

The Foundation of the American Academy of Ophthalmology  
Museum of Vision & Ophthalmic Heritage

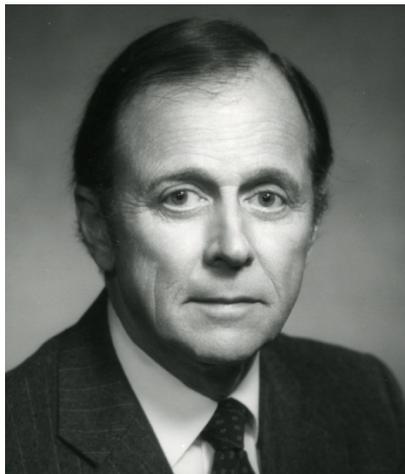
**Conversation Between Richard Troutman, MD and Stephen Ryan, MD**  
Chicago IL, October 16, 2010

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Drs. Richard Troutman and Stephen Ryan recorded this conversation on October 16, 2010 during the Annual Meeting of the American Academy of Ophthalmology, in Chicago, IL.

Dr. Troutman is a cornea specialist from Florida and Dr. Ryan is a retina specialist living in California.

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In this [excerpt](#), Dr. Troutman discusses the beginning of ophthalmic microsurgery.

[Here](#), Dr. Ryan talks about his early years at the University of Southern California.



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RICHARD TROUTMAN: [This is] Richard Troutman, my age is 88.  
Today is October 16.

STEPHEN RYAN: I am Steve Ryan, aged 70 in October 2010. It's great to  
be here with Dick Troutman.

RYAN: So, Dick, tell me, you've had such a distinguished career, how did  
you find your way? What was your path to ophthalmology?

TROUTMAN: As I recall, David [Noonan] said we should start from when  
we were born. I was born in Columbus, Ohio, May 16, 1922. Actually, my  
professional career may have begun two years later, while my father, who  
would be my greatest inspiration to become a physician, was in Vienna  
studying to be an Eye, Ear, Nose and Throat (EENT) specialist. In those  
days there were no residencies and training was by preceptorship and  
abroad.

My mother, being a little short on money, entered me in a contest at the Ohio  
State Fair, where I won first prize as the *Best Baby in the State of Ohio* for  
which she received a \$25.00 gold piece that went immediately for household  
expenses. I was awarded an engraved Silver Loving Cup and a gold Medal  
attesting the fact that I still have.

After that I attended Catholic private and parochial schools, and at age 13  
was sent to Culver Military Academy, where I demonstrated my early  
interest in ophthalmology by writing my senior thesis on glaucoma. I  
graduated in 1939 at a very tumultuous time, just before the second war was  
about to begin, with a commission as a second lieutenant in the infantry. For  
us war broke out in 1941, just as I was finishing my premed at Ohio State  
University (OSU). When I enlisted I was assigned to the Navy, who sent me  
back to OSU medical school, from which I graduated in 1945.

While in medical school, in my senior year, I won the Eli Alcorn Prize in Ophthalmology. My professor was aptly named Jack Frost. A member of the American Ophthalmological Society (AOS), he was a good friend of Al Ruedeman, Dan Kirby and Bill Benedict. He and my father encouraged me to pursue my interest in ophthalmology. He sent me to Dan Kirby to interview for a residency at Bellevue Hospital in New York City. I went to New York where Dr. Kirby interviewed me. He said he would let me know about the residency, but didn't seem very enthusiastic. While I was still in New York I went to see a recent OSU graduate, Michael Deddish, then a resident at Memorial Cancer Hospital in New York. Memorial is just across the street from the New York Hospital, Cornell Medical Center (now New York Presbyterian). Mike said, 'While you're here why don't you go over to New York Hospital, "There is a new Chief of Ophthalmology, John McLean, who might be looking for some residents "'. I went over and met John in the locker room just as he was coming out of surgery, and...

RYAN: When did he leave Wilmer to go to New York? What year was that?

TROUTMAN: I think in 1941.

RYAN: '41.

TROUTMAN: This was '44.

RYAN: Got it.

TROUTMAN: He had been chief resident at Wilmer. Ed Maumenee, Ed and Jack Guyton were just behind him.

RYAN: That's right.

TROUTMAN: He shook my hand and asked, "why are you interested in ophthalmology?" I replied. He didn't say much after that. As I found later, John was a man of few words. I left, thinking nothing of it. I was very surprised when, a week later, I received a letter offering me the first year resident position that I accepted immediately. Two days later I received Dr. Kirby's letter of acceptance that I had to reluctantly turn down. Though at the time New York Cornell didn't look like the best choice, it was the best decision I ever made.

TROUTMAN: So, tell me about how you got into your program at Wilmer.

RYAN: Your story is interesting, and we'll come together later in our conversation to discuss John McLean and Ed Maumenee, how your and my paths track some great ophthalmologists and some other commonalities shared by you and me. I was also very fortunate. Like you, my father was also EENT. After he graduated from medical school at McGill and did his internship, he then went in the Navy in the late 1930's. He was stationed with my mother at the U.S. Naval Hospital at Pearl Harbor. I was born there in Pearl Harbor just before World War II.

My father was mainly in the South Pacific during the war. In the Navy, he was EENT, but then subsequently did his residency in ophthalmology in Boston and became Chief of Ophthalmology at the U.S. Naval Hospital in Bethesda. I was very fortunate that after graduating from Providence College, I went to Johns Hopkins for medical school. When I entered medical school, I planned to be a heart surgeon. We had a small class size, 72, in my Hopkins class. When I went to sign up for research for my first summer, I knew nothing about research or academics. Fortunately, for me, Hopkins is such a great institution and inspired me and gave me so much opportunity. I was fortunate to get a summer lab position at Wilmer. And once I met Ed Maumenee, I had my mentor and role model for the rest of my medical school, residency, and faculty time at Hopkins. Ed became the ultimate mentor for me. After medical school at Hopkins, I was fortunate to be selected by Ed to be a Wilmer resident. Ed was such a great mentor for all of us Wilmer residents. It was a very special esprit that we had.

Dick, you mentioned John McLean – when I was a medical student and doing research at Wilmer, he would always come down from New York each year for the Wilmer Residents meeting. It was great to see what good friends John McLean and Ed Maumenee were. There is a famous Wilmer story that when Alan Woods was the Wilmer Director and he needed his cataracts to be operated, he went to the Wilmer residents, John McLean and Jack Guyton, to operate for him. Cataract surgery was a more hazardous type of procedure in that era and had a greater risk.

TROUTMAN: I remember his famous essay on the “Perils of Aphakia”. He had been operated by John.

RYAN: That's right. And our other interesting connection is Ed Maumenee, who was such an influential leader in ophthalmology. While I was a resident with Ed, I remember my first Academy meeting and coming out to the Palmer House in Chicago. In those great days, you would see all the heroes in ophthalmology. Ed Maumenee, John McLean, and Jack Guyton had a great course that was very popular at the Academy meeting at the Palmer House.

TROUTMAN: You must have seen me there? By then I had my own courses on Microsurgery for Cataract and Cornea and for Refractive Surgery for corneal astigmatism.

RYAN: Absolutely. As a resident, we all admired you great surgeons. Ed Maumenee had such influence and supported me tremendously. John McLean died much too young – whether it was 1968 or so...

TROUTMAN: He was only 55.

