

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

EXCERPT: Oral History of William Spencer, MD
Interviewed by Melvin L. Rubin, MD, October 17, 2007

Created for the Academy Archives of the Museum of Vision



Dr. MELVIN L. RUBIN: This is for the record. Today is October 17, 2007. I am Melvin Rubin and I'm sitting here with Dr. William H. Spencer in a conference room at the Academy offices in San Francisco. This interview is for the archives of the Academy's Museum of Vision.

RUBIN: Bill, welcome, and let's start at the beginning, something about your early life. When and where were you born?

DR. WILLIAM SPENCER: I was born on August 18, 1925, in New York City.

RUBIN: Okay, who were your parents and what did they do?

WHS: My mother and father (Anna and Louis) were born and raised in Manhattan. They married in 1919 shortly after my father's discharge from the Army at the close of World War I. He and his three brothers worked at my grandfather's furniture and decorating business in Manhattan, on Park Avenue and 86th Street. Sadly, the business failed in 1929 when the stock market crashed. My father was a good provider and our family managed to get through the "Great Depression" reasonably well. My mother was a housewife--an energetic multi-tasker who did all the housework without having today's conveniences. She was an avid knitter and also spent hours on her sewing machine while somehow finding time to volunteer at a variety of social service organizations. She had a charismatic personality, and whenever we would have family gatherings on weekends, usually on Sunday for lunch, our house was the center of activity. I have fond memories of listening to all of my uncles talk in one room, while the ladies bustled about the kitchen making the meals. It was a good time. My parents had been married for 69 years when my father died in 1988 at age 91. My mother lived to deliver a delightful talk -- without notes -- at her 100th birthday celebration a few months before her death in 1997.

RUBIN: Did you have any siblings?

WHS: My brother (Elliott) was three and a half years older than I. He was a chemical engineer with a special interest in heat exchange technology.. He and his childhood friends were avid photographers who founded the National High School Salon of Photography while they were in high school. They prevailed upon the renowned photographers Edward Steichen and Alfred Stieglitz to judge the Salon's first exhibit -- I believe the Salon still exists. Elliott died suddenly of a heart attack in 1994, while he was

out on the golf course. My sister, Sheila, who is six years younger than I, currently resides in Florida.

RUBIN: Tell us about your growing-up years in New York and your high school experience.

WHS: New York was a wonderful place to grow up in those days. We lived at the very northern part of the Bronx, up where it met Westchester County--a lot of open ground, golf courses and that type of thing. We could go all over the place for five cents on the subway. I was a real city kid who took advantage of public transportation-- to go to the library or visit the museums in downtown New York. I enjoyed listening to the children's concerts conducted by Walter Damrosch on Saturday mornings at Carnegie Hall and vividly recall visiting the World's Fair in Flushing Meadows on several occasions. New York was such a fun place to be. . .and safe, too . A much simpler time. My brother commuted by subway to Stuyvesant High School in lower Manhattan. . .a school sort of like M.I.T. would be at the college level. It offered a strong mathematics and physical science curriculum. He ended up as a chemical engineer. I was prepared to follow in his footsteps when a new school with a similar curriculum – the Bronx High School of Science -- started up closer to home. I was admitted as a freshman to its first four-year class of 38 boys. What a wonderful educational environment! I think there have been four Nobel Prize winners from there.

RUBIN: Do you recall any events from back then that might have influenced your career?

WHS: I wanted to become an aeronautical engineer and read everything I could find about the science of aviation and the design of airfoils. I was particularly interested in how servo mechanisms work – the devices that move the rudder, elevators and ailerons when a pilot moves the joy stick. My hobby was building and flying model airplanes of all types, ranging from sailplanes to rubber band and gasoline powered remote-controlled models of my own design: Two of my model-building friends and I built one of the first radio-controlled models in New York City. It had a 12 foot wingspan necessary to carry the bulky radio. We had to learn Morse code and obtain ham radio licenses before we were permitted to fly the plane. We also had to build and erect an antenna to send the radio signals. The model was difficult to control in flight because the radio signal was not proportional and only linked to the rudder - which would respond with an abrupt movement to one side or the other, rather than in a smoothly coordinated fashion. My interest in servo mechanisms stayed with me and would later influence my decision to study medicine. I had other interests, too, in high school. One was that I really liked to run. I was on the track team, and though I wasn't very good, I enjoyed getting out in the sun and running.

RUBIN: When did you finish high school – this was during World War II?

WHS: Yes. I finished high school in 1942. All my friends were in the military or about to enlist. I joined the Army Enlisted Reserve when I was seventeen years-old and was called up the day I turned eighteen.

RUBIN: And where did you serve when you were in the Army?

WHS: I went through basic training at Fort Benning, Georgia, and was assigned to the 87th Infantry Division for further training in South Carolina. We sailed for England on the Queen Elizabeth and went into combat in France shortly thereafter. I was wounded in Belgium during the Battle of the Bulge and flown back to England, where I was hospitalized for several months. The war in Europe ended in May 1945 while I was still in rehab. I stayed in England until March 1946 when I sailed home for discharge.

