in the wonderful family that I have - seven children and nineteen grandchildren, soon. All of them are doing what they want to do in life and an excellent group of education in all of them. I think it’s 16 degrees in the family. They all went to very excellent places - Harvard, Tufts, Yale, Northwestern, Wellesley, Georgetown and so forth. So they all got an excellent education - UCLA. And then many of them have had additional postgraduate work. Bill went to the American Film Institute and Peter just got a Masters Degree in Social Work at UCLA and so they are continuing to stay educated and grow.

So I feel it’s very important and we have tried to do that in many ways with the help of course of our friends, many of whom have volunteered to help in this. We now have an endowment in the National Kidney Foundation for a Research Fellow, which has a permanent endowment of $375,000 which spins off the salary for one person each year which is given at the annual meeting.

We have the Schreiner Chair of Nephrology at Georgetown University which is fully endowed at $1.75 million and the first holder of that Chair is Christopher Wilcox, who is the current Head of Nephrology and my successor at Georgetown. He’s working on hypertension and nephrology in general and he is building a nice department with young investigators.

Then I’ve gotten very interested in pre-medical education because I think medical school is full. It is a cup that runneth over and I just don’t think that you can add anything meaningful anymore to a medical school curriculum without deleting something that is necessary and so I think that for the new medicine of the future, you are going to need special preparation and I have spent the last five or six years planning an experimental curriculum which have not yet been formally adopted but the beginnings of a concept have worked and I did it. Although I actually had ties to Canisius College, having gone there, I shopped the idea initially with several college presidents and they were actually the most responsive ones and that was one of the reasons why I picked that place and also the infrastructure was very unusual for a small college. You can often do these things better in a smaller place than you can in a large institution when you are being innovative.
We started from virtually nothing. The total endowment of the first scholarship was $40,000 and it is now approaching $1 million in named scholarships and I think the actual paid money is over $700,000. And we’ve got a $450,000 grant from the Hughes Foundation, one of a small number of colleges that got that. That’s just been renewed for three years. We got a grant from the National Science Foundation for new laboratories which was a matching grant. That was matched and that’s going

We’ve had six National Lectures. The first one was given by my eldest son, George, who is an immunologist and nephrologist, trained at Harvard and now the Vice-President for Cardio-Renal Research at the Ciaus? Corporation and has an appointment at Stanford. The last one was given by a Nobel prize winner, Dr. ? Haupmann, this last spring, who gave an excellent lecture on the relationship of truly basic science to clinical applications.

So we have a mentor program in place for offering some summer research scholarships. We’re cooperating with the University of Buffalo for visit days to the medical school at the University of Buffalo so that students can get a chance to be there and see what goes on and actually participate in it. We are trying to set up some summer research jobs overseas. Right now we’re working on Italy.

My ultimate goal is to get this experimental curriculum in place. Last year all of the candidates for professional schools were accepted, with one exception. There was only one that didn’t get in and that was to a veterinary school. As you know, there are much fewer veterinary schools than there are medical schools, so that they are actually harder to get in statistically. This is a remarkable record and they are doing very well. So we are very proud of the record of the school. There are incidentally a very large number of Canisius alumni in the Washington area and we have our meetings in the Senate or the in House office buildings because several of our people have worked there and there have been some years in which the alumni group of Canisius graduates in the Congress was greater than all but seven states’ delegations. There are some very important people and some excellent records of administrators. Jack ?B........... to administrator of Mount Sinai, who’s got a very innovative program in the ................................................................. So I’m very proud of that and I think that’s where the future goes. I think the person who is going to be equipped the most in the future has to come to medical school with these skills there. They have to have computer skills. They have to have ..........................................................................................

So that’s what I’m working on at the present time.

**AF:** It’s marvelous to see the accomplishments both of your family and of your intellectual progeny.

**GES:** Well, the family credit goes to my wife. Their credit goes to their hard work.

The "Business" of Medicine:
AF: These were the topics that I wanted to hear more about. Are there topics that you want to go into further?

GES: Yes. I think we're going through a very difficult period in medicine and I of course reject the concept that doctors should give up the control. There has been a very concerted action I think, on the part of irresponsible press, to indicate that somehow doctors shouldn’t be trusted with the health of the patients. Frankly, last year there was a president and CEO of an HMO who received a $8-9 million Christmas bonus solely for having forced the fees of the participating doctors downward. Now whether or not the fees should go lower or not, but to take the money that saved and give it as a $8-9 million bonus to a chief executive I think is obscene. I think that when you’re spending now, in some cases in some HMOs, as much as in the 40 percentile of your income for administration, and for filling out forms, then it’s just gone too far. The people are not getting their money worth and I think that they’ve reaped the fast profits now by cutting back on services, shortening times in hospital, shortening stays for obstetrics, you know, to ridiculous extremes, really practicing medicine on the cheap, purely for economic reasons and nothing to do with the quality of medical care. Can doctors be improved? Of course they can but the way to improve them is by education and responsibility not by simply putting accountants in charge.

AF: I take it then that you are not particularly fond of words like "care provider" and "consumer" in the doctor/patient relationship?