RYAN: When John passed on, I was a Wilmer resident. When Cornell was interviewing for a chair of ophthalmology, I was a Wilmer chief resident. Ed Maumenee had such influence that the Cornell search committee invited me to meet with them to interview for this prestigious chairmanship. You can imagine how a resident from Baltimore being asked to interview for the prestigious chair of ophthalmology at Cornell and New York Hospital was quite an experience. I was fortunate to return to Wilmer and join Ed's faculty after doing a fellowship at the AFIP with Lorenz Zimmerman.

TROUTMAN: I remember we always went to the Wilmer meeting. If we hadn't, John would probably have thrown us out of the program. John also insisted everybody go to the Academy Meeting. I even went as a first year resident.

RYAN: Was it here in Chicago?

TROUTMAN: Actually, the first Academy Meeting I attended was in 1932 when I was 10-years-old, the year my father became a fellow of the American Academy of Ophthalmology and Otolaryngology (AAOO). At the time most members were Eye, Ear, Nose and Throat specialists (EENT). My grandmother lived in South Haven, Michigan and we had to cross the lake to get to Chicago. I remember that crossing well, because Lake

Michigan is notorious for its rogue waves, and everybody was seasick the whole trip across. The other thing I remember was sitting down in the Palmer House Main Ballroom with the whole membership of the Academy and their families for a sit-down dinner.

RYAN: A very different time.

TROUTMAN: Different time. At that, and at my next Academy in 1945 every corner exhibit booth, was occupied by a cigarette company, and for quite a few years thereafter. The whole area was filled with smoke, even during the annual banquet. Everybody smoked in those days.

RYAN: Chicago's been very special for the Academy's history.

TROUTMAN: Yeah.

RYAN: That must have been an exciting time with all the courses. I'm interested to hear your observations, Dick. Tell me about some of those Palmer House Academies you attended.

TROUTMAN: One of my more memorable early experiences at the AAOO annual meeting was my report to the Academy as chair of the Committee on Integrated Orbital Implants in 1952, not long after I finished my residency. I should first relate the background of events that led up to this moment. My residency had been interrupted after the first year to complete my active service in the Navy at Jacksonville Naval Air Station, as chief of EENT 1946-48. On discharge I returned to New York Hospital where I completed first a fellowship, and then the last two years of residency in 1951. While in the Navy, I had seen and performed a number of enucleations for war injured globes with uniformly poor cosmetic results. Davis Durham, of Wilmington, Delaware, who had a similar experience, had devised an "integrated implant", attaching the recti muscles to a mesh covered implant that was fitted with a pin designed to fit into a socket in the back of the prosthesis.

Though the cosmetic result was improved the exposed implant often became infected resulting in its extrusion. To avoid using an exposed pin to integrate the implant to the prosthesis, in place of the pin, I incorporated one of the newly marketed Alnico magnets in the front of the implant that was fixed to the recti through a pair of tunnels just behind the magnet. A second

apposing magnet was incorporated in the back of the prosthesis, their attraction through the flat apposing surfaces designed to provide integration without exposure of the implant. This all happened while I was still a senior resident. I gave my first paper at the AAOO before I finished.<sup>1</sup>

Two years later, to determine, among these and other integrated implants being proposed at the time, which was the safest and most effective, Dr. Benedict asked me to form an investigative committee, sponsored by the Academy. We used a multiple choice questionnaire sent to all the ophthalmologist members. It was designed for the data to be transferred to and analyzed with the newly available IBM punch card system, the precursor of the computer, its first use in ophthalmology. Though my report to the membership showed mixed results it was a “first”, in its national scope and methodology that continued to be used by the Academy for two subsequent evaluations and that I was chosen to chair. It was my first major presentation to the ophthalmology section of the Academy.<sup>2</sup>

In 1959 and again in 1973, I was appointed by the Academy to chair two more Academy Committees, the first on the Safety and Efficacy of alphachymotrypsin. Discovered and developed in Spain by Dr. Joaquin Barraquer it was used to facilitate the removal of cataract by the then universally accepted intracapsular technique.<sup>3</sup>

It was only two years after my appointment as Professor and Head of Ophthalmology at State University of New York Health Science Center Brooklyn (SUNY HSCB) in 1957 that I had invited Joaquin to demonstrate his techniques of ophthalmic microsurgery that I had been investigating independently since 1953. A few months later he wrote to tell me of his discovery of an enzyme that seemed to dissolve the zonules thus releasing the lens. As a result I was the first to use it and was largely responsible for its introduction in the USA. In addition the Biostatistical Department that I had pioneered and developed in the Division of Ophthalmology of the State University of New York, where I was appointed Head of Ophthalmology in 1955, was specifically designed for such tasks.

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<sup>1</sup> Troutman RC: A Magnetic Implant, *AMA Arch Ophthalmol* 43:1123, 1950.

<sup>2</sup> Troutman RC: Symposium: Orbital Implants After Enucleation; End Result Implant Surgery, *Trans Amer Acad Ophthalmol Otolaryng*, 56:30, 1952.

<sup>3</sup> Troutman RC: National Survey on the Facility of Cataract Extraction Operative and Immediate Post Operative Complications, *Trans Amer Acad Ophthalmol Otolaryng*, 64:37, 1960.

The next occasion was in 1973, when I was appointed to chair a committee this time to investigate the safety and efficacy of then very controversial phacoemulsification procedure that was said of, by one of its advocates, “to require the sacrifice of thirty eyes to learn”! Although it was being reported to be more effective, we determined that, at the time, when corrected for the age of the patient, it was no better in its outcome than the universally accepted intracapsular procedure. These findings allowed the procedure to continue to be investigated, avoiding the threatened litigation that might have delayed its continuing development to its present state.<sup>4</sup>

RYAN: That’s exciting.

TROUTMAN: After that the National Institute of Health (NIH) and National Institute of Neurological Diseases and Blindness (NINDB) took over such surveys.

RYAN: That’s great. Another connection between us, while you were in New York and Wilmer, I think, would have been Ed Norton. You would have known Ed for a long time.

TROUTMAN: Ed followed me in the residency at Cornell. He came the year I left. And Brad Straatsma was at Columbia. I remember Brad and Ruth trying to decide whether he should go into practice with his brother-in-law, Forbes Delaney, in Greenwich, Connecticut, or whether they should accept the offer to begin a new academic program at University of California at Los Angeles (UCLA). Fortunately for all of us he decided to go to California, and Ed decided to leave New England for sunny Florida.

RYAN: Brad did a great job building the Jules Stein Eye Institute at UCLA. For me, when I was a medical student, Don Gass was a hero as a Wilmer resident and chief resident. Ed Norton recruited Lawton Smith and Don Gass to join him in Miami. Ed established an outstanding eye institute at Bascom Palmer. I remember there were those years when Cornell was trying to recruit Ed to return to New York. Ed Norton offered me a position at Bascom Palmer on two occasions. I very much admired him and Don and Robert Machemer and the faculty he had recruited to Bascom Palmer. But Wilmer was so special to me because when I joined the faculty with Ed

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<sup>4</sup> Troutman RC and Clahane AC: Cataract Survey of the Cataract-Phacoemulsification Committee, Trans Amer Acad Ophthal, Otolaryng 79:178-185, 1975.

Maumenee, there were only three of us clinicians as full-time faculty members. It was Ed, David Knox, and me. Frank Walsh was half-time, Arnall Patz was half-time, David Paton had gone to Baylor as chairman and had recruited Gunter von Noorden to join him in Houston. So, it was really Ed and the residents and the great part-time faculty – the attendings who practiced in Baltimore. For a young faculty like me, this was the perfect job. I was always very happy at Wilmer. My office was right across from Ed Maumenee. I believe strongly that Ed was the greatest clinician of his era. And to share patients with him, and also to cover for him because Ed traveled and was out of town a great deal, gave me such a tremendous experience at Wilmer. He was just such a great mentor. Ed Maumenee did so much for so many people and, especially, for our specialty of ophthalmology here in the U.S. and for the Academy and for international ophthalmology.

