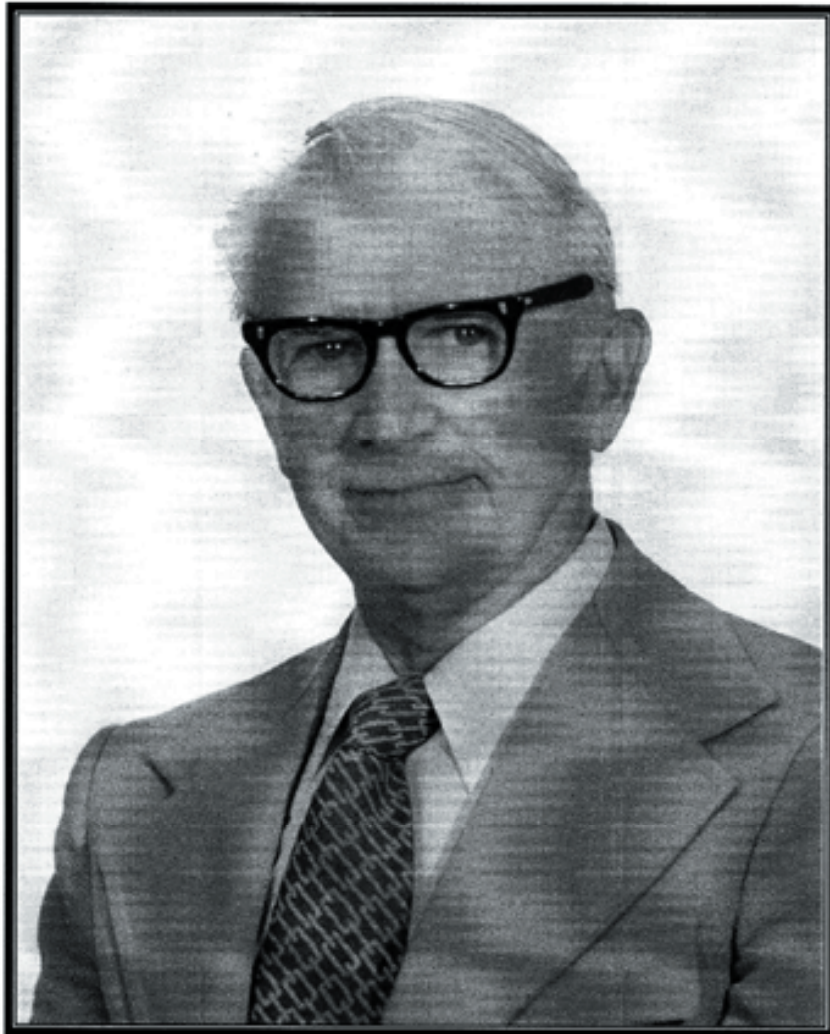


***Juan A. del Regato, M.D.***

1909 - 1999



**A Taped Interview by C.M. Chahbazian, M.D.**

**Tustin, California**

**April, 1984**

***This informal videotaped interview of Dr. del Regato was made in Tustin, California on the 5<sup>th</sup> of April, 1984, when he was 75 years old.***

*In essence it is a candid description of his life story, starting with his growing years in Cuba, his medical training and work at the Institut Curie in Paris, France, and his achievements in the U.S., more particularly at the Penrose Cancer Hospital in Colorado Springs, Colorado from 1949 to 1973. He dwells on his family life in the middle of his outstanding professional career. In short it is a great review of a great man.*

*The accompanying article by Dr.'s F. Wilson and C.M. Chahbazian is further testimony to the creation and establishment of the Penrose Cancer Hospital in general, and particularly to Dr. Del Regato's achievements.*

**Dr. Chahbazian:** Dr. del Regato, we would like to welcome you to Tustin, in Orange County, California. We are very happy to have you with us on this 5th day of April, 1984, a nice spring day in Southern California. We thought that we would take this opportunity to chat a little bit together. We have chatted many times before, but not in a continuous way about your past life history, as well as your accomplishments. So I thought that this would be a good opportunity to put all this on tape so that we could reminisce about everything that you've done in your lifetime so far. I would like to start by asking a few questions about your ancestry: Where did your parents come from or what your parents were, etc.

**Dr. del Regato:** First of all, I would like to tell you that I'm very flattered that you have asked me to do this. An impromptu autobiography has a series of limitations, memory, arteriosclerosis, and others, but in my case, although I do not think that I'm that important, I grant that perhaps details of one's own background and professional experience might be of some interest to others. A Cuban philosopher has said: "That which is not remembered does not exist." Consequently, I am pleased to do what you ask me.

My father was born in Cuba, but his parents came from the Province of Santander in Northern Spain. The name del Regato is rather rare in Spain, and the few with that name came from that neighborhood. In particular, a small town called Hoz de Anero, 18 miles from Santander. These places are very short distance from the famous caves of Altamira. These are prehistoric caves that were discovered at the turn of the century; there are realistic color paintings on the walls as well as on the ceilings of the cave which have now been dated as being done by cave dwellers fourteen thousand years ago. I amuse myself in thinking that quite possibly my paternal ancestry derived from those cave dwellers, for the simple fact that there were many in my family, who like myself were blue-eyed and I had aunts that were blondes, and that is not the classical type that most people think of Spaniards. This is because the Province of Santander, part of Old Castille, was never occupied by the Moors. These cave dwellers were CroMagnons who came from the North; they established caves in southern France and in northern Spain, which have become, as the one at Altamira, quite well-explored and their paintings preserved. The paintings have now been dated by Carbon-14 as fourteen thousand years old. Altamira is only eighteen miles from where my grandparents lived. There is a town called Regato near Bilbao, Northern Spain; it is within short distance of the province of Santander. It is possible that my name is derived from it. My ancestors as far as I have been able to trace them (to about 1635 A.D.) came from the country east of the city of Santander. One of them must have done some important service to the King and was given the right to call himself hidalgo and del Regato. This title is transmitted in linea varonis directa, that is only from father to son and used to confer privileges, mostly dispensation of taxes. It is a title of humble nobility, it has no aristocratic connotations.

I have found this relatively recently; my good father died without knowing that he was an hidalgo - he would have been proud of it.

On the other hand, my mother was born in Yucatán in the city presently called Valladolid, east of Meridá. Actually, that was the name given by the conquering Spaniards to a Maya city previously called Saki. It is a very short distance from Chichen-Itzá, the pearl of the Maya civilization, which some 200 years before the discovery of America started to decay and is today in ruins; the inhabitants of Chichen-Itzá dispersed and went on to establish various towns among which the town of Saki, now Valladolid, is the one in which my mother was born. My maternal ancestors have not been investigated as far as I would have liked because the churches in that area of Yucatan were burned at a time of revolt in the 19th century, and I only know that my mother was born there, and her mother, a pure Maya Indian was born there. In the Caracol still preserved in the ruins of Chichen-Itzá, my maternal ancestors observed and recorded in their writings and numericals perfect details of the phases of the planet Venus, preserved in the Dresden Codex. So that actually, my background is quite different from my father and my mother. I would like to tell you something about both my parents before I go into my own experiences.

**Dr. Chahbazian:** I would like you to dwell on your father and your mother separately, where did they meet, under what circumstances, how a Spaniard met a lady from Yucatan?

**Dr. del Regato:** My father, Juan del Regato Castanedo, had three sisters and they became orphans upon the unexpected death of both parents in Spain. Although their parents were wealthy, my father, only 16 or 17 years old, was left at the mercy of circumstances; he and a younger sister were sent for by their godparents who lived in Havana. Thus, he returned to Cuba where he had been born (1868); he was put to work in a jewelry store where he learned to work on gold and to mount diamonds and that kind of activity and paid for his and his sister's keep. He worked in Havana until his younger sister became married and needed no longer his protection, and then he left Cuba because he did not want to serve as a soldier in the Spanish army as against Cubans who were fighting for independence. He was born a Cuban and felt for the Cuban independence. So he left Cuba and his godparents and went to Yucatán, and there he found work in a jewelry store. He must have developed a following of apprentices because years later I met in Meridá a wealthy jeweler that told me that my father had taught him when he was a young barefoot Indian. After some time he met my mother, Damiana Manzano Nuñez, and they were married around 1890. My mother had several brothers and sisters; she was one of the younger ones. At the end of the century, the Spanish American war had brought about an end to the fight for Cuban independence, and my father then returned to Cuba with his wife; twelve years after their marriage my mother had her first child, my brother, Carlos, in the year 1902. My father undertook to work on the growing industry of cinematography. At that time, all of their work was in old theaters, where sometimes they would show a short film. My father was a photographer and a projectionist; I was born in the City of Camagüey, Cuba where he had obtained a job in the theater. We lived for awhile in the upper floor of the Apolo Theater. My father no longer worked in his trade of jewelry which he kept only as a hobby for the rest of his life.

**Dr. Chahbazian:** Excuse me. Which year were you born?

**Dr. del Regato:** I was born in the year 1909, and we lived in Camagüey until about 1914. I have nevertheless recollections of those early years, one of them was there was an itinerant pilot (Rosillo) who brought a one propellor plane; it was exhibited and flown around a field just for

people to see. Also, there was a famous Cuban patriot, (S. Cisneros Betancourt), who died and I remember the great affair of his funeral. I started to go to a private school in the home of the teacher who taught me the alphabet; the teacher Teofila Andinó became an exile and died, quite old, in Springfield, Missouri, just a few years ago.

**Dr. Chahbazian:** You were just 3 or 4 years old by then?

**Dr. del Regato:** Yes, about 4 or 5 years old. My father did photography for newspapers and I remember the hula balu of the newspaper men coming with the cameras and taking photographs and so on of this famous funeral in Camagüey. When I was 5 my family moved to the City of Nuevitas, which is a port in the Northern coast of Eastern Cuba, north of the City of Camagüey.

When we moved to Nuevitas my father worked regularly in a motion picture theater, and I went to a private school that was also held in the home of the teacher. During the first World War, February 1917, there was a revolution that took place in the province and our town was taken by the rebels as against the legal authorities; there were great fires going on and an American warship came into the bay, Marines came in rowboats to the land and I remember distinctly to have seen them in their white leggings. As a consequence of that revolution, my father lost his job and then he decided that we should give an opportunity to my mother to go visit her mother, brothers and sister that she had not seen in nearly 20 years. So, we all traveled to Yucatan during the first World War: I remember the fact that the ships at night were all darkened so that the lights couldn't be seen by submarines in the area that were sinking them.

**Dr. Chahbazian:** What boats were those, American boats you mean?

**Dr. del Regato:** No, they were German submarines and .....

**Dr. Chahbazian:** That was during W.W. I?

**Dr. del Regato:** Yes, and we went in an American boat from Havana to Yucatán. In Yucatán I went to a public school; my classmates were mostly Maya Indians who went to school barefoot and nevertheless were often remarkably sharp, acute, intelligent, or artistic. I learned the early history of the Maya, and even some of the Maya language.