GES: There’s a wonderful editorial written by a doctor. He said, "Call me rambunctious, call me rebellious, call me a liar, call me coarse, but don’t call me the provider." This is a very subtle, almost the kind of propaganda that the Nazis used. Goebbels would say, "If you keep saying something often enough it becomes true." I think if you keep calling physicians providers and if you keep messing the lines up between nurses, social workers, technicians, and so forth, and not pay any attention to how good a training they have, what you are doing is you are homogenizing the group but you always homogenize down to a lesser level. You don’t maintain professional standards at the highest possible but really at the most mediocre possible level. So you keep "boiling" people down into a melange of being a provider (and they talk about clients instead of patients), and I think you’re destroying the whole professional aspect. I think if people actually think about it and what they are getting - they young healthy people, of course, want a cheap policy and they don’t think about the fact that they are going to need the service at some point - but when it comes they are going to realize what they’ve lost and it’s almost impossible to get service in some parts of the country now. Can you do it as a physician-operated endeavor? You bet you can. Why isn’t being done? Because they physicians aren’t trained to do it. That’s one of the goals of my experimental curriculum - to give them the skills so that they can do it. They are the people who should be deciding on the value of the treatment, not somebody who just came out of Merrill Lynch and is a chief financial officer and is just looking for a job.

If you notice lately, there has been a marked decline in HMO stock prices. So I think that time is limited and I think people are going to have to examine what you’re getting for the money and getting more administration is not a bargain.
**AF:** So your advice for physicians entering into their training now, or finishing up their training is to learn as much as possible to take charge of these issues.

**GES:** Right. Before they get to medical school. They are not going to get after. I don’t know any medical school in America that’s doing a good job at this. And they should be really. They are not equipped to. They are not designed to and they are not organized to and they don’t have the personnel to do it.

**AF:** Not many people have your skills to go and find knowledge wherever it may be found on the planet!

**GES:** Well, I’m sorry to hear that because I think that it’s not all that difficult if you reason logically and are willing to take a few risks. I think it will come, I really do. I think that it will soon be seen that you cannot simply declare that a problem is handled by fiat of any bureaucrat. And you see the fear in the heart of the patient when they realize this, even the families.

I’ve had the horrible experience here of having a major health figure in the federal government who never had an internship, never had a day’s clinical training. I was at a party and had to spend about an hour consoling his wife because he was insisting that he was going to delivering his wife’s baby at home, with no training. And she was terrified, and rightly so. Simply because somebody declares you as the assistant chief of something, doesn’t give you the training and background for you to do this. This is actually what’s happening in some places. They say, "You are our cardiologist" and the fellow never had any training at all, or very little. Or they can fill in with bodies or they can consolidate.

Another HMO, a friend of mine worked at, and they were on a telephone call in internal medicine every other night when he went to work for this particular HMO where actually the quality was pretty high. Then people wanted more time off and so they simply consolidated phone lines and so now they were on every third night, and then they consolidated and they were on every fourth night, and then they were on once a week, and then they were on once a month, and then he did the math and sat down one night and figured out that he was on call, he was the doctor on call, for 250,000 subscribers! Now how can you handle that if anything happens? And it’s going to happen! Some night there’s going to be 50,000 calls to an HMO in California and there’s only going to be one guy on the other end of the telephone. Then you’re going to get what you get when I called today. I called Apple’s technical support system and they said it’s being done by Kodak and then I called Kodak and they said punch "1" for this and punch "2" for that and punch "3" for that, and before you could get a voice. Now the Apple guy told me not to answer the first question or you’ll get charges $19.95, just for making the call. He said, "Just stay on the line and a human will come on." A human didn’t come on. So then they set up a system where they say "What are the digits of your credit card." and then they repeat and I went through it seven times and they say "Answer yes", they don’t say punch this. You have to answer "yes" vocally. And I would say "6677" and they would say "6534" and I’d say "no". Then they’d say “You haven’t given us the right digits! I gave them the right digits, they
didn’t hear the right digits. Who is going to go through that who is having a heart attack?! Any you’re going to say "punch 5, punch 6, punch 7" but that’s what we’re coming to. We are going to treat people just like we’re treating computers. It’s a laugh.

**AF:** I hope that your efforts will help us to avoid that kind of problem?

**Value of the ISN Video Legacy Project**

**KS:** We are coming to the end of what has been a marvelous session for us and we are most grateful to you. This is kind of the turning point for the ISN Video Legacy Project. We have done a substantial number of interviews, we have completed the material for the first CD-ROM, and we are sort of gathering our thoughts for a way to do, if you will, the second half of the project or phase two. Having been very much a part of this in these past few hours, and having seen some of the products of the areas that we have done with other people, do have some thoughts of what is the value of this kind of capturing of living history and what should we be trying to and just whatever thoughts you might have of the Video Legacy process?

**GES:** I think that if you are a student of history, you have to take the point of view, the mature point of view I think, that history basically is something that is made by the juncture of people and the rest. The people bring in, and sometimes the events bring in, a dimension that no one person can provide or no one group of people provide so that they move with the events. But really what constitutes human history is this conjunction and how its handled in that time and that place. So it necessarily has to have a personal component.