TROUTMAN: I knew Ed very well. I first met him at the Academy when I attended as a first year resident in 1945 during the always “sold out” cataract course that he, John and Jack Guyton held, featuring of course “the McLean Suture”. I was assigned to run the 3x5 inch glass slide projector changing one slide at a time! And the 16 mm movie projector, so outdated now!

My last responsibility as a resident, my discharge chest x-ray, which all the residents were required to have annually, came due when I finished the residency program in 1950. I had been accepted and was scheduled to leave the next week for a yearlong Fulbright fellowship at the *Quinze-Vingts* in Paris, France. The x-ray was positive for tuberculosis in my right upper lobe, as was my sputum culture. As a result I spent my Fulbright fellowship year at Trudeau Sanatorium on Lake Saranac in upstate New York. I was in the control group to evaluate the just introduced antibiotics streptomycin and Paramino Salicylic Acid (PAS). Fortunately, I was one of those who recovered without them.

RYAN: Really?

TROUTMAN: When I was discharged John recommended me to R. Townley Paton, (father of David ), also a former Wilmer resident, the Chair of Ophthalmology and Surgeon Director at Manhattan Eye and Ear and Throat Hospital (MEETH), for appointment as full time Resident Instructor, which was a bit like being chief resident at Wilmer. I had the responsibility to coordinate the training of the 12 Manhattan Eye and Ear residents with the

MEETH all voluntary staff. At the same time I began my clinical practice in Townley's office.

RYAN: But you had a significant service, right? I mean, I thought you had cornea, cataract, and a major service at MEETH.

TROUTMAN: That was later, in 1962, when I became a Surgeon Director and head of the Cataract and Corneal Clinic, and, in 1982 Chair of Ophthalmology.

RYAN: I see that it was later on that you got your service...

TROUTMAN: In the 1950's ophthalmology had not formally begun to specialize and ophthalmologists did all types of diagnostics, treatment and surgery. Some of us began to limit our surgical practice, in my case I happened to gravitate towards cornea and cataract surgery. However I continued to do enucleations with integrated magnetic implants, as well as surgery for glaucoma, retina, strabismus, etc. In retrospect we didn't do it too well, but for the time it was acceptable. It was then that I became interested in using a microscope for anterior segment surgery. As a young hyperope, I couldn't see as well as I would have liked to perform surgery on the anterior segment. We all wanted to be as good as John, who we didn't know was a myope. He didn't wear glasses and would pass us in the hall without recognition. We thought he was only preoccupied!

It was the Academy that was instrumental in furthering my interest in pursuing microsurgery. In 1951 the AAOO hosted the 16<sup>th</sup> International Congress of Ophthalmology (ICO) in New York for the first combined meeting following the war. It was at that meeting, where I presented my magnetic implant, that I saw the new Swiss, Haag-Streit Slit Lamp. It was entirely different from the Bausch & Lomb Slit lamp we were using which had a freely moving slit lamp arm that would never stay in place, and an equally awkward microscope that was moved independently by hand on a glass-topped table. I was fascinated with what I could more readily see with this new instrument with its confocal illumination system and microscope. A few months later I went to Europe to visit an ophthalmologist I had met from Bath, England. After, I drove through Europe stopping in Switzerland where I bought a Haag-Streit slit lamp and brought it back with me on the boat.

As I observed what its magnification did to facilitate diagnosis, I thought; Why not use magnification in the operating room to see better for surgery? Shambaugh had just introduced the stapes mobilization procedure for which otologists were using a Zeiss operating microscope with 5-40X stepped powers. The ENT resident, who was a good friend of mine, let me use their microscope to do practice surgery on eye bank eyes. I was hooked! However, for the stapes surgery, their microscope had an in-line binocular for viewing at 180 degrees. I exchanged it for a 45 degree inclined binocular from a laboratory microscope so I could view the eye for surgery while seated. However, at that time everyone stood for surgery to view the eye from every angle during surgery by naked eye, though some used a 2x binocular loupe. I was teased unmercifully for sitting down to operate from a fixed position, not standing. Also, it was taking me an hour to do a cataract when without a microscope in the way it took 10-15 minutes. It was fortunate that a new local anesthetic, Xylocaine, had become available allowing me to take longer surgical time.

That was only the beginning! Magnification necessitated a complete change of my approach to anterior segment surgery, and led to the development of finer instruments and sutures and the more refined surgical techniques. The improved visualization would eventually lead to the development of the sophisticated and automated instrumentation of today that has completely changed the practice of anterior segment surgery, in particular cornea and refractive surgery, which became my areas of specialization and are summarized in my three volumes, "Microsurgery of the Anterior Segment."<sup>5</sup>

It was that first ICO meeting that not only began my interest in using the microscope for surgery, but also my career long associations with international ophthalmology and so many lasting friendships with ophthalmologists from around the world.

Steve, how did you get into your first interest?

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<sup>5</sup> Troutman RC: Microsurgery of the Anterior Segment of the Eye, Basic Principles and Techniques, Volume I, CV Mosby Co., St. Louis, MO, 1974.

Troutman RC: Microsurgery of the Anterior Segment of the Eye. Volume II, The Cornea; Optics and Surgery, CV Mosby, St Louis, 1977.

Troutman RC, Buzard K: Surgery of the Anterior Segment of the Eye, Cornea and Refractive Surgery, Volume III, CV Mosby Co, St Louis MO. 1992

RYAN: Well, just to pick up on your points, and maybe later we can talk about international ophthalmology where we both have longstanding interests and many friends. But I really appreciate your leadership, Dick, when it came to microsurgery because Ed Maumenee insisted that all of us Wilmer residents use the microscope. At that time, many ophthalmologists were still using loupes – in the 1960's – and Ed just made sure that if you were doing anterior segment surgery, you were operating through a microscope and that's how we were trained. So, again, it was ophthalmologists like you who led the way.

I left the Wilmer faculty in 1974 to go to USC to be the first chairman of the USC Department of Ophthalmology, I was also the only full-time faculty member! I functioned like a chief resident. I tried to do everything. There was no Doheny on the USC Campus. Like everything in the USC medical school, all the clinical activities and our offices and everything were in the L.A. County General Hospital. I could have faculty meetings very easily since I was the only full-time faculty member! I could look in the mirror or go in the car and talk to myself and that would be the faculty meeting! Consensus was easy! L.A. County was the opposite of Wilmer and the academic standards and approach I had learned from Ed. Over a year later, I recruited Ron Smith in cornea, who is my friend and a great leader of the Academy for many years. I also recruited Mike Allen, a great retina specialist. Mike was the ultimate capitalist and referred to Ron as the ultimate communist! So, for the small full-time faculty of three, we always had the challenge to develop consensus. My role was to find the common ground so that we could recruit more faculty, including Steve Feldon, Linn Murphree, Don Minckler, and other colleagues in the 1970's to come to join us at Doheny, which had moved to the USC Campus.