My grandmother, with whom we lived, that is my mother's mother, was a pure Maya Indian. She spent a great deal of the morning standing at the door of the house, dealing with the itinerant vendors that came and sold all kinds of things at the door. She talked with them mostly in Maya, and I was frequently there listening, so I learned from her some expressions in the Maya language, also. We were in Yucatán for about 2 years, and then returned to Cuba, around 1919, after the first world war. Again my father went to work for a motion picture theater as a projectionist in the city of Santa Clara. Santa Clara is almost in the middle of the island of Cuba, almost equal distance from both ends, from the north and south. It is not far from the Bay of Pigs. In Santa Clara I finished elementary school and high school. One of my teachers in school was truly inspiring and I loved him; he was a mulatto and when his children became later my classmates I could not help but to think of them as brothers and sisters. The high school in Santa Clara was very good and I had very good professors; I learned a great deal of mathematics, physics, and chemistry; I graduated in the year 1926. By that time, I had decided that I wanted to study medicine, and it was only a matter of my being able to go to Havana and support myself economically.

**Dr. Chahbazian:** What motivated you to study medicine at that time? Was it your doing, or were you encouraged by your teachers, or by your parents?

**Dr. del Regato:** Without any question my father wanted me to be a physician, but he was clever enough never to tell me; he motivated me by talking about people he admired like Dr. Carlos Finlay, who was also born in the city of Camagüey. That is what gave me the desire to be a physician. Also because of his knowledge of photography, my father was involved with several physicians, particularly with physicians who had x-ray equipment, because he was capable of dealing with both the photography and the electricity of it. I had physicians in my hometown that I thought a lot of.

In the year 1926, I was ready to go to the university. During the summer months I worked tutoring my own classmates who had flunked natural history (biology); I taught them in order for them to pass the second examination offered in the months of September. With the money that I gathered from this activity, which was only about \$300, I went to Havana and registered at the University. The course of medicine in the University of Havana at that time, unlike the American system that divides pre-med from medicine, was a 7 year course that combined both; obviously the first years were primarily the years of the basic sciences, anatomy, chemistry, physics and biology. And then histology, pathology and so on. I was planning to have finished medicine at the University of Havana by the year of 1933 or 34. The curriculum was excessively hard, but I had some excellent clinical teachers with whom I had long contact because I lived in the hospital. But, in the year 1930, the students at the University of Havana revolted against the government of Cuba for reasons that will not be important here. The fact is then to continue my studies. By that time, however, I had become an intern at the Cancer Institute of Havana, a 100 bed hospital within the grounds of the larger general hospital.

**Dr. Chahbazian:** You had not finished your medical school then?

**Dr. del Regato:** I only had 4 years (out of 7) at the University of Havana. I was working in the Cancer Institute as a student-intern. After awhile, I became the x-ray technician of the Cancer Hospital because the position had been left vacant, and I was offered it by the director. Now I earned \$38 monthly, room and board, and I had shown perhaps more than ordinary interest in the care of the patients. As a technician I had to do a great deal of the radiotherapy so I became interested in reading about physics, radiobiology and radiotherapy. One of my attending physicians who did radium therapy was Dr. Ernesto Fonts, Sr. who died recently in exile in Florida; his son is a radiotherapist in Fort Lauderdale; I arranged for his grandson, Carlos, to start training in radiotherapy in Boston.

Because the University of Havana was closed (1930), the Cuban League of Cancer, an institution very much like the American Cancer Society, decided as a gesture to send one of the students to continue medicine abroad, and they chose me. One of the trustees who took this decision was my professor of Pathology, Dr. Nicolas Puente-Duany, presently retired in Coral Gables, Florida. They debated, as I learned later, whether they would send me to Columbia University in New York, to Frankfort, Germany or to Paris, France. Of course, the idea of going to Columbia University was preposterous because I would not have been accepted. The idea of going to Germany was only because there were two famous radiotherapists, Seitz and Wintz, who worked in Frankfort, and I had shown an interest in radiotherapy. The city of Paris was chosen simply because one of the trustees of the Cuban League of Cancer had a brother, Dr. Francisco Dominguez-Roldain, who lived in Paris, and they could easily recommend me to him. They informed me of their choice, gave

me the money (\$100) to buy the boat ticket, then they offered my salary of \$38 a month to be sent to me in Paris if I found somebody that would replace me and do the work for nothing. I had a classmate, Guillermo Barrientos, who was willing to do that; he replaced me at the hospital and thus I was sent to Paris. The trip to Paris took eighteen days in a German boat that took me to Boulogne-sur-Mer and from there I went to Paris by train.

**Dr. Chahbazian:** I've heard you talk so much about Cuba in the past, but I wanted to dwell a little bit more on what kind of person was your father, what kind of a person was your mother, what was really your relationship with your parents - were they still alive when you left Cuba?

**Dr. del Regato:** Yes, both my parents were alive. I went home to Santa Clara, just a few days before sailing; they were very proud of me.

**Dr. Chahbazian:** Would you like to say a few words about your parents and a little bit later we will dwell more on Cuba?

**Dr. del Regato:** Yes, I would like to. My father was a very dedicated and honest man. He worked all his life and I don't think that he ever had a bank account or any amount of money put away. He worked very hard for the everyday needs of the family, and we were a modest family. At one time one of the houses in which we lived had only dirt floors. But we were comfortable and we were fed and we were clean. My mother was a very hard working woman also. She was very affectionate and she took very good care of my brother and me. I was the youngest one, by seven years, consequently I got a great deal more of attention. My mother had great dedication and affection for us; she contributed little to my intellectual inclinations, but she always supported me, not only during my high school studies, but after I went abroad. My mother always wrote and always encouraged me and felt proud of whatever achievements I communicated to her. My father was also very proud of the fact that I was studying medicine and I'm sure it gave him particular satisfaction to see me work with physicians. I had great respect and affection for both my parents. My father was a constant example of honest behavior and of justice. I cannot at the moment remember all of the sayings that he would repeat in his daily relations with me at times of difficulty. For instance, he would say, "Remember it is always when the sea is roughest, that the sailors sing the most" or "there is no evil event that does not bring with it some good". He was always full of Spanish proverbs that were adequate for the occasion. He was a very just father. I cannot think of any objection to him. Perhaps a psychoanalyst might be interested in some of the details of my childhood. I know that my mother kept me breastfed for too long, so much so that my father had to put Quinine on her nipples so that I would stop breastfeeding. Then after that she put me on bottled milk; I was already going to school in Nuevitas and I still was drinking my milk in bottles, until one of the neighbors discovered me drinking the milk from my bottle, and she laughed at me. I finished my bottle and I went and threw it into the sea and I never drank milk again. We lived on the seashore.

**Dr. Chahbazian:** Yes, that's interesting all right. You have one brother only, and you have no other brothers or sisters?

**Dr. del Regato:** My brother, Carlos, was seven years older than I and he was an artist. He was a very attractive, nice-looking man. He was a photographer and he was a very fine retoucher of plates. He did excellent work in that field. He was very supporting of me. Later when I was in the United States he came to Baltimore with his family.

**Dr. Chahbazian:** Is he still alive?

**Dr. del Regato:** No, my brother died of hypertension several years ago. He died in Baltimore.

**Dr. Chahbazian:** He also left Cuba a long time ago?

**Dr. del Regato:** He was married and had a daughter who lives in Baltimore (Mrs. Daisy Doughney) and he had another daughter, Nelly, who was illegitimate. When I went to Cuba to visit my parents, in 1935, I decided that my niece was not being well taken care of because she didn't have her father with her and her mother had to work, so I asked them both to allow me to take the child with me at the age of five and one-half and she came with me to France. I put her not far from Paris under the care of a French teacher who was a friend of mine; I visited with her on weekends or would bring her to Paris. She learned French and within six months I would talk to her in Spanish and she would answer in French. I must add here that after my mother died (1933) my father remarried and thus I have a half-brother, Santiago, now a citizen of Miami; he is a very nice man.

**Dr. Chahbazian:** Would you like to say a few words about Cuba before you left. How was life in Cuba at that time? Was there a lot of poverty? It must have been a beautiful country, but how did the people live? Were they happy with their way of life?

**Dr. del Regato:** I left in 1931. Cuba as I knew it not only was, as you said, a beautiful country, the beaches of northern Cuba are unequal anywhere. There is a 15 mile halfmoon of a beach in Varadero, east of Havana, that is white shell sand. It is pure white and is beautiful. Then in the countryside there are thousands upon thousands of royal palms, and streams and mountains; it is truly a very beautiful land.

I could not have been of a family less favored by fortune because we lived only on the daily work of my father, and nevertheless I went to school, I had an education, I went to the university, and so could the larger portion of my fellow citizens on the island. Cuba had developed after it became independent in the year 1902, a growing democracy that was far from being perfect, but which nevertheless eliminated a great deal of inequalities. For instance, there was not in Cuba during my lifetime there, racial differences. The mayor of my town, the governor of my province, and at one time even not only the senator, but even the vice president of Cuba, was a black, and there was no question of job discrimination. What counted was the capability of the individual and the blacks were employed everywhere. There was social segregation, the blacks had a different country club than the whites, but there was no civil discrimination or abuse. This results from the fact that the slavery in Cuba was considerably different than the slavery in British America. In fact, in the seventeenth century, already 40% of the blacks in Cuba were free and in the nineteenth century, some blacks were sending their children to be educated in Europe. Cuba was also sufficiently rich because of its production of sugar cane and tobacco and it didn't have a tremendous foreign debt. American citizens from Puerto Rico would come to Cuba to study at the University of Havana before Puerto Rico had a university or medical school.

Cuba was really quite well developed in those days. Nevertheless, there was the common abuse that develops in these countries where people become very democratic only in the opposition and as a consequence of that, revolutions were made, and this of course led to instability of governments.

**Dr. Chahbazian:** I'm sure there is much more to be said about Cuba, but I think we should keep on moving to other subjects. Before we go to France, I would like to go back a little concerning your medical school in Havana, about your studies in Havana and what motivated you to actually go into Radiation Therapy.