I really do not understand the concept that history can be purely objective. Objective to what, you know, what is the object? Well the object is to find out how people faced questions and problems and how they proposed solutions and what these solutions were about and what were the consequences of the options of these things. So it is a people-driven history of the human race affected by events, granted. But the events are often unpredictable and the people are sometimes unpredictable but they are more predictable often than the events are. And so what you want to do is find out how these were handled. I do not know any other way of doing it other than getting this by mouth because the minute you sit down to write a book or monograph, you have to recollect your thoughts, and then you get caught up in the form in which you are putting them down and you get inhibited by the forms in some sense.

Conversation, I mean long before there was written history there was oral history. And so if you are going to a historical thing about something that is happening in the here and now, there is some value in getting oral history and then you have to remember that there are a lot of people who do not like it, a lot of people who did things that were very important do not like it. So you have no records if you do not have some kind of oral history or at least a second hand tale on what is right or wrong. Now I do not think that people should take each individual’s testimony or history as being necessarily gospel. I mean it is like saying that I am going to weave a rug but I do not want any thReeds showing. You are taking the thReeds and you are making them into a rug, and
the actual rug looks different than the individual thReeds. Nonetheless, you cannot make the rug without the thReeds. So if the objectivity does not appear out of space, the objectivity appears only when you can take direct testimony and check it one against another and so on. It never becomes truly objective. It never becomes perfect. It is always subject to re-interpretation and re-examination and these facts can be dug out by interviewing more and more persons and so on and so on.

So I think it is the only route, really, to developing meaningful history, and besides which it is so primitive, so long in being, that it is a much more interesting way. Tales around the campfire were the way the Aborigines and the Indians communicated many of the great ideas that have survived thousands of years and many centuries. It was done in song, it was done in dance, it was done in symbols. It was done in artwork, and it was done in drama and all of the relatives of those forms of communication. So I think it is a fine idea and I think it is very important to do it while the people are able to recollect the facts reasonably and accurately.

I mean I would love to sit down and have a conversation with Hamburger like this at this time, you know, unfortunately I cannot. I have had conversations with him in the past. I think he was a much deeper, broader person than a lot of Americans realize. He really had a very well developed sense of philosophy in history, and after all he did the first total bioradiation. He did some of the very first transplant work. He trained some of our transplant leaders. When I went to visit him he’d set up really one of the first great kidney hospitals in the world. And he did a wonderful job. I mean ?................ probably is more responsible for picking out the name "nephrology" and yet we cannot ask him about what his reactions are. It would have been wonderful to talk to him after the big meeting when he was still at his best and so forth. He was a very erudite, literate man and I had the pleasure of having dinner with him one night. My wife and I had the French Embassy here when he had just finished his book on the recognition of cells and philosophical recognition of cells. You know he was a very fine person to talk to in an intellectual discussion.

I think that very few nephrologists, young nephrologists, have the privilege of listening to a man like that, and if they had a tape I certainly would listen to it and see what I could take out of it. But there are many fine people like that you would like to have a record of, so I think what you are doing is a very sound thing based on centuries of experience and people. Which really there is no other way of doing it.

KS: One of our intents is to interest the best and the brightest of the young people in the field of renal medicine. Do you think this is going to work in that way? Do you think young people today are interested in history and a certain sort of history will intrigue them?

GES: Yes I do and I think it is a part of what I was alluding to when I was saying that there needs to be a kind of a coming back together. That does not mean that every new nephrologist has to have every skill, but it does mean that you have to have a vision of a totality of the specialty. You may be only practicing biopsies or you may only be practicing the pathology of the kidney, but you still have to have a vision of
what produced that and what are the physiologic changes, what is the clinical picture that surrounds that and all of that sort of thing. You are not going to get that if you do not have some concept of why nephrology was formed in the first place. And I think that the splintering that came was not an unexpected thing. I think that the splintering is something that happens when technology is rapidly evolving because one man says, "I cannot learn about all of those things and I want to learn all I can learn about membranes, so I will just work on membranes." So a few people are working on membranes and so what is a blood clot? You can hardly remember what a blood clot is. But if he really wants to identify with a specialty, he has to know a little something about all of these things, and he has to have at least a vision of the totality of what the specialty is.

I think something like this history can go a long way to supplying that. I think it is going to make for better people, more rounded people; it is going to make for better imagination, better organization and just plain dealing with the whole (subject) instead of a piece of it.

**KS:** Well I think you have made an extremely valuable contribution to this project, and we are most grateful to you. We could go on for many more hours but it is getting to be a time of the day when it is not rational behavior! So once again, we thank you very much. This has been a most valuable, enjoyable experience for us and we thank you for all of the time that you have spent both in for preparing for it and in the actual talking with us today. Thank you.

**GES:** Thank you very much Kim and Agnes, and Brenda and Lynda and Bill were all working together on the project and it is good to see it come to a fruition and thank you.

**KS:** Thank you.

**END**