L.A. County General Hospital was a remarkable place. When I arrived in 1974, there were more than 30,000 patient visits a year to the Outpatient Department, where the residents had one B&L slit lamp and one American Optical slit lamp. And neither worked! I was doing everything I could to try to get L.A. County to buy Zeiss or Haag Streit slit lamps. The only commonality of these two slit lamps, the AO and the B&L, was that neither one of them worked. So the residents were examining patients in the OPD without a functioning slit lamp. It was frustrating for me. I would go down to the medical director of L.A. County General Hospital and told him that in my three months in Algeria, I practiced a higher grade of ophthalmology and I had better equipment than there were in the L.A. County Hospital. This

large, county, government hospital with its bureaucracy helped me learn to develop the necessary leadership and management skills to deal with challenges and frustration.

In regards to my specialization in vitreoretinal disease, I was most fortunate to have the support of Ed Maumenee and Wilmer, and good personal friends like Don Gass and Ed Norton. I was able to get to know Robert Machemer well while I was a Wilmer resident and he was starting at Bascom Palmer. Robert came up to visit us at Wilmer. When I went back on the Wilmer faculty, it was literally just after Robert's landmark paper on the Vitreous Infusion Suction Cutter (VISC), and his presentation at the Academy where he first described the VISC. You and I recall that through my residency, we were taught to stay away from the vitreous at all cost. That was the absolute sanctum sanctorum and you just don't violate the vitreous. And here these guys in Miami...and you know the story with Dave Kasner and how Robert pulled together medicine and engineering. With Jean Marie Parel from Australia, they created an instrument – the VISC – and the field of vitreous surgery. Robert's patient with diabetes and vitreous hemorrhage whose vision improved from count fingers up to 26/60 was just a dramatic story when he presented that to the Academy. Some today may not know about Robert's courage. He had his first 27 cases of what we now call proliferative vitreoretinopathy (PVR), what he called massive periretinal proliferation, that was then called massive vitreous retraction, as complications after retinal detachment surgery. He operated his first 27 PVR patients and they all failed. And for anybody to have the courage to keep operating until he got the procedure successful was just a remarkable accomplishment.

I was very fortunate that Robert invited me to his initial group of five for his first vitreous surgery course. I was able to take one of the first five VISC machines outside of Bascom Palmer and take it back to Baltimore with me to start vitreous surgery at the Wilmer Institute.

Then, when I went out to Los Angeles, I developed relationships with many friends and supporters. I was very fortunate that I was welcomed and supported by ophthalmologists in the community. I was struck by a bizarre situation. USC is a private university founded in 1880 and its medical school started in 1885, but when I arrived in 1974, the USC faculty did not see any private patients nor was there any such inclination. As the USC Presidents accurately observed, their medical school was basically a County

Medical School. Basically, L.A. County paid for the medical school and took the risk, as pointed out by USC Trustees and leaders of that era. Across town, UCLA was doing everything right, with great Chancellors and Deans and great leaders like Brad Straatsma, who developed the Jules Stein Eye Institute. The irony or paradox for me, coming from Hopkins, was that UCLA – the State University – took care of the private patients in Westwood, whereas, USC – the private university – had the responsibility and took care of the public patients at the L.A. County Hospital. So, it was a little bit upside down because, as you and I know from New York and Baltimore, it's our most noble mission to take care of the poor, but at institutions like Hopkins, you always had access to the private patients – the carriage trade for philanthropy, which is really so important to build departments and academic programs.

TROUTMAN: And it will support a department.

RYAN: ...and will support the department. The key for me was that Doheny, at that time, a small operation in a mid-sized hospital, Saint Vincent's Hospital in L.A., would move over to the USC Campus. We were very fortunate to have Sandy Irvine and Doheny move to USC. We could build the Doheny Eye Institute on the USC Health Sciences Campus. Doheny was led by Father William G. Ward, as Chairman, and Hugh Edmondson, MD, as President. They and the Doheny Board, later chaired by Sid Webb and Ed Landry, have been the key with great faculty to building ophthalmology at USC. Additionally, the ophthalmologists in Los Angeles were so welcoming and supportive to me. I did not come initially to build a referral practice. At the beginning, I was trying to build a residency. As I've described, L.A. County Hospital required a tremendous amount of work to try to get it to a modern level of ophthalmology. It was so backward. Developing an outstanding residency that would appeal to great medical students from the best medical schools was a challenge and took a long time. It was a challenge that I welcomed. Ophthalmologists would refer patients to me and initially I would see them over in the County Hospital. Again, Ed Norton being my role model, I thought that, similar to Jackson Memorial Hospital and Bascom Palmer, you could do something like that here, but in L.A. that just didn't work and the ophthalmologists would say, 'Steve, we really want to support you, but you can't be asking our patients to come to the L.A. County Hospital. You know, what's wrong with you?' And so Warren Wilson lent me his office on Wilshire Boulevard near Good Samaritan Hospital, where I started up my practice and it became

successful very rapidly. People refer you more patients and then, you're there one, two, three days a week on Wilshire Boulevard. Fortunately, Doheny moved to the USC Campus and Ron and Mike arrived so that we could start to build, including a private practice, research, and a residency.

And that's how I was able to start up. It was great to have the relationship with so many good ophthalmologists in L.A. We would all look forward to Academy meetings and, maybe to circle this into the Academy with you, Dick, as a resident, there were those Palmer House meetings, but then Ed and other Academy leaders moved the AAO to Dallas and Las Vegas as the Academy outgrew the Palmer House. The courses got to be larger. What was your experience then, Dick, in terms of your courses and surgery and what you had, and the difference when we moved from the Palmer House?

TROUTMAN: I was very touched to hear of your experience. However, before we go into that, when Suzanne (my wife, Suzanne Véronneau-Troutman MD) and I were talking about this interview, she asked me, 'What was your greatest challenge?' And I said, 'Well ---- it was probably starting my department. SUNY HSCB had just been open for a year and the Basic Science Building and University Hospital were under construction. Our only hospital was the entirely charity, city hospital, Kings County (KCH). Just like you, I was the only professor, but I was half-time. However, I was able to entice a good friend of mine on the NY Hospital Staff, Austin Fink, who practiced in Brooklyn, to join me as Associate Professor. So, on July 1<sup>st</sup> 1955, this "goy" from Manhattan came out to Brooklyn to head Ophthalmology at SUNY. The whole ophthalmology staff at KCH, except for three, immediately resigned and went back to the Brooklyn Eye and Ear from where they had come. They had been running KCH like they owned it, which they did. I was left with three residents, who, when I arrived, had only assisted at surgery, that was all being performed by the departed staff. My office was in an unheated bay at the end of a ward at KCH. My office staff consisted of a half-time, pregnant unmarried secretary. It was another year before we moved into the new Basic Science Building across the street. I am amazed at how similar it was to your experience!

RYAN: You and I share remarkably similar experiences.

TROUTMAN: But again what saved me was the Academy. It was the senior people I knew through John at the Academy, like Ed Dunphy, Al

Ruedeman and Bill Benedict and of course from Wilmer like Alan Woods and Jonas Friedenwald who recommended me and several other “young Turks”: Fred Blodi, Jim O’Rourke, Ed Norton, Ed Wilson, Brad Straatsma to be the first members of the newly formed NIH Training Grant Committee. It was through Training Grants that our infant programs received the funds, not available from our parent institutions who gave minimum support to subspecialties like ophthalmology, to begin to build our departments. It was with Training Grant Funds that I was able to hire Bernie Schwartz and Bob Jampel as full time staff. In addition I was able to convince Abe Schlossman and Peter Ballen from MEETH to come part time as well as several other young people I knew, to staff our specialty clinics. I was half-time. My university salary was \$8,000 a year. I had to run a practice in New York to pay my expenses and to keep my family. My experience was so similar to yours.