**Dr. del Regato:** I had gone to Havana to study medicine and I had prepared to try to find some financial means of supporting myself. It was my good luck that while walking in the streets of Havana my father and I met the wife of a physician from my hometown who had become the director of the outstanding 2000 bed hospital of Havana. As a consequence of that encounter I was offered room and board in the intern quarters and work as a scribe in the hospital. Within three weeks of the beginning of classes and of my taking a place at the intern quarters of the hospital, a hurricane hit Havana dead center. Thousands upon thousands of people were killed. There was a tremendous amount of destruction and in the hospital, every hand was needed. I was immediately called upon to help to take care of the people who came bleeding, dying, in need for all kinds of emergency care, day and night without rest. Obviously, I welcomed the opportunity to make myself useful. After that, I was attached to one of the wards for the incurables. I acted as a male nurse. I took care of these patients; early in the morning I did their dressings or injections or whatever, before I went to class at the medical school. This was of course my initiation into actual medicine at an early age. I was only seventeen years of age. I saw and learned of necessity a great deal of practical medicine. I learned how to do tourniquets and intravenous injections, and all sorts of such things, as abdominal and thoracic tapplings, because the help was needed and I was called upon to do it. I served under a very decent gentleman, the professor of dermatology; a man who was very well known because of his original work. He wrote one of the first books on diseases of the nails and he was well known in American dermatology, Dr. V. Pardo Castello. He would find me early in the ward doing my work and frequently when he didn't have any of his interns around, he would ask me to go on rounds with him; he took particular pleasure in teaching me a lot of clinical dermatology, psoriasis, carcinomas, all kinds of manifestations of syphilis and numerous other conditions. He would take the time to explain what they were and how they could be diagnosed. In return, I naturally was pleased to help him. I helped in his development of a laboratory and in no time I was doing some fifty to sixty Wasserman reactions a week. I also developed a photographic department. (Dr. Pardo died in exile, in Miami, a few years ago). He was very desirous to find some kind of a paying job for me; he heard that there was a new cancer institute being built soon to be opened in the same grounds of the hospital. I learned later that he went to visit the director and told him that he wanted to recommend me as one of the interns with a salary in the new cancer hospital. The director told him that he already had seventy-five recommendations for only fifteen positions. Dr. Pardo said: "I just wanted to tell you that this boy has helped me and he has developed a department of photography." "Oh", said the director, Dr. Emilio Martinez, "he is a photographer", and he took my name down. A few days later when I read the newspaper in the evening, my name was one of the fifteen new interns of the Cancer Hospital of Havana, simply because I knew photography. After I had been an intern for a few months at the Cancer Institute, the technician in the Department of Radiology blew up a couple of tubes on the same day and the director fired him and then he sent for me and offered me the job. He was a rather imposing old gentleman, and he told me what had happened and asked me if I would like the job. In all honesty, I just answered, "Dr. Martinez, I do not know anything about x-rays". He replied rather sharply, "I didn't ask you if you knew anything about x-rays, I asked you if you wanted the job". So, I took the job. The radiologist in charge was a very nice fellow, Dr. Luis Fariñas. He taught me to make radiographs and I knew how to develop the films. It was a 1 so our job to give the treatments in radiotherapy. After a while he came to me and said, "you know, I don't mind developing my own films if you will take care of radiotherapy." Radiotherapy was prescribed



and I only carried out the prescription. So, I was involved in radiotherapy as a medical student. (Dr. Luis Fariñas died in exile in Miami, two years ago).

**Dr. Chahbazian:** What kind of radiotherapy were they doing in Cuba at that time.

**Dr. del Regato:** We had a General Electric 220 kilovolts with a Coolidge water cooled tube; we actually had a radiator very much like that of an automobile that made a tremendous noise and circulated water, refrigerated water, through the target of the tube. But it only worked at 5 milliamperes. We treated a lot of patients for cancer of the cervix, and much radiotherapy for palliation of patients with metastases or recurrent carcinomas and so on.

**Dr. Chahbazian:** Then, by the time you left Cuba to go and complete your studies in medicine in Paris you already had some interest and some exposure to radiation therapy.

**Dr. del Regato:** Not only that, I had already written some papers that I presented to the interns society on topics of cancer. Among them I wrote one on radiotherapy of cancer of the lung with radiographic illustration before and after. I also wrote an article which was based on an interview of some 150 women with cancer of the breast to find out certain conditions that were repeated such as history of inadequate lactation.

**Dr. Chahbazian:** Were those papers published at that time?

**Dr. del Regato:** They were all printed in the Bulletin of the Cuban League of Cancer in the year 1930.

**Dr. Chahbazian:** That's interesting. So now you arrive in France.

**Dr. del Regato:** I left Havana in March 1931. The Cuban League of Cancer had given me quite a remarkable introduction to the director of the Radium Institute of the University of Paris, Claudius Regaud, only because of the fact that I had an interest in radiotherapy, but after all I was a mere student. But, I had the letters and I took them to the secretary of the professor. She asked me to wait and she passed the letters to him. Then after a little while, Professor Regaud, a very conservative gentleman, bald-headed with a white beard, opened the door and asked me to come into his office and sit there. He took the letters and read them and I expected that he was going to ask first if I spoke French. So after he finished his letter he asked: "Parlez-vous Français"? I had learned from a little booklet a ready-made answer that I pronounced sufficiently well, and I said "je le comprend mieux que je ne le parle", a very sophisticated answer for a beginner. A beginner would have said "a little" or something of that kind, but I said "I understand it better than I speak it". He was amused to find that actually I could say no more.

**Dr. Chahbazian:** You didn't learn French in Cuba before you left?

**Dr. del Regato:** No, I didn't have the time. I was informed of my being sent to France and I expected to learn French in the eighteen days of the trip. But there was a group of very attractive girls on the boat and we did everything, but learn French.

**Dr. Chahbazian:** So you landed in France without knowing a word of French?

**Dr. del Regato:** Almost.

**Dr. Chahbazian:** So you started at the Institut du Radium.

**Dr. del Regato:** I went first to the school of medicine and I presented my credentials; they told me that they would inform me after the faculty gave it proper consideration. After a couple of weeks I received a postcard to present myself to the school of medicine and they informed me that I had been given credit for 3 years. Medicine at the University of Paris was only 5 years. I was asked to go to the next window to pay my tuition, \$35 per year. I was too young and innocent to realize then, as I do now, that the French people made me the gift of a medical education.

**Dr. Chahbazian:** It was almost French policy at that time to help the outsider. You spent 3 years of further schooling in medicine in Paris?

**Dr. del Regato:** I registered at the medical school, but I had 6 months before I started in September. All of the time in between I spent as an observer at the Radium Institute at the University of Paris and at the Hopital Saint Antoine.

While being a student, I attended the clinics and examinations, but I spent all my vacation and summer months at the Institute. Little by little, by being present and by taking an interest in what I was doing, I was given work to do. After I met Dr. Regaud, I met with Dr. Lacassagne who was in charge of the "Stagiers", the name given in France to the trainees; he knew that I had an interest in roentgen therapy rather than in brachy therapy. He told me that the man in charge of roentgen therapy was not likely to take a medical student, and moreover, he wouldn't take even a physician for any less than one year. So I was working with radium with Dr. O. Monod, and I learned to do radium applications for cancer of the skin of the face, and implantations of radium in cancer of the tongue and things of that kind. Then, one day Lacassagne sent for me and said that an opening had resulted in Dr. Coutard's department and that he was willing to interview me. So I went and was interviewed by Dr. H. Coutard and as a consequence of that, I became a stagier, as a medical student in that department. All in considering the fact that several times in the afternoon or morning I had to leave to go to some obligation at the university, but otherwise, I spent most of my time on weekends and vacation at the Institut du Radium. And of course, I became very attached to Dr. Coutard and eventually that is where I stayed for years and became an assistant to him.

**Dr. Chahbazian:** What position did Dr. Coutard have at that time?

**Dr. del Regato:** Dr. Coutard was the Chief of the Department of Roentgen Therapy at the Radium Institute, and he was at the time when I first met him, the outstanding figure in world radiotherapy. The Radium Institute had already done important work in radium and Regaud and Lacassagne were well known for their work in radiophysiology, but Coutard had impressed the world with the fact that patients with cancer of the larynx, or cancer of the tonsil, could be cured in large proportions by external irradiation by x-rays. He was highly known then all over Europe, and people repeated the "Coutard method" or what they called the Coutard method.

**Dr. Chahbazian:** So he was more of a clinician than Regaud?

**Dr. del Regato:** He was a remarkable clinician. He had been an internist to begin with and then became a researcher in the field of radiotherapy.

I must add here an episode of my life which further confirms my good luck. I was not receiving any checks from Havana, was cooking my own inadequate meals when a Cuban classmate, Alvaro Silva, came to see me; he said that an anonymous philanthropist wanted to help me. As a result, a bank account was opened for me to draw small sums up to a certain amount. I used it very thriftily, but to great advantage when I needed it. I never met my benefactor, but I surmised that it was his father-in-law, a member of the Arellano family: I remain grateful to him.

**Dr. Chahbazian:** You finished your medical school in Paris and that took 3 years.

**Dr. del Regato:** All during that time, however, even though I was a medical student, for all practical purposes I had obligations of a resident in radiotherapy, under Coutard. Even before I finished medicine, I already had important obligations in the department. I had almost my medical school requirements finished when I became ill all of a sudden. My mouth became inflamed and I couldn't eat or drink. I sent a message to Coutard that I could not go to the department and he sent Baclesse, who was the other assistant in the department, to see what was the matter with me. He came to see me in the place where I lived. I lived in a room about half a block from the Seine in the left bank of Paris, and it was a non-heated room. I had stomatitis and Baclesse was more in awe of where I lived than he was of my condition; he expected that since I was a Latin-American, I probably lived in some very fancy quarters, and actually I was living strictly on what I earned, which was not very much. Baclesse immediately reported to Coutard and they sent an ambulance that took me to the Pasteur Institute where they diagnosed my stomatitis and I stayed there until I recovered. I had lost a considerable amount of weight and when I came out I had a message from Professor Regaud to come to see him. He asked me what were my resources, and I explained to him that the Cuban League of Cancer had long ago removed its support, and that I was trying to support myself by translating medical pamphlets and medical articles while I worked at the Foundation Curie. Regaud informed me that the Foundation Curie had granted me a fellowship and that in the meantime before I had renewed my work, they had arranged for me to go and spend a convalescence in Normandy until I recovered my health. So, I was sent to a remarkable place in Normandy, not far from Honfleur and the mouth of the Seine. "Le Vieux Pressoir", that was created purposely to help young intellectuals. All of the fellows that were there with me were young professors, or instructors who for some reason or another needed to be there. This was maintained by a man (one of the Lazar Freres) and his wife in the memory of their only son who had died in military service. I had a very good time there. When I went back, I was a Fellow of the Foundation Curie, and when I finished my medicine I was appointed an assistant to Dr. Coutard.