RUBIN: How did a born-and-bred easterner wind up moving to California?

WHS: The answer to your question is rather lengthy. When I was two, I was found to have a hypermetropic accommodative squint. My left eye was noted to turn in immediately following routine tonsillectomy. The squint responded well to spectacle correction prescribed by my favorite uncle (Dr. Louis Steinbach), an ophthalmologist who was a wonderful role model. As I grew up, I became interested in how spectacle lenses work and he taught me the basic principles of optics on an optical bench he had constructed while studying for his American Board of Ophthalmology examinations in 1921. When the war ended, I decided to forego my interest in pursuing a career in aeronautics and, instead, emulate my uncle. He advised me to apply to optometry school where I could learn more about optics before going on to medical school. There were only three university schools of optometry in the country in those days. The school at Columbia University in New York was preparing to close, Ohio State University did not accept out of state applications, and the University of California in Berkeley said yes. When I came out to Berkeley, I fell in love with the place. I matriculated at UC. It was there that I learned that all of my optometry and medical school educational expenses would be covered under a separate version of the G.I. Bill established for wounded soldiers (Public Law 16) that paid almost twice the amount of the standard version of the bill (PL 346). I also received a government pension. So, "Uncle Sam" paid for most of my education.

RUBIN: Did you run across any special teachers while you were in optometry school in Berkeley?

WHS: I was most impressed by Professor Gordon Walls. He was an exceptional teacher and a charismatic lecturer--a renowned authority on physiologic optics and the vertebrate eye. I know that you yourself studied with him a few years after I did and can also attest to his brilliance. During his courses, he had us build models of the visual system. Every student had to put one together with colored cardboard and colored strings. He died much too young of a heart attack at age 54, but that was much later (1962). Professor Meredith Morgan was another memorable teacher. He had an outsized personality and a booming laugh. . . a very solid citizen, and a really nice guy. He eventually became the Dean of the School of Optometry. I was also influenced by Professor James Olmsted, a physiologist who was a proponent of Claude Bernard's concept of the *milieu intérieur*.

RUBIN: The homeostatic mechanisms?

WHS: Yes, Olmsted discussed many of the physiologic mechanisms that enable the body to stabilize its internal environment following a variety of internal and external stimuli—that's why our body temperature stays at 98.6 degrees F. I was fascinated by the relationship between these smoothly proportional responses and the much cruder movements provided by the radio controlled mechanical servo units I had learned about when I was younger. I also attended a lecture presented by Norbert Wiener -- a visiting professor from MIT who invented the term *cybernetics*. Wiener discussed a new generation of robotic servo-controlled mechanical devices and emphasized their similarity to the body's homeostatic mechanisms. I realized that the body had many more of these servo mechanisms in it than any airplane, at that time, anyway. And that interested me a lot, so that's why I decided that I'd like to go to medical school. But I never was pre-med. I just applied and was accepted.

RUBIN: Did you try to get into any other medical school besides UC in San Francisco?

WHS: Yes. I also applied to McGill University in Montreal because I had just read Harvey Cushing's impressive book on the life of Sir William Osler, who taught at McGill in the early 1900's. Cushing won the Pulitzer Prize for writing the "Life of Osler." That biography stood me in good stead when, during my interview at UC Medical School I was asked what books I was currently reading. I was able to chat with the interviewer—a professor of Medicine-- about Osler's salutary life. I believe that this knowledge furthered my acceptance at UC. Actually, I was also accepted by McGill, but the tuition there was considerably higher, so I decided to accept the UC offer and stay in Berkeley, where the first year of UC med school was conducted.

RUBIN: Stay in California and go to UC. Okay, now you are a student at UC Medical School. What experiences there helped shape your future career in ophthalmology?

WHS: All Cal med students were required to perform a research project during our first year. I had read a paper by two Australian anatomists (Cooper & Daniel) who described the presence of sensory nerve spindles in human extraocular muscles and discussed their likely function in regulating eye movements. This fit in with my interest in cybernetic mechanisms, so I elected to try to confirm their findings. I needed to obtain an exenterated orbit with the medial and lateral rectus muscle tendon sheaths still intact and was advised to seek help from Sam Kimura at the Francis Proctor Foundation. Sam introduced me to Professor William Lyon, an anatomist who provided the orbital tissue and arranged for technicians in the department of pathology to teach me how to cut sections and prepare the silver stains necessary to demonstrate the presence of the nerve endings. Sam also prevailed upon Dr. Phillips Thygeson to provide work space for me at the Proctor Foundation's temporary quarters in the animal research building. I eventually did find structures resembling muscle spindles at the junction of the lateral rectus muscle belly with its tendon but was never certain whether the silver stained structures were real or artifactual. I did not submit the work to a journal, but it did serve me as an introduction to processing eye specimens and was likely the initial impetus for my eventual career in eye pathology. Working on the project also gave me the opportunity to meet the faculty

and staff of the Proctor Foundation and the UC Department of Ophthalmology. I enjoyed working at Proctor and spent the remainder of my summer studying the therapeutic efficacy of sub-conjunctival injections of Polymyxin B on the course of *Pseudomonas aeruginosa* infections in rabbit corneas. My manuscript was entered in a national competition for medical students that was sponsored by the Schering Corporation and won the first prize (\$500). It was my first publication in the eye literature.¹

RUBIN: Was Michael Hogan your contact at the time? He was the first Director of the Proctor Foundation.