RYAN: Well, to pick up on that and, again, how interesting these common wrinkles are, and, for me, exactly that same similarity with the county and a government hospital and where ophthalmologists had been volunteers. And, I have to admit that perhaps I wasn’t the easiest chairman since I was one of the youngest and had a vision and ambition to build a great department at Doheny and USC. As noted, the culture and values of the L.A. County Hospital permeated all aspects of the medical school at USC. I faced many challenges.

TROUTMAN: Well, you were, like me, only 33-years-old. The older staff couldn’t help thinking; What were we doing there and why are they being bypassed?

RYAN: That’s right, and every place I interviewed for a department chairmanship, there were people at least 20 years older than me wondering what’s this young guy doing here? As a matter of fact, when I was interviewing for the USC job, I had been offered two major chairmanships before that, but one of the reasons I didn’t accept some of those jobs was because if you had somebody who was 50 and who had put in their time, paid his dues, and was a well respected national figure, they felt very strongly that they should be chair. They might accept somebody else, but they’re not going to accept some young guy like me that’s coming out there just because Ed Maumenee says he’s a good guy. But when I interviewed at USC, I went through three separate search committees where I listed my requirements and the committee would say or the dean would say, ‘No we

can't do that. It's too expensive,' and then I said, 'Fine, I'm happy where I am at Wilmer.' And this courtship went on for about three years and three separate search committees. And so, finally, the dean and the medical director of the hospital said they would do all the things for me that I needed to build a major eye department. I went out there in July 1974. In May 1974, the medical director of the L.A. County Hospital, who had made all the resource commitments to me, quit! And in August 1974, the dean of the medical school quit! So all of my papers, a whole file cabinet full, and all of my negotiations, were worthless. I just had nothing when I got out there. I had to start my negotiations with L.A. County and USC all over again.

But how this practice came about and got going with the ophthalmologists was interesting. The new USC President, Max Nikias, a great engineer, was inaugurated yesterday. He is the first President in USC's history to have a major focus on medicine. So I am optimistic about the future for the Keck School of Medicine of USC. But, as you know, great places where you've been, such as Cornell or Hopkins, have rich traditions and the university supports academic medicine and the trustees understand its importance, that's a huge advantage. USC has never been a national leader in academic medicine. My career at USC has basically been to use Doheny and ophthalmology as the example for a private research medical school culture and values as appropriate for a private research university, USC (versus the L.A. County medical school model of USC for its first 100 years). So when we were building this private practice at Doheny, the dean, the senior vice president, the president, they all had no experience with private practice. I was told, 'Hey Ryan, you know, that's your problem, whatever you're doing there.' So, although I still have not had any lawsuits against me in terms of patient care, in our second year, our insurance premiums, nonetheless, went up by more than 10 times. It was a time in California when we had the malpractice insurance crisis. I had recruited new faculty members, Ron and Mike, as individuals who didn't have practices yet at this point, I had three fellows, and the malpractice insurance premiums went up to somewhere between \$150,000 and \$200,000. And so what we had to do, since USC wouldn't pay for it, the County wouldn't pay for it, the dean told me it's my problem, we literally had to go to the bank and take a loan for \$250,000 so that we could get malpractice insurance, buy slit lamps, and buy other equipment. That's how we established the first private practice at USC in its 90-year history. The risk was born entirely by our first full-time faculty and spouses – the Ryan's, Smith's, and Allen's.

TROUTMAN: You were asking about the courses. My first course was at the AAOO on my magnetic implant.

RYAN: Great.

TROUTMAN: I also helped John, Ed and Jack with their Cataract course, which was always sold out.

RYAN: It was most popular, wasn't it?

TROUTMAN: The most popular course at the meeting, yeah. We all dreamed of having sold-out courses someday.

In 1957, just two years after I started at Downstate, Abe Schlossman told me that he had heard that a young Spanish ophthalmologist, Joaquin Barraquer, son of the well-known Ignacio Barraquer, inventor of the erisophake, was in Santo Domingo demonstrating his surgical techniques. He said, 'Why don't we get him to come here?' So I cabled Joaquin, and he came with Mariana, his wife, who carried his operating table, his microscope and his microsurgical instruments, and a unique new suture, 8-0 virgin silk, armed with 5mm Grieshaber needles. Besides my converted Zeiss, his was only the second ophthalmic surgical microscope I had ever seen. Because of this mutual interest in microsurgery of cataract and cornea, Joaquin and I hit it off immediately; except he didn't speak English and I didn't speak Spanish. One of my residents, Felix Sabates, a recent refugee from Cuba, who had been sent to me to finish his training by Charles Schepens, was our interpreter. I invited John, Gerry DeVoe and Byron Smith to observe his surgery. Though they were not convinced of the value of using the microscope, they were suitably impressed by some of his innovative instrumentation and techniques, especially the suturing of cataract and corneal wounds with the finer 8-0 silk suture material.

We immediately became correspondents. Soon after he returned to Spain he sent me a letter saying he had injected an enzyme called alpha-chymotrypsin into an eye to dissolve a vitreous hemorrhage and that the lens had dislocated, apparently from the dissolution of the zonules that he called *zonulolysis*. He had used it during cataract surgeries with similar results, avoiding a significant percentage of ruptured lens capsules. He invited me to Spain where I assisted him and observed the same phenomenon. On my return to New York, in addition to 8-0 virgin silk sutures for wound closure

and his father's motorized erisophake that had already significantly reduced my incidence of capsule rupture and delayed reformation of the anterior chamber, I began to use the enzyme. Using all three together the reduction in my postop cataract complications was spectacular! However, his motorized erisophake caused a serious problem. If the tip became disengaged from the lens it kept sucking and could catch iris and vitreous. With Storz I developed a motorized erisophake incorporating a cylinder that stopped the suction if it became accidentally disengaged.

At that time, the majority of American cataract surgeons were closing the incision with two or three 6-0 silk McLean sutures that needed to be removed two or three weeks following surgery. We were blaming the vitreous for causing the frequent flat anterior chambers and iris incarcerations further complicated by frequent rupture of the lens capsule with forceps extraction. Postop, the unguarded partially healed wounds, routinely induced progressive against the rule astigmatism.

Using Joaquin's technique with zonulolysis, my erisophake for the lens extraction, and wound closure with multiple 8-0 virgin silk sutures that could be left in place for weeks, promoting firm wound healing, our post eyes had round pupils, intact vitreous and minimal post op astigmatism. Such was our enthusiasm that three year later, when Joaquin organized an International Meeting at the Clinica Barraquer in Barcelona, I chartered a Lockheed Loadstar from TWA for \$38,000 and convinced 98 ophthalmologists, including John and Ed to share the cost, and attend and experience firsthand the advances in ophthalmology that were taking place at the Clinica Barraquer, in particular in cataract and corneal surgery.

RYAN: Great.

TROUTMAN: At the time I did not realize that a lot of these developments with the exception of zonulolysis, had begun with his brother Jose, while he was still at the Clinica in Barcelona. Jose was four or five years older than Joaquin. He was very innovative. However, he had gotten into a problem with his father for family reasons and had left Barcelona for Bogota, Columbia where he started the Instituto Barraquer de las Americas. Because of our mutual interest in Refractive Surgery, I would later begin a close relationship with him.

RYAN: So that was how he went to Bogota?