In 1934, Regaud obtained a loan of 14 grams of radium (then worth \$1.5 million) from the Belgian Union Miniere; he was certain that radium had a greater selective effect and wanted to try it clinically. He asked me if I would like to help him; I was interested, of course, but did not want to leave Coutard. We agreed to work in the evenings. A small hospitalization for a dozen patients was arranged in a new laboratory building (now the Regaud Pavillion) and I was provided with a room and a bath. I treated a small number of patients into the night with a 10 gram and a 4 gram radium source. A physicist, young Francis Perrin, (years later Chief of Atomic Energy in France) came to use the sources for laboratory experiments; he discovered that the radium sources were not well sealed and that I, the nurses and patients had been breathing some amount of radon. My lymphocytes had almost disappeared and the department was closed until the radium was properly sealed. I was sent for a prolonged vacation in the sun in Barcelona. For half a century I have been expecting to develop bleeding or some other sign of leukemia; two of the nurses that worked with me in that project died of leukemia.

**Dr. Chahbazian:** How long did you stay with Coutard?

**Dr. del Regato:** All told, I worked with him for six years. In the French system, you finished medicine, but you didn't get your diploma until you presented your thesis. Nobody was in a hurry to present a thesis for you were already considered a doctor and you could do all kinds of work without the diploma. I took my time to present a thesis. Dr. Coutard suggested that I work on some patients that he had treated for carcinoma of the maxillary sinus. I presented as my thesis, 10 cases that had been treated in this department, some by him in the early days, and some by both of us later on, who had lived and done well. Four of them were living and I composed my thesis on roentgen therapy of carcinomas of the maxillary sinus. I presented and defended it at the faculty and then I received my diploma. It was the first report of cure of inoperable carcinoma of the antrum by conservative means. I received the Faculty of Medicine Silver Medal for that thesis.

**Dr. Chahbazian:** Which year was that?

**Dr. del Regato:** In the year 1937. By that time, also, I had completed my credits to have a certification in Radiophysiology and Radiotherapy from the University of Paris which I also got in 1937.

At this point, I must inject a couple of details pertinent to my story. I had observed some peculiar dental caries in patients cured by radiotherapy for cancer of the pharynx; I made careful observations and descriptions which in time I was published in Surgery, Gynecology, & Obstetrics in 1939. It was the first report of a fact now generally acquiesced. Jean Riach, a young Scottish lady came from London to be trained to become the radiotherapist of the Marie Curie Hospital of London to be inaugurated in 1934. She learned our method of using the light of the open tube to outline the limits of the portal of entry to irradiation. She was alarmed when she learned that her Vicker equipment was to be shock proof and no light could come out from the tube. After reflection, I conceived a lighting device that could be used for the purpose, eventually known as the Regato Localizer.

**Dr. Chahbazian:** You then stayed with Dr. Coutard and worked with him until when?

**Dr. del Regato:** In the year 1937, Dr. Max Cutler of Chicago, a pathologist, had an idea of creating a cancer hospital in the American midwest, a sort of Memorial Hospital for cancer in the midwest. He was trying to collect personnel for that institution and had proposed Dr. Coutard to come and take charge of the Department of Radiotherapy. Simeon Cantril, an American, who had started his training under me in the department, knew Dr. Max Cutler very well. Dr. Coutard consulted with me and I consulted with Dr. Cantril. Eventually Dr. Coutard decided to accept and asked me if I would come with him; that is how I came to this country. Coutard came in 1937 to Pasadena and I came shortly afterwards. In the beginning of 1938 we met in Chicago.

**Dr. Chahbazian:** Did you know English at that time?

**Dr. del Regato:** Oh yes.

**Dr. Chahbazian:** Where did you learn English?

**Dr. del Regato:** After I had finished my freshman year of high school in Santa Clara, Cuba, my father asked me if I would like to spend a summer in the United States. Of course, I liked it, so he provided me with a legal document that authorized me to travel, even though I was a minor under his responsibility, and I went to Philadelphia where I spent 3 months and learned some of my English. I have vivid memories of my 1923 summer in Philadelphia. That was the year of the Dempsey-Firpo fight and of the great Japanese earthquake. I lodged in a boarding house in Fairmount Avenue. I used to walk past the City Hall to have my meals at the Automat Restaurant on Market Street. We went frequently to Willow Grove and Woodside Park and attended open air concerts in the heart of the city. Later on, I had a second year of English in high school in Santa Clara and although I didn't know English well, I continued improving it.

**Dr. Chahbazian:** Now, before we come to the United States, Dr. del Regato, you must have met a number of people in France, among whom you already mentioned Professor Regaud and Coutard with whom you worked, and you had also met Lacassagne. How about Madame Curie - did you have the opportunity of meeting her at that time in Paris?

**Dr. del Regato:** First of all I should tell you Lacassagne who was the deputy director under Dr. Regaud was a brilliant man. The interesting thing about them, Regaud and Lacassagne, was that they were laboratory researchers who were also excellent clinicians. I had a great relationship with both. I had a great deal to do with Lacassagne who was a good histologist and laboratory researcher, and very often also took part in the clinical work. Madame Curie was director of the department of physics and chemistry, whereas Regaud was director of the medical department. I met frequently Madame Curie in the patio of the Institute, but I had no working relationship with her. However, she fell in her laboratory and broke her arm and she was brought to our department and I took radiographs of her forearm and wrist and was there until the surgeon came and put her arm in plaster, and then I did some of the follow-up examinations after that. She was a very modest person. She would wear a cloche hat and a black dress down to her ankles. She would come to the clinic and sit in the waiting room together with a number of indigents, and she would not make herself known until some nurse would recognize her and fish her out of the waiting room. She would not ask for any special favors. She was very modest and reserved, but she was a very remarkable, intelligent woman. She was a great mathematician and physicist. Her daughter, Irene, and her husband, Frederic Joliot, also worked in the laboratory. In 1934 they discovered artificial radioactivity and opened the doors of nuclear medicine; they got the Nobel prize on their own right.

**Dr. Chahbazian:** It is fair to say that your foundation in radiotherapy was acquired from Coutard primarily, or was it from all these people combined?

**Dr. del Regato:** Primarily from Coutard. My leanings were always toward the clinical side and Coutard was a super clinician.

**Dr. Chahbazian:** How about Baclesse? Did you meet him at that time, too? What were your impressions of Baclesse?

**Dr. del Regato:** François Baclesse had preceded me in the foundation. He was a Luxemburgian. When he visited the foundation, he was introduced to the Department of Radiotherapy by an American who was then there, Dr. Jack Freid, of New York, Baclesse became a "stagier" and remained in the department as an assistant. When I was there, he was primarily in charge of radiodiagnosis and did some overflow radiotherapy. Most of the serious or important radiotherapy was done by Coutard and I was Coutard's direct assistant. Upon our departure Baclesse inherited

the entire department and the wealth of excellently kept records. Baclesse was a hard working man, and was an excellent organizer of data. He was less capable of presenting it or to write the necessary text that should go along with it. He was rather brisk and I maintained a rather detached attitude towards him. I was very loyal to my chief, and I didn't think him to be so.

**Dr. Chahbazian:** Besides your medical work in Paris, would you like to say a few words about your social life in Paris before we come to the United States?

**Dr. del Regato:** Well, I obviously enjoyed my 7 years in Paris. It was a wonderful time of my life. I have pleasant remembrances of the 14th of -July festivities and the dancing on the streets. There was the Intern's Ball, the Follies Bergeres and Josephine Baker, the Cabanne Cubaine, Lucienne Boyer and Melody's Bar at Pigalle, but also the opera and the Comedie Franc aise. A man would come periodically to our after dinner cafe' in the Latin Quarter and offered us free seats in the main theatres; we constituted "la claque" that filled the unsold seats and started the applause. I saw many notable plays, Marcel Pagnol's "Topaze", "Marius", "Fannie"; also "La Guerre de Troie n'aura pas lieu" with Louis Jouvet, "Margot" with Pierre Fresnay and Ivonne Printemps and many of Sacha Guitry's plays. There was a new vogue of Afro-Cuban rhythms and everywhere you went you could hear Moises Simon's Peanut Vendor, Green Eyes, Lecuona's Siboney and many other pleasant melodic rhythms of my homeland. I studied and learned French well and enjoyed its literature. You needed not to be rich to enjoy books. I knew a bookstore where I could buy advance copies of the best sellers that had been sold by reviewers and that I could have at bargain prices: François Mauriac, Andre Malraux, Marcel Proust, Andre Gide, Romain Rolland. To live in Paris was like wading in culture, you could not help to absorb some. I visited regularly the art museums; I particularly liked the ancient Greek sculptures at the Louvre, the extraordinary collection of French impressionists at the Orangerie, Rodin's Museum and his modern sculpture. During my first summer, I visited frequently the Exposition Coloniale, the 1931 World's Fair, a memorable experience. I was only a student, but I attended the Third International Congress of Radiology that took place at the Sorbonne in 1931.

**Dr. Chahbazian:** How about girls in Paris. I mean you must have met some girls in Paris.

**Dr. del Regato:** yes, I had very great affections.

**Dr. Chahbazian:** So you finally decided to come to the United States in the year 1938?

**Dr. del Regato:** in the beginning of 1938, I came from France and then first went to Cuba to visit my parents.

**Dr. Chahbazian:** Your parents were still alive at that time?

**Dr. del Regato:** My mother died while I was in France, but my father was living. My father had remarried and I had a cute little brother, Santiago.

I came with my niece that had been with me in France and then we came from Havana to Miami in a hydroplane.

**Dr. Chahbazian:** They had hydroplanes in those days?

**Dr. del Regato:** Which are no longer in function, and from Miami to Chicago in a bus.

**Dr. Chahbazian:** How long did you stay in Cuba that time before you came to the U.S.?

**Dr. del Regato:** About a couple of months visiting. When I left Paris, I had been engaged in principle by Coutard to be his assistant in Chicago, but this was only a verbal agreement between us. In fact, he said that unless I came, he would not come. When I arrived in New York from Europe on my way to Cuba, Max Cutler met me at the pier; he insisted that I should not accept any offers that I would receive for positions elsewhere because he wanted me to go to Chicago, so I did. In Chicago, I was the house guest of one of my former trainees and friend, Sim Cantril, who lived in Glencoe, in the suburbs of Chicago. Up to that time I had worn a Van Dyke beard and a moustache. Cantril, in a very friendly manner, suggested that I should shave them before I went to work at the Institute, because he didn't think that moustaches and beards were well accepted in the American milieu. So I shaved that evening and the next day we went to the Institute where Max Cutler was with other members of the staff. One of the members of the staff was a beautiful blonde nurse using a page boy haircut, who attracted my attention, and she eventually became my wife. At the Institute, we had consultants like Dr. Hektoon, a famous pathologist, Dr. Compton, the famous physicist, in addition to that there were other staff members, Max Cutler who was the director, Sir Lenthal Cheatle, from London, a famous surgeon, and Dr. Coutard and then Bushke, Cantril and myself as younger associates, and also Rosenthal, an assistant to Cutler. Those were the members of the staff of the Chicago Tumor Institute.