WHS: Not initially. I didn't meet Dr. Hogan until my *Pseudomonas* study was well under way. As an historical point, Dr Hogan was instrumental in bringing Phillips Thygeson to UC, which was called UC in those days because it was the only medical school in the state—at least the only state-supported medical school. In 1954, the year I graduated from med school, UCLA took in its first class, and that's when the UC name was changed to UCSF to distinguish it from UCLA.

Anyway, Mike Hogan was very supportive and generously invited me to sit in on his weekly reviews of eye pathology specimens at the Proctor Labs, along with Drs. Richard Carriker and Levon Garron. He also introduced me to Dr. Frederick Cordes, then Chairman of the UC Department of Ophthalmology, who allowed me to tag along with the eye residents during morning rounds and to also attend weekly grand rounds.

What a wonderful introduction to clinical ophthalmology and the extraordinarily gifted members of the eye department faculty! Others there were David Harrington, whose book on Visual Fields was a major textbook back then; Bob Shaffer, who was setting up a glaucoma clinic there; and George Campion, who was the extraocular muscle expert. There were a number of others, all of who made me feel welcome.

RUBIN: Did you continue to work with Dr. Hogan?

WHS: Yes. As a student, I spent much of the next two summers working in the eye pathology laboratory helping Dr. Hogan read out a huge backlog of unread enucleated eye specimens which had accumulated at the AFIP (Armed Forces Institute of Pathology) during World War II. The eyes had been sent by Dr Zimmerman to the UC eye pathology laboratory as well as to several other regional laboratories directed by members of the Ophthalmic Pathology Club. The specimens were sent in response to the publication of a letter that Dr. Hogan wrote in his capacity as Chairman of the Academy's Committee on Ophthalmology Pathology. The letter urged practicing ophthalmologists throughout the country to continue to send rare or unusual specimens to the AFIP, but to redirect their more routine specimens to these regional labs. At the time, I wasn't aware of the importance of this change in policy, but it turned out to be an historic tipping point in the future growth of eye pathology laboratories throughout the country because it reversed the 1920 decision to send all eye specimens to the AFIP, the nation's central eye pathology laboratory. Equally important, the removal of the huge backlog of specimens freed Dr. Zimmerman to train eye pathology fellows and utilize the AFIP's vast store of well-documented specimens for research purposes.

¹ *Pseudomonas* Infections of the Eye. *California Medicine* 79: 438-443; 1953

RUBIN: As a student, did you attend other clinical activities in the department as well?

WHS: Yes, I continued to tail along at morning rounds and look over the shoulders of the residents in the eye clinic. I also recall attending a truly memorable social event. Phil and Ruth Lee Thygeson hosted a party at their hilltop home in Los Altos to honor a visit by Sir Stewart Duke-Elder to the Proctor Foundation. The Thygesons also invited several members of the department of ophthalmology along with Proctor faculty, eye residents, and me, too. As I wandered around the site with my trusty Argus C3 camera, I stumbled on Dr. Cordes and Sir Stewart sitting together on a stone bench overlooking the adjacent peach orchard and the surrounding hills, and I took a candid black-and-white snapshot of them. The following week, I happened to show the photo to Sam Kimura and he asked for the negative without saying why. He later presented an enlarged print to Dr. Cordes and told him I had taken the photograph. Dr. Cordes was delighted with the picture. He framed and mounted it on the wall behind his desk, where it remained for years. I think that photo created very good vibes for me.

RUBIN: I guess that by now you had decided on pursuing an ophthalmological career. When did you apply for admission to the UC eye residency training program?

WHS: Actually, I never did. One day toward the end of the summer of 1953, Dr. Cordes stopped me in the hall and asked if I was interested in taking my residency in ophthalmology at UC. I quickly said, 'Yes' and we shook hands.

RUBIN: That was it? No matching plan, nothing in writing, just a handshake?

WHS: I never applied. I was accepted. Done. I suppose I owe a great debt to that photograph for aiding my good fortune.

RUBIN: Don't be modest, Bill. Your acceptance was much more than luck. So, this all occurred prior to internship, that is, while you were still a student.

WHS: Yes, while I was still a student.

RUBIN: You still had to do an internship before residency even though you had already been accepted as a resident. Where did you decide to go?

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