TROUTMAN: That's how he got to Bogota. My association with the Barraquers, first Joaquin and then Jose, were turning points in my life. It was through them that I established close contact with many European ophthalmologists, Ben Rycroft, Mike Roper-Hall and in England, Louis Paufique and Jacques Charleux in France and discovered that the United States was not the only mecca of ophthalmology.

In retrospect in the 50s and early 60s, American ophthalmology was still quite parochial. Since the war our exposure to European knowledge, necessary to stimulate further advances in American ophthalmology, had been limited. My personal contacts abroad continued to introduce me to many important advances.

Another very important contact was with Gunther Mackensen and Heinrich Harms at the Universitäts Augenklinik in Tübingen, Germany. Gunter von Noorden had done a fellowship in Ocular Motility with them in 1963 and told about these two German professors "with the same obsession about microsurgery" as me. I immediately went to Germany to see for myself. They were using a 10-0 elastic, monofilament nylon suture for corneal incisions that they were salvaging from ladies funeral stockings. Unlike silk it could hold a corneal wound closed indefinitely, allowing it to heal by first intention, significantly reducing wound related complications not only anatomically but optically. Because of its size it was the first true microsurgical suture material. Following the 1965 ICO in Munich we introduced it to a pioneering international group of microsurgeons. The rest is history.<sup>6</sup>

By 1966 I convinced Ethicon to manufacture the 10- nylon, armed with microsurgical needles in sterile packaging that made its use universal. In 1967, its unique properties allowed me to perform the first successful corrective surgery for correction of residual post keratoplasty astigmatism, *Corneal Wedge Resection* in 1967 that, in 1974, led me to the concept of *Corneal Relaxing Incision(s)* for correction of lesser amounts of residual post cataract and keratoplasty and congenital astigmatism.<sup>7</sup>

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<sup>6</sup> Mackensen G, Troutman RC, Roper-Hall M, Editors: "Microsurgery of the Eye", First Symp. Ophthalm Microsurgery Study Group, Tübingen 1966. Adv. Ophthalm, 20:82-87, 1968 (S Karger, Basel/New York).

<sup>7</sup> Troutman RC: Corneal Wedge Resection for the Control of Post Keratoplasty Astigmatism In Troutman RC: Ed. Microsurgery of Ocular Injuries, Third Int Symp Ophthalm Microsurgery Study Group, Merida, Yucatan, Mexico, 1970. Adv Ophthalm, S Karger Basel/München/New York 1971.

RYAN: I think that is important, Dick. And just to come at it from a little different angle, I could carry on as to how proud I am of Doheny and all my colleagues who have done such a great job making it a top 10 department, and especially my good friend Ron Smith, a great leader of the American Academy of Ophthalmology and currently the USC Chairman of Ophthalmology. When I became dean of the medical school in 1991 at USC and stayed in that job for 13 years, my best appointment was to appoint Ron as chairman in 1995. Now, my 20 years as chairman and 13 years as dean are behind me.

I'm privileged to be Home Secretary for the Institute of Medicine of the National Academy of Sciences where we just had important meetings this past weekend. Some of us consider the National Academy of Science, National Academy of Engineering, and Institute of Medicine as a pinnacle of academics in the United States. The National Academies of Sciences was founded in 1863 by President Lincoln at the height of the Civil War to advise the government of the United States on matters of science and what they referred to as art, which really translates to technology or engineering, at that time.

I cite this history to agree with you, Dick, regarding international ophthalmology. You mentioned your father going to Europe for EENT. To be a major ophthalmologist in the late 19<sup>th</sup> Century, you had to go to Berlin or Prague or Vienna or other major centers. I offer the idea that in the beginning of the 19<sup>th</sup> Century, France was dominant in regards science and medicine. In the later part of the 19<sup>th</sup> Century Germany was dominant, then the UK and London. And from the time of World War II on, it's been the United States. And if you want to say what the commonality was, I believe it's having the strongest economy in the world and the social structure of those Western countries was key. If you have a leading economy, then society has resources to invest in health and in medicine, and society can invest in research and science.

So, it is interesting to speculate now on the increasing importance of Asia and globalization. In 2007, Goldman Sachs predicted that China would have the world's largest economy by, I think, 2026. China is growing so rapidly. I'm thinking of the important role for the Academy and the important role for the International Council of Ophthalmology as medicine and ophthalmology become even more global. I take great pride in the young people who have trained with us at Doheny and who have returned to their own institutions to be leaders in their own countries. We all take great pride in the young people as residents and fellows. And we've been very fortunate at Doheny to have a series of exceptional young residents and fellows, including international fellows. Over the years, we have had more than 50 individuals from Mainland China. Some have returned to leadership positions in the Chinese Ophthalmology Society (COS), including Jialiang Zhao as President and COS Secretary such as Youxin Chen and Mingwei Zhao. And if you look over there, every year the quality of the COS meetings improve. When we consider that our largest city, New York City, is less than half the size of Beijing or Shanghai, these cities are so much larger and will be world leaders for the future.

TROUTMAN: A billion people...

RYAN: That's right. If you start with a base of 1.3 billion people with their emphasis on education and work ethic, you see how hard those young people work. I mean, I think that it's going to be very interesting to project out when people were coming to us and telling their stories, but it's important that the Academy and ophthalmology be truly global and international. I only cite China as one example for the future, but also include Japan, Brazil, and others in addition to the U.S. and Europe who will contribute greatly to ophthalmology in the future.

And I just wonder, Dick, with that perspective and with your having been at the forefront in international ophthalmology with colleagues over the years, maybe you might describe your experiences internationally and your relationships.

TROUTMAN: Well, I think Latin America is a good example. In that regard I have to mention Ben Boyd, a giant of Latin American and International Ophthalmology and founder of Highlights of Ophthalmology. He and I have been close friends since we met at the Clinica Barraquer in 1958. It was Ben who had the first thought to join Latin American

Ophthalmology with the Academy. We had people like Frank Newell, who, when President of the PAAO, was instrumental in forging their eventual union. As Frank's vice president and one of Ben's oldest friends I was closely involved. Since then ophthalmology in Latin America has really blossomed.

It was my international contacts and experiences that led me to found several specialized international organizations: In 1965, The International Microsurgery Study Group (IOMSG), in 1975, The Cornea Society (originally the Castroviejo Society) and in 1979 the International Society of Refractive Surgery (ISRS).

Such travel was very important to both Suzanne's and my professional lives. The many contacts we made not only enlarged our vision of ophthalmology and its practice in our specialties but made many lasting friendships. For me, one of most important of these was with Jose Barraquer. Because of our mutual interest in refractive surgery, mine in correction of corneal astigmatism, his in correction of ametropia we became fast friends, and Bogota became a frequent place for us to meet and exchange.

In July 1978 I took his first course on keratomileusis and keratophakia in Bogota with my fellow Dr. Casimir Swinger. We did the first case performed in the United States, a keratophakia, that fall. However, because of its surgical complexity, it was difficult to convince our colleagues of its potential. I did succeed in convincing several younger colleagues, all under 40 at the time, to continue their investigation to simplify this procedure that became accepted only after the excimer laser was introduced in 1982.

To honor their achievements and those of all of our younger colleagues who continue to advance Refractive and Corneal Surgery I annually award two prizes, now permanently endowed through the Foundation of the AAO, since 1991, for the best paper published by an author under 40 in the *Journal of the International Society of Refractive Keratoplasty* during the previous year, and, since 2005, for the best paper by an author under 40 in *Cornea*, the official Journal of the Corneal Society.

Suzanne and I have endowed a similar prize at the biennial meeting of the PAAO for the best paper by an ophthalmologist under 45.

RYAN: That's great.