**Dr. Chahbazian:** How long did you stay in Chicago at that time?

**Dr. del Regato:** The project was a very ambitious one; to create a great cancer center of the midwest and that was then, as today, a very good idea. But unfortunately, the sponsors, Spiegel, the owners of Lady Aster cosmetics and others that had promised to support economically the institution failed to do so that year because it was a year of depression. Then, instead of a new building on Michigan Avenue, Cutler rented an old building in 21 West Elm in the corner of Deerborn which had been previously occupied by the International School by Correspondence. The top floors of the building were condemned and the lower floors were remodeled for our purposes, and that's where we started our work. The main thing that we did was to offer courses on therapy of cancer to a variety of mostly general radiologists and some surgeons who came to Chicago. Some courses lasted 4 weeks and others lasted 2-3 months. From April to October of the year 1938 that mostly was what we did. At that time there were no refresher courses given by any of the national societies, and these courses were well attended and successful. One of those who attended was a radiologist, Dr. Edwin Merritt, from Washington, D.C.; he liked very much the courses, and what we had to say, and before he left, he invited me for lunch; and asked me if I would be interested in joining his firm in Washington, D.C. By that time, I found out that the project in Chicago was not everything we had thought. In fact, Sir Lenthal Cheatle went back to London; Cantril and Buschke were going to Seattle. I decided to leave also, I joined the firm of Christie, Groover, and Merritt and became the radiotherapist to the Warwick Cancer Clinic at the Garfield Hospital of Washington, D.C.

**Dr. Chahbazian:** What was Dr. Merritt? Was he a radiologist then?

**Dr. del Regato:** He was a general radiologist, but he was a keen radiotherapist. He had a great deal of interest and had already done some important work in research in the field of radiotherapy.

**Dr. Chahbazian:** So, altogether how long did you stay in Chicago at that time?

**Dr. del Regato:** Only about six months and then I went to

Washington where I was for about 20 months.

**Dr. Chahbazian:** What was the highlight of your work in Washington, D.C. at that time? I had heard you mention so much about transvaginal roentgen therapy.

**Dr. del Regato:** Dr. Merritt had already experimented with transvaginal roentgen therapy for the treatment of cancer of the cervix, and he had done that in his own way, using a Ferguson's speculum of bakelite, giving rather intensive treatments; as a consequence, he had some terrible necrosis of the vulva and of the vagina in the process of trying to do transvaginal roentgen therapy. He presented his problem to me and asked me what I thought could be done about it. The first thing that I did was to design a special speculum with a metal head to protect the introitus. Then, in addition to that, I proposed that the vaginal roentgen therapy not be done as a single approach, but as a complement to external irradiation, instead of radium. At that time, an equipment of 400 kilovolts had been just acquired and that was high voltage equipment, and we did our treatments with that and transvaginal roentgen therapy with 140 Kv.

**Dr. Chahbazian:** Meanwhile you mentioned the fact that you had met Inez in Chicago, what happened to that relationship when you left Chicago?

**Dr. del Regato:** We continued to correspond; Inez took a vacation and came to Washington presumably for a few days. I had just bought my first automobile, a two seater Chevrolet, and I went to meet her at the station; I took her baggage and we went off. Then I drove to the Rock Creek Park; I parked there and I explained to her that I had taken the liberty of renting a furnished house, and of taking a marriage license, and that I was hoping she would like to use them. In a couple of days we were married in the Lutheran church in Washington, D.C. with Dr. Merritt and his daughter as our witnesses. We lived in Bethesda for the early part of our marriage. My niece was already part of the family when we got married.

**Dr. Chahbazian:** And that was the year 1939 already?

**Dr. del Regato:** We were married on the first of May, 1939.

**Dr. Chahbazian:** Just as World War II was breaking loose in Europe. So you stayed in Washington, D.C. for about one and one half years, you said and after that you went back to Cuba for a short while?

**Dr. del Regato:** My engagement with Groover, Christie and Merritt was temporary. It was a fellowship, so to speak. Then I decided to make a try to go back to my country of birth; this had been agreed by Inez. I tried for several months to prepare for the examinations, that were given by the University of Havana; three different examinations covering all of the subjects of medicine. Even though many of the professors knew me and knew my reputation and my work that had already been published, I had no support. Actually, the first examination was on subjects that I had previously taken at the University of Havana, many of which I had passed with the best of grades. But on the re-examination, I was flunked. Consequently, I couldn't stay. In the meantime, I was receiving offers to come to the U.S.; among them there were offers to go to Columbia University in New York and to become a Research Fellow of the National Cancer Institute. So we made



arrangements to return to the U.S. when Inez was about seven months pregnant. Just as we were to leave, the U.S. immigration laws had changed and I was not then a U.S. citizen, so I went to get my papers that had been revised and I met an on-the-job training vice consul, who didn't know his business and he told me that I had to return in two months. I explained to him that I had already complied with all of the required prerequisites and that I was ready, and that I had already bought the tickets to come to the U.S. He kept on telling me to come back in two months. Inez was pregnant and she was very disappointed. She cried. We went home that evening and she started to have pains and on the next day, February 15, 1941, my first child was born prematurely. After a few days I went back to the consulate where another consul met me and said that there was no reason for us not to have gone already; he gave me the papers and we left when Ann was only ten days old. We left for Miami, and then from Miami we went in our car a 11 the way to Illinois. I left Inez and Ann in Illinois and I continued alone to New York to see about Columbia University. I remember distinctly that I was in New York on the very cold day of St. Patrick's Day of the year 1941. The position at Columbia University was not to my liking. I continued to Baltimore and the position offered there was that of a Research Fellow of the National Cancer Institute in a new department of radiotherapy, at the Marine Hospital of Baltimore, because at the time the National Cancer Institute did not have a hospital of its own.

**Dr. Chahbazian:** You stayed in Baltimore for two years.

**Dr. del Regato:** We lived in Baltimore for two years. The first three months I served the U.S. government for free because I did not have my U.S. citizenship yet. Shortly afterwards we had Pearl Harbor.

**Dr. Chahbazian:** So you left Baltimore in 1943 and where did you go at that point?

**Dr. del Regato:** In 1943, one of the former fellows of the National Cancer Institute, a surgeon, knew me and knew of my work, and proposed my name to become the radiotherapist to the Ellis Fishel Cancer Hospital in Columbia, Missouri. I was invited to come. I saw the place and liked the institution and its aims. This was in the middle of the war in the year 1942. I had to have a special order to have enough gasoline to make the trip from Baltimore to Columbia, Missouri, where I stayed for six years.

**Dr. Chahbazian:** What did you do in Columbia, Missouri? What was your program there?

**Dr. del Regato:** The main interest was that the Ellis Fishel as a cancer hospital offered the best opportunities for clinical research in the field of cancer. We had a large number of patients and proper equipment and personnel. One of the first things that I did was to ask the staff for a vote of confidence to organize the records. The patient's records had been patterned after those of Washington University; every time that a patient was hospitalized there was a sheet of paper with nurses notes, temperature charts and so on. I asked to be permitted to reorganize all the records back to when the institution had started in 1938. I eliminated the unnecessary papers, and gave the records a clinical sequence with all notes typewritten so that they could be easily read as a book. This is the way in which their records are to this day. That is one of my great satisfactions; that they are among the best records of any cancer institution, anywhere. They, in themselves, are a source of education, because residents, in examining patients and reading the records, can learn a great deal. I put in practice there the transvaqinal roentgen therapy as a complement of external irradiation for several hundreds of consecutive patients with cancer of the cervix. I a.1so published papers on the treatment of cancer of the lower lip, treatment of cancer of the skin, of the

eyelids and overlying cartilages. Another of the original approaches that we took in Columbia, Missouri was that of using external irradiation as a preoperative procedure in the treatment of cancer of the endometrium. Until then, and as in most places even today, radium was used as a preoperative means of irradiation before hysterectomy for carcinoma of the endometrium, but it appeared to us more logical to do this externally in order to homogenize the radiation throughout the pelvis. We were doing this at the same time Isadore Lampe was doing it in Ann Arbor. This has proven to be the ideal way of treating cancer of the endometrium, since the complications are minimal, unlike with radium therapy, and the results are excellent.

**Dr. Chahbazian:** I understand that is where you wrote the book on Cancer. Now this book has been revised a few times since then, I know. I would like to hear from you as to what was your incentive in writing this book and your association with your co-author, Lauren Ackerman.

**Dr. del Regato:** Several things happened in Columbia, Missouri and among them the fact that Inez and I had two other children, Juanita and John, both were born in Columbia, Missouri. I was Director of the Department of Radiotherapy and Ackerman was the Director of the Department of Pathology. For many years until I got to Columbia, I had in mind the writing of a manual, a guide for physicians with information about various aspects of pathology, clinical diagnosis and various forms of treatment of cancer and expected results. The model was a "Precis de Cancerologie" by Ducuing (Masson et Cie). I had already been gathering illustrations as well as references that I wanted to use for this work. I discussed this project with my colleague, Lauren Ackerman, and we agreed that it would be interesting to do it together with a third person, a surgeon, since he was a pathologist, and I was a radiotherapist. We decided to invite our colleague in charge of the Department of Surgery, to take part of this with us, to write an original chapter on surgery to begin with, and then to take over the subjects that were primarily surgical. our colleague agreed and we went to work. Ackerman and I engaged a young lady from Salisbury, Missouri to be our secretary: she would go and get references for us and would take dictation and write rough drafts. We went ahead and completed the chapters that we had both agreed we would be doing. In the meantime, our colleague, the surgeon, failed to write one page. He did have the good intention of writing the book, but never did it. Ackerman and I decided that we had to take over his subjects and write them ourselves, which we did. We finished the manuscript in 1946 and took it to the Mosby Company in St. Louis for publication. The first edition of the book appeared in 1947.

**Dr. Chahbazian:** How long did it take you to write that book?

**Dr. del Regato:** It took about two years to write it. It took longer to revise it.

**Dr. Chahbazian:** of course this has become practically the Bible of cancer, and has been revised a few times since then. While in Columbia, you also had developed a program of training in radiation therapy, didn't you? You may like to comment on that and who was your first trainee?

**Dr. del Regato:** When I arrived in Chicago in the year 1938, I was interested in finding out how many colleagues, men who devoted themselves exclusively to radiotherapy, there were in the U. S: I found out that the total count was 39. Even after the second World War, the total number of radiotherapists in the United States was only 50. A great deal of radiotherapy was being done by general radiologists who did diagnosis and therapy, and also by surgeons who did surgery in the morning and radiotherapy in the afternoon. I felt that it was unquestionably necessary to organize centers of training in Radiation Therapy. Up to then most American Radiotherapists either spoke with a phony accent or were Americans who had gone abroad to train. it was only proper that this

country should develop centers of training of its own. The National Cancer Institute offered fellowships to young physicians who would want to train in radiotherapy. Among the first ones that were my privilege to train was a young fellow who was training in surgery and who had already told me that although he had seen what was going on in radiotherapy, he intended to be a surgeon. But after his first year of surgery at Washington University, he came to see me and he told me that he was interested in radiotherapy; his name is William Moss. So I took him as a resident in training under a fellowship of the National Cancer Institute and then I arranged for him to spend an additional year in Paris at the Radium Institute of Paris and at the Christy Hospital of Manchester. As everyone knows, Moss has become an international authority in our field.

**Dr. Chahbazian:** Do you remember, Dr. del Regato, anybody else who trained with you at that time in Columbia?

**Dr. del Regato:** I offered limited training to a few general radiologists, among them Patrick Lynch and Tu-Shan Jung (now in Shanghai). Most of those that I was able to train in Columbia were general radiologists. One of the fellows that applied for training in radiotherapy was Oris Wildermuth; I could not take him since I had no fellowship available at the time. So I recommended Dr. Wildermuth to Dr. Cantril who took him in training in Seattle.

**Dr. Chahbazian:** You did quite a bit of creditable work in Columbia, after which it is my understanding that you moved to Colorado Springs. What were the conditions that led you to that?

**Dr. del Regato:** A Colorado tycoon, Spencer Penrose, who made a fortune in copper and gold mining in the Rocky Mountains had cancer of the larynx and was referred to Coutard for treatment in Paris when I was in my training and I took part in his treatment; he was cured, but seven years later, he developed cancer of the esophagus in Colorado Springs. At that time he sought to go back to Paris, but then he was told that Coutard had moved to Chicago. Coutard started to treat him with 400 kilovolts at the Chicago Tumor Institute. Mr. Penrose didn't like the hot summer of Chicago and simply called the representative of General Electric and asked him if he could promptly install x-ray equipment like that in his own home in Colorado Springs so that he could continue his treatments there. And suprisingly this was promptly carried out. A 400 kilovolt machine was installed behind the Broadmoor Hotel in Mr. Penrose's estate. Coutard went to Colorado Springs to continue his treatments there after some minor interruption. When the treatment was completed, Penrose was asked what to do with the equipment and he said to give it to the Sisters of Charity who were running the Glockner Hospital of Colorado Springs. The sisters responded that they had no place to put it. He said "build them a pavilion". So a Tumor Clinic attached to the Glockner Hospital was developed. Mrs. Penrose asked Coutard to come to Colorado Springs and continue his clinical research there, which he did. In the meantime-, I was at the Ellis Fischel Cancer Hospital. Coutard never bothered to take a license in the State of Colorado and consequently he entered into some legal difficulty with the local people. I went to Colorado and I talked to the persons who were concerned and talked them out of legal proceedings. Coutard remained, someone took the responsibility for the department, he concentrated exclusively on research. The medical staff of the Glockner Hospital, the Sisters of Charity, and Mrs. Penrose became dissatisfied with the fact that what they had envisioned had not been realized. Mrs. Penrose wanted to have an institution in Colorado Springs built in memory of her husband. She inquired, she knew me because we had met in Paris when her husband was treated there, and she came to the Ellis Fischel; when she saw the Ellis Fischel Cancer Hospital she said, "this is exactly what I want to do in Colorado Springs. I want to have an institution like this built and named in honor of my husband". She asked me to go to Colorado Springs and

initiate this work. I found out that the Colorado Licensing Board had a rule that no foreign graduate could obtain a license in the State of Colorado. I informed the El Pomar Foundation (the organization founded by Mrs. Penrose), and also the Sisters of Charity, that I couldn't come because I could not obtain a license. The suggestion was made that I come anyway, but I told them that I did not care to become a pariah in my own country. After a few months I received a telephone call and was informed that the State of Colorado had decided to admit graduates of the University of Paris of the year 1937 to take the examination towards licensure in Colorado. I did not ask any questions and I went to take the examinations and passed. I became the Director of the Penrose Cancer Hospital before there was any building. Dr. Coutard remained and continued the same work that he had done., However, using the opportunity that I had come there and that the place would not be left unattended, he decided to return to France to visit his ailing wife and take a long vacation, As it turned out, he had a cerebral hemorrhage and a few months later he died in France and never returned to Colorado Springs. Our main effort was intended to pragmatically demonstrate that a cancer institution was useful even in a small community like Colorado Springs. We insisted that there shouldn't be a cancer hospital built separate from the general hospital, but that the organization should be one in which physicians in the staff would participate in the work of the cancer hospital. So I talked Mrs. Penrose out of building a separate cancer hospital, and she built the Penrose Hospital which included the facilities of the Penrose Cancer Hospital. Then we developed proper records and a Department of Radiotherapy, organized for training of therapeutic radiologists. It was really in Colorado Springs that I was able to expand, with the help of the National Cancer Institute, a program of training and that I could then train a greater number of residents in Therapeutic Radiology.

**Dr. Chahbazian:** So you did arrive in Colorado Springs in 1947, was it?

**Dr. del Regato:** No, in January 1949.

**Dr. Chahbazian:** And obviously when you arrived there wasn't much structure to the cancer hospital. In fact, it was not even called a cancer hospital at that time.

**Dr. del Regato:** No, it was the Glockner Hospital and there was the Penrose Tumor Clinic. When I went there we named it the Penrose Cancer Hospital and established the organization before the building was built.

**Dr. Chahbazian:** What kind of equipment did you have there to work with?

**Dr. del Regato:** To begin with, we had an excessive amount of equipment. Dr. Coutard had asked for equipment and everything that he had asked was given to him. He had three units of 200 kilovolts and one of 400 kilovolts, and a sufficient amount of radium.

**Dr. Chahbazian:** of course, there was no supervoltage equipment at that time?

**Dr. del Regato:** At that time there wasn't. That is, there was supervoltage equipment in the United States, but in very few places, it was not generally available. General Electric had manufactured a one million volt machine that was available only in Cleveland and California and very few other places, but it was not generally available commercially. After the war there were greater numbers.

**Dr. Chahbazian:** You felt you had ample equipment at that time to start with. What was your experience in developing the Cancer Hospital in Colorado Springs, as you said, in a small community.

The population of Colorado Springs was less than 50,000 people at that time. Although it drew from a wider area, were you satisfied with the load of patients and the kind of tumors that you had? Was that sufficient material in other words to work with and to train residents?

**Dr. del Regato:** We had patients that came from out of state as well as from other places in Colorado. In the beginning there was not a great deal of material, but it grew to a sufficient size, although it could have been much larger. The main difficulty, which is always that one that any such institution was the lack of cooperation of the medical profession in the same city. We had a great relationship with outside physicians who referred patients to us and were glad to have their patients taken care of. But many of the local physicians were jealous of the development of the institution and were not always very cooperative or friendly. People always find ways to explain their own frustrations and justify their hostility.

**Dr. Chahbazian:** So it took a lot of doing to get something like that started.

**Dr. del Regato:** It was always a great deal of trouble. Some institutions with a great deal of money have never been able to start it. They all end up building laboratories for "me too" research.

**Dr. Chahbazian:** Coming back to your training program in Colorado Springs, I know it was where you trained most of the residents in Therapeutic Radiology, including myself. I was very fortunate to participate in your training program initially in 1956. Can you remember the other candidates who trained with you, or would you like to mention a few of them?

**Dr. del Regato:** I would like to mention names and I would hate to forget anyone, but let me see if I can remember them all. Those that were trained were Juan Fayos, James Cox, yourself, Dr. Chahbazian, Augusto Gutierrez, Robert Lindberg, Victor Marcial, Robert Kagan, John Marshall, I. Arenas, S. Salaberry, James Dolan. Dr. Weston Reynolds was an internist who had decided to have training in radiotherapy, and Jerome Vaeth was a Colorado Springs citizen. Frank Wilson from Missouri came to us for training and then went to the National Cancer Institute. Larry Kun, Donald Eisert, and Ralph Johnson were also residents. Francisco Comas, Jose Campos, Mario Vuksanovic, George Taylor, Patrick Cavanaugh, R. Perez-Tamayo, Joaquin Mira, Alvin Greenberg, A. Gruninger, Emanuel Nava, Charles Taggart, Stephen Brown, Walter Gunn, Basil Considine, Bryan Redd, Jeannie Ubinias, Winona Mackey, Graciela Serna from Mexico, Paul Genest from Canada, Douglas Carrizo from Venezuela, V. Perez from Costa Rica. We also contributed to the training of a few general radiologists: Joanna Keleki from Greece, Genine Baker (Mrs. Benjamin), Germaine Ratelle (Mrs. Cartier) from Canada, J. Caballos from Mexico, Ru-Kan Lin, Klaus Dehlinger, Paul Roesler. I hope I may be forgiven for not having remembered them all. Whereas I am proud to claim all of these as my trainees, I could not have assumed responsibility for their training without the valuable help that you gave me over the years and later, also the assistance of Frank Wilson.

We have today some 75 centers of training of Therapeutic Radiology in the U.S. and we have some 350 to 400 residents in training at the present time, and an annual graduation from that training of 50-60 residents. This is not yet sufficient to fulfill all the needs of the United States, so that actually there is still a demand for radiotherapists.

**Dr. Chahbazian:** Was it during your time in Colorado Springs that the International Club of Therapeutic Radiologists and the American Club of Radiation Therapists were founded? You were the founder of those clubs, weren't you?

**Dr. del Regato:** In the year 1953, there was an International Congress of Radiology in Copenhagen. During the course of that Congress, we were invited to a luncheon at the Radium Station of Copenhagen by the Danish radiotherapist, Dr. Jens Nielsen. At the luncheon, restricted to radiotherapists, Nielsen proposed the formation of an International Club of Radiotherapists. Dr. R. Patterson of England was in favor of it, but he wanted to make sure that there were only a limited number of members per country. It was agreed that there would be 15 members from England and 15 members from the U.S. Those of us who were present were to choose our colleagues in our respective countries. Later, Dr. Cantril and myself decided it would be a good idea to have the American group of 15 meet annually for dinner on the occasion of one of the national meetings of the Radiological Society of North America or of the American Radium Society. I proceeded to issue invitations to the members of the club for a dinner, and we agreed that we would invite as guests, radiotherapists who were not members of the International Club. This constituted the first gathering of radiotherapists in the U.S. It became obvious that there were two classes of citizens at these dinners. Those who were members of the International Club and those who were only guests. The proposal arose, as I expected, to create an American Club of Therapeutic Radiologists that will include everybody. When this was finally discussed, I presented an initial agreement which we called the Founders Agreement, a one page constitution and bylaws, for the American Club of Therapeutic Radiologists; membership was limited to those who were radiotherapists exclusively, not permitting membership to those who practiced both diagnosis and therapy.