TROUTMAN: Same thing.

RYAN: I agree with you, Dick. And just to observe, maybe in a little bit of the same sequence you did, I was privileged to be PAAO Secretary for North America in the mid 1980's. And, as you said, the PAAO was a great organization with Ben who, for 25 years, led it as Executive Director. One of the big things that we were working on at that time was to encourage Brazil back into a leadership role for the Pan American because for a few years, it had not been that active in the PAAO. When you've got such a huge, important country with so many great ophthalmologists, and we were very fortunate to have Rubens Belfort, Jr. and Newton Kara Jose from Brazil and, as I remember, Francisco Contreras, Juan Verdaguer, Enrique Malbran from Spanish-speaking countries and myself from North America, working with Brad, we were able to make a smooth transition with Ben for the PAAO. Those joint programs of the Academy have, with the Pan American, been very successful, as have programs with the Asia Pacific and the other related organizations more recently. I just think that's a very important role that the Academy plays in that regard.

TROUTMAN: Nevertheless, the most important event that ever happened to me at any international meeting was at a Pan American Meeting in Rio de Janeiro in July 1965 where I met Suzanne. Ben Boyd had insisted I accompany him to the meeting through Panama and then Peru, where his brother was Consul. It was the following day, just after we arrived in Rio that I met Suzanne, the light of my life, at the PAN AM ticket office.

Since we married, two years later, Suzanne and I have traveled around the world several times to lecture and teach in our specialties, hers, ocular motility, for which she is internationally known, and mine, anterior segment microsurgery and refractive surgery. We have visited every country in Latin America as well as many in Europe, Africa and Asia, and Australia and New Zealand.

For example, In 1971, we were invited together to present our specialties in Japan by an ex-fellow at SUNY HSCB, Tomoya Funahashi, where I introduced anterior segment microsurgery, and Suzanne, the use of prisms, and of microsurgery for strabismus. They were outstanding hosts. Aside from sending us first class tickets around the world, Tomoya assigned one of his staff to accompany us on a lecture trip around Japan and, at the close of

our final lectures to the Japan Society in Tokyo, they presented Suzanne with a string of 9 mm pearls and me with pearl cufflinks.

In 1978, when Suzanne was admitted to the American Ophthalmological Society, the eighth woman to become a member since its founding in 1864, we became the first member couple!

RYAN: That's a great story.

TROUTMAN: It also made me an enduring fan of the Pan American.

RYAN: The Pan American is a great organization and it's thriving. And to see these other organizations doing so well is great.

TROUTMAN: Where did you meet your wife?

RYAN: At Hopkins 45 years ago.

TROUTMAN: Our meeting in Rio was also 45 years ago!

RYAN: So there we go. We've got more commonalities we keep discovering, Dick.

If you project the Academy and the future, I think you're exactly right that it's all about the young people coming along. And I'm just so happy to see the great leaders we've had – Bruce Spivey, Dunbar Hoskins, David Park as Executive Vice Presidents of the Academy – and that they know the importance of the world and international membership of the AAO. Some department chairs in Japan trained with me and these ophthalmologists are thriving. I mean, they're just...as you said, once they get going along, they are really cutting edge. Research is on a truly international basis. From the perspective of pharmaceutical companies, clinical trials are international now. When it was just the U.S. or U.S.-focused, that's the past. I mean, the future is international.

TROUTMAN: I am concerned about current commercial relationships that pharmaceutical and instrument companies have with many of our colleagues. In the 50's and early 60's when we were introducing new instruments and sutures and pharmaceuticals like alpha-chymotrypsin, we didn't think to ask for or expect any financial return in the belief that there

might be a conflict of interest. It was a concern I had when Charlie Kelman commercialized phacoemulsification. Charlie was on my clinic at MEETH. We each had a Hartford Foundation grant and worked next door to each other on the sixth floor. He was developing his Phaco instrumentation at one end of the hall and I was working with microsurgical instrumentation at the other end. I knew Charlie very well and we were good friends, but, we didn't see eye to eye ideologically. However, since that time such commercialization seems to have become the accepted practice. Nevertheless, I remain concerned.

RYAN: I have to declare here in this interview, as I always do in regards anything in the Academy, that I'm a member of the Board of Directors of Allergan, Inc., so as to identify my role for readers or people listening. I personally believe strongly that for America, for our country as well as for our patients, we're going down a path where I'm very concerned about the opportunities and challenges to innovate and to develop new drugs and devices in this country. We must find ways where government, clinicians in practice, faculty in academics, and industry, can work together for the ultimate benefit of our patients. For the Academy or any major meeting, industry is integral and essential to the success of the Academy meetings. One of the reasons people come from all over the world to this meeting is because of the exhibits of new technology, devices, drugs, and treatments that are cutting-edge and essential. So it's not just the economics but it's the education and the exchange of information that goes on. So while it's popular and the press notes problems and conflict of interest, I believe there is a relatively small number of individuals who, unfortunately, give our profession and relation with industry a bad name with the public.

At our meeting of the Institute of Medicine a few days ago in Washington, leaders from the computer industry, who are working in government as it relates to regulation, say that, more and more, it is just too expensive and it takes too long to do things in America. They emphasize that it is more cost-effective in Europe or in Asia. It would be a shame for America to lose one more industry when you look at how our U.S. economy is hurting today and you look at all the jobs that have been exported overseas. Every one wants industries like medical devices or pharmaceuticals to provide green, environmentally friendly jobs that pay well. In a lot of ways, the U.S. is unintentionally forcing companies to take their jobs overseas. I think we really have to be careful as to the balance that we strike.

TROUTMAN: Notwithstanding, I have had some very close relationships with people in industry, one, in particular, was Gil Weatherly, who was a salesman for Storz Instrument Company, who introduced me to Eric Storz who made many of my first microsurgery instruments, and later with Edward Weck and Company who manufactured my microscopes as well as instruments. My reward was to see their benefits to our patients.

My particular privilege was to have been so closely involved in teaching medicine to be a member of many National and International organizations, in particular the AAO. As a result, I had a unique opportunity to participate in the continuing expansion of our knowledge and to pass that knowledge on to our peers and successors.

RYAN: I agree with you, Dick. It's absolutely a privilege to be a physician, and those aspects of ethics and putting the patient first and doing the right thing for the patient, again, everybody says it but it really is that important to do. We all know to measure by actions and not by words, so I think the points you make are really important.

TROUTMAN: I'm always pleased... when I come to this meeting to get together with the people I have been closely associated with over the years. I don't know how many of my ex-residents and fellows still recognize me and approach me to talk about their life though sometimes I don't recognize them. I remember the names but with passing years they look so different.

RYAN: That's right. You and I are getting younger and I guess others must be getting older!

TROUTMAN: That's true.

RYAN: Maybe that's what's going on here.

TROUTMAN: It's reward enough for me to have the experience.

RYAN: I was privileged in my time as dean of a medical school, where we have 18 clinical departments and six basic science departments, to go around to most of those other specialties and to go to their annual meetings. And there's no question that ophthalmology is the best by far. You and I chose the right field. It is the best. And it's also true that I think the American Academy of Ophthalmology is the best professional medical association.

We're very fortunate to have the Academy and very fortunate to have ophthalmology and really great physicians as the ophthalmologists who are our colleagues.

TROUTMAN: You know, in our medical school, I don't know if it was your experience, at one time our department was beating every other department in research funding and departmental support.

RYAN: Sure.

TROUTMAN: They were jealous of us, especially as we represented only a half-a-percent of the curriculum.