**Dr. Chahbazian:** Which year was that?

**Dr. del Regato:** That was in the year of 1955, and the first meeting of the American Club of Therapeutic Radiologists took place in Chicago, at the Palmer House. The founding members were 54 in number.

**Dr. Chahbazian:** That club subsequently evolved, of course, into the American Society of Therapeutic Radiologists.

**Dr. del Regato:** The club, at first, had no scientific sessions. We only met for dinner and exchange of views twice a year. We kept on accepting new members that were qualified. As the membership grew, the need developed for a scientific exchange, and we voted to have the club change its name, to become the American Society of Therapeutic Radiologists, which was legally incorporated in the State of Colorado, and for which I had designed myself a logo, a crab surrounded by electronic orbits.

**Dr. Chahbazian:** Do you remember which year that was?

**Dr. del Regato:** The American Club became the American Society around 1965, I believe.

**Dr. Chahbazian:** Would you like to say a few words about the yearly Cancer Seminar you conducted in Colorado Springs and subsequently in Tampa, Florida?

**Dr. del Regato:** For years, pathologists who were interested in tumor pathology, would occasionally gather and have a box of slides that they would pass around to find out the various opinions about the same material, to compare notes, and to discuss them. With Dr. Ackerman and Dr. Arthur P. Stout of New York I participated in one of these, at the Ellis Fischel Cancer Hospital in 1948. I thought that this kind of meeting could be expanded to include diagnostic radiologists and surgeons, and to become a truly educational medium for all those involved in some aspect of oncology. In the year 1949, my first year in Colorado Springs, we organized the First Annual Cancer Seminar. I held 24 such annual seminars in Colorado Springs and then. I held 8 more in Tampa for a total of 32. The Cancer Seminars were based on a group of 15 especially chosen problem patients, of the respiratory tract or the urinary tract, or cancer in children, or intracranial tumors. Summaries of the histories were mailed to radiologists with copies of the pertinent roentgenograms and they were invited to submit their diagnostic impressions. Slides of the surgical specimens of those same cases were prepared, (thousands of the slides had to be made for each seminar), and boxes of 15 slides were mailed to each one of the participating pathologists, in the U.S. and abroad; we solicited prominent experts for their opinions. On the day of the seminar, a guest radiologist, a guest pathologist, and a guest surgeon were asked to meet with all participants to discuss each one of these 15 cases in succession, comparing their opinions with those already received in the mail. The seminars revealed that even with the same slide in hand, pathologists would differ considerably as to the exact diagnosis of a case.

**Dr. Chahbazian:** I know that these seminars were very well accepted for all the years you conducted them and you stopped holding them only recently. I would like you to comment on working with the Sisters of Charity. You worked with them closely during the time you were in Colorado Springs and you had a good many friends among the Sisters of Charity.

**Dr. del Regato:** When I started to work at the Penrose Cancer Hospital, the Sister superintendent was Sister Marie Charles, who was a perfect lady with a great understanding of the values of a cancer institution. She was a great support and of great help to us. Then working with us more directly was Sister Clara, whose family name was Vogelpohl. Sister Clara was a very hard-working enthusiastic, and truly affectionate person who helped us tremendously in every one of our different activities. Sister Mary Assunta Stany was a capable administrator and gave us also understanding support. The Sisters of Charity had a Mother Superior in Mt. Joseph in Ohio, Mother Mary Zoe a very understanding lady, with great intelligence, and also highly supportive of us. But as it happens in many organizations, the Sisters of Charity also changed. Mother Mary Zoe died, Sister Marie Charles was transferred to Dayton, Ohio and Sister Assunta was transferred to Ohio, and although Sister Clara remained with us, other members of the organization took over and we didn't always have the same understanding or receive the same support. The operation of a cancer hospital, undertaking the various functions of adequate diagnosis and proper treatment of patients, and in addition, research and training of residents, will cost money and one cannot expect that the patients will pay for things of which they are not beneficiaries. So that actually, any such institution has to have some economical support. Mrs. Penrose, before she died, had left the cancer hospital well endowed with money for these purposes. But the new sisters transferred the support that Mrs. Penrose had meant for the Cancer Hospital, to the General Hospital, and expected the Cancer Hospital to be self-supporting. It made it appear as though the cancer hospital was working at a loss. Most people do not realize that a cancer institution actually brings to a hospital intangible wealth: tremendous amount of fame, reputation, and patients who contribute in a variety of ways, which cannot be registered on a ledger. It is, however, there and it is only felt when it is lacking; but there is no question about it, that the cancer hospital in Colorado Springs gave to the Penrose Hospital and its staff a great deal of support that was intangible.

**Dr. Chahbazian:** We all remember very fondly many of the Sisters who had impressed us of being so dedicated to that kind of work and I'm sure they played a big role in establishing the Cancer Hospital. We are very fortunate to have with us today, also Ann, Dr. del Regato's daughter, who was born in Cuba, in fact, and so I would like to invite Ann to participate in this discussion today, to make a few comments about life in Colorado Springs. Ann, would you like to join us at this time? Your father was relating the things he did in Colorado Springs, and that was the time you and your other sister Juanita and your brother John grew up in Colorado Springs. I'm sure you remember Colorado Springs quite well and probably quite fondly. I thought you may like to make a few comments about how it was in Colorado Springs in those days, how was life at home, your relationship with your father, and so on?

**Ann:** I was eight years old when we moved to Colorado Springs, so those were most of my growing-up years that I remember. I look at it differently now as an adult than as a child. I realize that those were important years in my father's life and he was very busy and very dedicated. I see and understand things differently now because I am married to someone who is very much in the same position right now. And in both cases, with my husband, as with my father, there was certainly no neglect of family because of time and dedication to a profession. People look at things differently and think about the amount of time instead of quality of time, but there was never any time in my growing up that I felt there was any lack of love, concern or care in my father, no matter how busy he was. It's been a pattern of his life to always have work on his lap, but he always had an ability to put that work down if there was some need to talk or to fix a lamp or whatever. The work room was always the middle of the living room, whether there were people there or television on, or whatever, and to this day this is still the case. He does everything from his chair in the living room, including, as he always put it, "getting all the fresh air he needed". But I would say we had as normal a family life as anybody, but certainly individual, it was tailor-made to the del Regato family, but there was never any lack of basic love or support as far as the children were concerned.

**Dr. del Regato:** Perhaps you would like to tell him something about the fact that we lived in an old house built in Colorado Springs in the 1890's and Mrs. Penrose had acquired that house that became our first home in Colorado Springs. That house had, on the main floor, an excellent den where I had a desk and typewriter and telephone, and also connected with it a complete bathroom, and this den could be entirely isolated from the rest of the family, and nevertheless I never spent a single hour in it by myself. I did all of my work in the living room while the television was going and the children were running around.

**Ann:** The den is where we did our homework.

**Dr. Chahbazian:** I remember those days when I came to see you periodically that as Ann said you always had something on your lap in the living room while watching the television. Ann, your father was born in Cuba, and spent some time in France. There must have been some foreign influence in the family because of that. Did that transgress on you kids: Did you feel that you were different than the average American family?

**Ann:** I don't think so, certainly not in as small a town as Colorado Springs was at the time that we moved there. It is a lot different now, it's much bigger, and certainly more cosmopolitan. At the time I was the only one in my group of friends or even at the school who may have had opportunities to travel and who had a father who had some kind of international reputation. I don't



know other than for the fact that unconsciously I may have made attempts to be like everybody else. I don't look back on it as being any traumatic thing in my life.

**Dr. Chahbazian:** You must have come to appreciate Cuban music a little bit better than any of us maybe.

**Ann:** Of course, there were a lot of things I came to appreciate.

**Dr. del Regato:** And the children have always told me that "people say you talk with an accent, but I don't think so".

**Dr. Chahbazian:** I'm glad they told you that. My kids don't tell me that. So your time in Colorado Springs was a pleasant experience, as you look back on it.

**Ann:** Of course, I think it had the ups and downs of anybody's childhood experience, but certainly nothing that was anymore extraordinarily different from other young people. We had parents who loved us and we had our problems - so do all families, but there was never any lack of love - that we always knew.

**Dr. del Regato:** one thing that we overlooked to tell you that is of some relative interest it that when I decided to go to Colorado Springs at the request of Mrs. Penrose, the President of the El Pomar foundation asked me how soon could I come. And I said I would have to go and find a place for my family to live. He said no you do not. We will accept you immediately to live in an apartment at the Broadmoor Hotel. In the beginning of January 1949, and we went and lived in a rather large apartment at the Broadmoor Hotel for six months, until we moved to the house we were referring to before.

**Dr. Chahbazian:** So that's where you remember the bells of the Broadmoor ...

**Ann:** The Will Roger's Memorial. I went back years later and those bells brought a lot of nostalgia in me unexpectedly; sometimes those things happen.

**Dr. Chahbazian:** That's understandable. And you met also Don Jaeger who is your husband now. You met him in Colorado Springs?

**Ann:** No. I went to my first teaching job after I had gotten my Master's Degree in Madrid. I went to Michigan and took a job teaching Spanish at the Interlaken Arts Academy where my husband was on the faculty, and that's where I met him.

**Dr. Chahbazian:** But you got married in Colorado Springs.

**Ann:** Yes, we were married in Colorado Springs, twenty years ago, just last week.

**Dr. Chahbazian:** I remember; it seems like yesterday. Ann, I thought that since you were here it would be good to have your input into what we are discussing today. Thank you.

**Ann:** Thank you.

**Dr. Chahbazian:** Dr. del Regato I remember there was a light localizer with your name on the roentgen therapy units that was called a del Regato light localizer. It implied that you had developed it. Would you like to comment on how that came about, and when did you develop that light localizer.

**Dr. del Regato:** In Paris we worked with open tubes that projected the light reflected in the target from the filament, and we used that light as a means of delimiting the fields on patients. Dr. Jean Riach came to us for training to become the first radiotherapist of the Marie Curie Hospital of London. Her hospital was being built in London, and the new equipment that was being installed in her hospital had closed shockproof tubes that did not emit any light. She was rather anguished at the fact that she didn't know how she was going to work under those circumstances. It occurred to me that we could provide such closed tubes with a localizer with a light that would reproduce the beam of x-rays, so I developed the idea of a localizer in the form of a mirror with a light bulb at the same distance from the mirror as it was to the target. That became a localizer built for her by the Vicker Company for her equipment in London. When we came to Chicago, Coutard refused to use the so called "cones" that came with the equipment and he insisted that he wanted to have my localizer made. So even before I came to Chicago, Cutler wrote to me in Paris for the design of the localizer, which I sent to him, so that General Electric built a light localizer to go along with the equipment in Chicago. Later on, that same localizer was built by Westinghouse and by Keleket. In the year 1940, I was invited to go to Boston to consider the possibility that they might offer me employment at the Massachusetts General Hospital where they were installing the second one million volts Vandergraff equipment. During my visit there they were developing very heavy lead "cones", placed on shelves and moved by an elevator on wheels in order to bring the "cones" to the equipment since they were very heavy and they couldn't be carried by hand. My host was Professor George Holmes. I said to the professor, "would you consider putting a light in the device?" He said, "what is that"? So, I went to the blackboard and explained to him what my localizer consisted of. He said, "would you mind explaining that to the MIT engineers?" I explained it to them and the Vandergraff equipment at Massachusetts General Hospital was provided with my light localizer. Subsequently all Vandergraff sold by MIT came with a lighting device, my lighting device, to go along with the unit.