RYAN: Sure.

TROUTMAN: And that gave us some trouble with the other, larger departments. Did you have similar problems with your department?

RYAN: Yes.

TROUTMAN: How did you solve this as a dean?

RYAN: That's a good point. Again, I've worked at two institutions: At Hopkins where Wilmer, from my prospective, is the tops and at USC where Doheny is the best department in terms of clinical departments. So there is jealousy, there is envy by some of the other departments. And there's also the changing world, from when you and I were going into the field of ophthalmology and when you could start eye institutes, but now with the reimbursements being different, the deans of medical schools and the CEO's of hospitals favor and much prefer to have other specialties such as orthopedics or transplant or heart surgery because of the number of laboratory tests and imaging. It all comes down to economics. So, ophthalmology is not in the privileged position that it was, say, 30 years ago, at least as deans and CEO's of hospitals view it.

We have great people on the faculty. You take some of that jealousy and envy as just a part of life. And the way I tried to do it, and still do it to this day, is just to say to the rest of the clinical departments, they should aspire to be like ophthalmology, try to get up to the level of ophthalmology.

TROUTMAN: That's important, but when I said it, it didn't go over.

RYAN: Maybe I could say it better as dean. It does not have an effect to say as an ex-dean.

TROUTMAN: At least if your ophthalmology chief said that to you, you would understand it.

RYAN: Absolutely. And I think my friend, Ron, now knows that it was good to have a friendly dean.

TROUTMAN: Well, I'm sure as dean you must have helped the Department of Ophthalmology...

RYAN: I could not help or show favoritism with my potential conflict-of-interest, but what I could do was to prevent ophthalmology from being hurt. In early 1990's California, particularly in Southern California, it was being swept by the HMO's and by the consolidation in the insurance industry. We eventually had only five major payers, where it had been a huge number. So the power was all on the payer side as opposed to the provider side. It was important to make certain that ophthalmology didn't get hurt, but I couldn't show any favoritism in any way.

As a matter of fact, we were fortunate, as an example, to recruit a great faculty member. Ron Smith wanted to see what we could do to build up our Retina Unit and we were able to recruit Mark Humayun and some great guys from Wilmer. We could not get a dollar from the medical school or USC or Engineering, and all the money came from Doheny. And that aspect of Doheny being an independent eye institute with its own resources has been the key to what's making ophthalmology strong at USC. So it was not what I would be doing as the dean but what Doheny could be doing that was the key to help Ron.

TROUTMAN: You have several named professorships now in your department, don't you?

RYAN: Yes we do, we've been fortunate. And actually that was the one thing, when I went to USC, I was very fortunate have – an endowed chair, the Grace and Emery Beardsley Professorship.

TROUTMAN: At SUNY HSCB the Department of Ophthalmology holds the only fully endowed Chair, *The Richard C. Troutman MD DSc (hon) Chair in Ophthalmology and Ophthalmic Microsurgery*. It is currently occupied by a former resident and Fellow Douglas Lazzaro.

RYAN: Is that right? Only in Ophthalmology?

TROUTMAN: Yes. And, at the same time as the endowment of the Chair, in 2001, the University opened the *Richard C. Troutman MD DSc(hon) Museum and Library of Microsurgery and Department of Ophthalmology Conference Center* where my microscopes, microsurgical instruments, needles and sutures as well are on permanent display, and my publications are readily accessible.

RYAN: That's great. Well, to me, I think one of the aspects that you point out and that I agree with totally is the young people. Sometimes we hear colleagues who are unhappy about reimbursements or other things, but the reason I'm very optimistic about the future is because of how many smart young students there are. To see these smart young women and men coming into medicine and ophthalmology, in particular, I think we have to feel good about it, because somehow, whatever goes on, smart people and ophthalmologists will figure it out. I think the future looks pretty bright. What do you think, Dick? How do you see things?

TROUTMAN: Well, as you know, we were brought up by people whom we highly respected and who believed in us as their successors. Above all they recognized the necessity to train us to take their places as essential to assure the continuation of progress in our specialty. Though we cannot know what the future holds, we must continue to recognize and support our younger colleagues in their quest to continue to advance ophthalmology. During the 20 years since I left practice, I continue to see many things that astound me. When I read the paper of the young man from Germany who won my annual prize for the best paper in the *Journal of the ISRS* this year I could hardly understand a word of it. Your point is well taken. It will be a bright future.

RYAN: I think that, in addition to these smart people coming into ophthalmology, when you look at the trends in overall medicine...and it's almost to me schizophrenic because, on the one hand, the U.S. health care system is broken and there is uncertainty about health care reform and all the

questions about reimbursement. Yet, on the other hand, when you think of research and the new technologies coming along to help our patients, it is really dramatic. Something that I'm privileged to be associated with is called the Arnold and Mabel Beckman Initiative in Macular Research. That's been a field of interest and research for me from the time I was at Wilmer through all my years at Doheny. Because the government and industry invested in research, we now have treatments for age-related macular degeneration, such as Lucentis® and Avastin®, that can help our patients – it is really quite dramatic. However, when we remember that 85% of the people with macular degeneration have atrophic or dry AMD, we don't have any realistic or great treatments for them.

So what we do with this Beckman Initiative is to pull together a group of ophthalmologists who have interest in research in macular degeneration with people who have backgrounds in genetics, and another group of leaders who are in stem cells, another group who are good at imaging, another group who are good in nanoscience and nanotechnology. We get these, roughly about a hundred, experts together and we get them into breakout groups because of our belief that so many breakthrough ideas occur at the interface. And, again, many of these world-class scientists, including Nobel Laureate chemists, start out not knowing really what the eye is, much less the macula, but they've got such expertise in what they're doing, in things like stem cells or nanotechnology. And the electricity that happens when these people talk about new technologies is palpable. As you pointed out earlier in regards the microscope, here we are today with the things we can do with computers and technologies that are available. Now, if you could ask a question, the right question, the technology is there to allow you to answer it.

TROUTMAN: Very early, in 1977, before most of my colleagues, I had to learn how to use a computer to do refractive surgery. It was an early Apple with only 25,000 bytes! As they grew in power and complexity I soon discovered how important a tool the computer could be for business and professional applications. I expanded its use to prepare lectures, slides, publications, including two textbooks, and of course for national and especially international communication. Today one can hardly exist without a computer. In retirement, it continues to enlarge our world, especially to keep in touch with the profession, friends and family.

RYAN: It is a different world, isn't it? It's hard to believe that we used to write letters and it's now all e-mail, and you can't go anywhere without your iPad. It all just moves faster and faster.

TROUTMAN: When I see my grandson and my grand-nephew at the computer it's as if it is built into their hands.

RYAN: That's right. It's just an extension of their brains, making it much more effective.

TROUTMAN: They try to explain something to me and I get lost.

RYAN: At the inauguration of the new USC President yesterday, the difference is striking compared to when his predecessor came in 1991. In 1991, you didn't have Google – it didn't exist! Now, we wonder how we could live without Google.

TROUTMAN: We didn't have refractive surgery.

RYAN: It's just unbelievable how rapidly the world is changing and it's just going to accelerate faster and faster and, I think, be more exciting for the future. I've said it before, but I truly think the future is very, very bright. If there's anything I would be envious of, it would be how great to be a medical student today and do this again, Dick. To start off with all this wonderful technology and how exciting it is today.

TROUTMAN: I've often thought about doing that...

RYAN: That would be fun. Yes, that would be fun.

TROUTMAN: Though there are a few things I would try to avoid!