When the first cobalt unit was made in New York, the physicist designed an inbuilt lighting device, my lighting device, to go along with the unit and thereafter all cobalt units came with a light localizer. Then after that when the linear accelerators were made they all came with the light device which is now standard equipment for all radiotherapeutic equipment. it started in that fashion.

**Dr. Chahbazian:** You left Colorado Springs, I do believe in 1975, wasn't it?

**Dr. del Regato:** 1974.

**Dr. Chahbazian:** To go to Tampa, Florida to join the Veterans' Administration Hospital and the University of Southern Florida.

**Dr. del Regato:** South Florida. That's the way we say it in the south. We don't say Southern; it's the University of South Florida.

**Dr. Chahbazian:** Would you comment on your work in Tampa, Florida?

**Dr. del Regato:** My wife had a mild coronary, so I decided that it would be proper for us to live in a warmer climate and at sea level. In Colorado Springs we were at 6000 feet altitude. The Veterans' Administration, quite generously, offered me a position as "Distinguished Physician", that's the title of the position, and had me choose between La Jolla, San Antonio, or Tampa; any one of their new Veterans' Administration Hospitals. I could also have gone to Miami, but I chose Tampa because it was more sedate for the purposes that we were seeking for my wife's health. That is why we went to Tampa. Moreover, Dr. Arthur Graham, professor and Chairman of the Department of Radiology at the University of South Florida, was most generous in asking me to join him at the University. Some time ago, I was an expert witness at a trial and the lawyer from the opposition trying to diminish the dignity of the witness asked me: "Dr. del Regato, are you a distinguished physician?" And my answer was, "Distinguished Physician" is a title, not a self-description.

**Dr. Chahbazian:** Now, Dr. del Regato, you have done a lot of writing; not only in medical matters, but I am aware also of the fact that you have, over the years, done a lot of biographical writings. Would you like to comment on that?

**Dr. del Regato:** When I was in Colorado Springs, I belonged to a limited group of twenty men, mostly professors at Colorado College and some town people, who gathered once a month in the home of one of the members. The host offered dinner to his guests and was the speaker for the evening. When it was my turn to do this, for the first time, I chose the subject of Carlos Finlay. That was what gave me a taste to write biographies. I realized that, there was some research to be done in finding details that might not have been published or available. Subsequently I did another one on Jesse Lazear, also connected with the history of yellow fever. The latter has been the subject (March 28, 1984) of discussion in "Science". And then when I retired, I decided to work on biographies of the pioneers of radiology. I started with Roentgen and Madame Curie, and then later on some other pioneers like Holzknecht and Dessauer; also some of the radiation physicists, who contributed a great deal to the development of radiotherapy. I wrote on Plank, on Bragg, Bohr, Joliot and also Compton, and Fermi; these articles have been published mostly in the International Journal of Radiation Oncology.

**Dr. Chahbazian:** I'm often asked if you have any plans of writing the history of radiation therapy as a whole since you have gone through so many stages of the development of radiation therapy, and probably you are one of the most qualified persons to do so in the world today. Do you have any such plans?

**Dr. del Regato:** That is very flattering, but that would be a difficult task. However, I have written articles showing the historical development of time/dose relationships in radiotherapy, that are part of the history and the biographies,

but an overall history is really quite an undertaking. I doubt that I will live long enough to do it.

**Dr. Chahbazian:** I know you are capable of doing it, perhaps one day we will see it. I would like you to reflect on some of the personalities we mentioned very quickly. I know that you dwelt quite a bit already on Professor Regaud and Drs. Coutard, Lacassagne and Baclesse. Mainly the European people I would say. But I would like you to reflect a little bit more if you can on people like Sim, Cantril, Franz Bushke, Maurice Lenz, Dr. Harris.

**Dr. del Regato:** It would be improper to refer to history of radiotherapy in the U.S. and not mention the pioneers. Before the first World War, most of the radiotherapy in this country was done by

general radiologists such as Dr. Francis Williams and others who did work in the early days, Dr. Emil Grubbe of Chicago and others. But after the first World War radiotherapy was developing in France primarily. Dr. Maurice Lenz was a dermatologist in New York, went to Paris and was greatly impressed by the work there, and when he returned to work at Columbia University, he was one of the first advocates of radiotherapy in New York. Also, Dr. William Harris who worked at Mt. Sinai Hospital of New York, Dr. Desjardins of the Mayo Clinic and U.V. Portmann of the Cleveland Clinic. But even before the second World War, we were only about 50 radiotherapists in the entire nation. Dr. Simeon Cantril, an American graduate from Harvard University who had worked at Michael Reese Hospital, and come in contact with Cutler, and become interested in radiotherapy. He went to Paris to receive training at the Radium Institute, when I was a young assistant. He was, in fact, one year older than I, but he started his training under me at the Radium Institute of Paris. He moved to Paris with his wife and young daughter. I used to go with them and play with the little girl at the Luxembourg Gardens, not far away from the Fondation Curie. Cantril was a very dedicated, hard-working fellow, and he established a friendly relationship with Bushke. Bushke had actually started from Berlin where his father was a professor of dermatology, and went to Switzerland, to Zurich, and worked there for awhile. originally, Bushke wanted to be a diagnostician of the gastrointestinal tract, but in Zurich he was converted to be a radiotherapist. Mainly because Zuppinger was sick and Dr. Schihz needed somebody to take charge of radiotherapy. Then when Bushke met Cutler and was engaged to come to Chicago, he decided to spend some time with us in Paris before going to Chicago. He and Cantril became very good friends and since Bushke was put in charge of writing a book for Cutler in Chicago, he corresponded frequently about matters of references and so on with Cantril. Cantril finished his training in Paris and went back to Chicago although he had not decided where to start work. He visited Boston, San Francisco and other places. The Michael Reese Hospital had lost its chief of the Tumor Clinic, that is Cutler, so they offered Dr. Cantril the position of Radiotherapist and Chief of the Tumor Clinic. Cantril was quite agreeable, but as soon as Cutler heard about it, he offered him a position at the Chicago Tumor Institute so that he would not accept the position at Michael Reese Hospital. Cantril became one of the members of the staff of the Chicago Tumor Institute when we started. In the summer of 1938 we all participated in teaching several courses on radiotherapy of cancer that were well attended and successful. At the end of the year 1938, Cantril and Bushke decided to leave for Seattle, Washington where they worked on supervoltage roentgen therapy and wrote one of the first American books on supervoltage roentgen therapy, a milestone in the history of American radiotherapy. They did excellent work there. Cantril was one of the original members of the International Club of Radiotherapy; he had several massive coronaries and unfortunately died, prematurely, at the age of 51. Bushke was left in Seattle and after awhile he was offered a professorship at the University of California in San Francisco. Since his father was a famous professor this was something that he had always sought, he was attracted by the idea and he moved to San Francisco. Dr. Vaeth, one of my trainees, became his assistant and worked with him at the University of California; Bushke stayed there for many years and he recently died. Cantril and Bushke are unquestionably definite persons to be named in the history of American radiotherapy.

**Dr. Chahbazian:** How about Maurice Lenz, what did he contribute?

**Dr. del Regato:** Dr. Maurice Lenz did some notable work in the treatment of cancer of the larynx and so did Dr. William Harris. Dr. Harris was a very dedicated radiotherapist, who worked at Mt. Sinai Hospital of New York. He was an artist. He painted just like you do, and he did very serious work. They unquestionably put radiotherapy in a different light, as it wasn't before them. They both were advocates of the French School of Radiotherapy.

**Dr. Chahbazian:** And that is mainly fractionated, protracted radiation therapy.

**Dr. del Regato:** Correct. Isadore Lampe, a remarkable self-taught radiotherapist worked silently for years at Ann Arbor. He was to reveal himself as the outstanding American academic radiotherapist of his time.

**Dr. Chahbazian:** Would you like to say a few words about Dr. Ackerman, who was the co-author of the book on Cancer?

**Dr. del Regato:** I had never met Dr. Ackerman until went to the Ellis Fischel Cancer Hospital (Jan. 1943); and he was in charge of the laboratories, just as I was in charge of Radiotherapy. We became very good friends. We worked together very pleasantly. He has a very nice sense of humor and we worked continually and very hard for the first edition of our book. He has a better understanding than most pathologists have, of tumor pathology, because that was his main interest and in addition to that, he has a better understanding than most pathologists about the effects of radiation which are usually exaggerated or misinterpreted by many. He retired and he has not taken part in the last two editions of our book. I've worked with one of his disciples, Dr. Harlan Spjut, and now in the last edition with Harlan Spjut and one of our trainees, Dr. James Cox.

**Dr. Chahbazian:** Very good. Would you like to reflect on Dr. Fletcher?

**Dr. del Regato:** Dr. Fletcher actually went to high school not far away from the Foundation Curie, where I started my training. He later went to medical school and graduated from the University of Brussels. He was the son of an American business man and a French woman and consequently could claim American citizenship. He came to this country during the second World War and worked in New York and Pittsburgh, in General Radiology. Somebody suggested that because he knew French, he could or should be interested in radiotherapy. He decided to take a fellowship and went to France for a short period and then he went to Manchester with Dr. Ralston Paterson at the Holt Radium Institute where he received short training. When he returned to the U.S. the M. D. Anderson Hospital was being completed and they needed a radiotherapist, thus he was appointed to what proved to be one of the outstanding Departments of Radiotherapy in the U.S. and gave him an unequal opportunity to treat a large number of patients and to prove the worth of radiotherapy. Fletcher, unquestionably, has contributed a great deal to the development of radiotherapy in the U.S. and he deserves a great credit because of that.

**Dr. Chahbazian:** Since time is running short, Dr. del Regato, I would like to take these few minutes to ask you a few questions about general concepts in the field of radiation therapy and cancer in general. I know that you have written the lead article in the "Treatment of Cancer of the Prostate with Radiation Therapy", perhaps you may like to reflect on that and bring it in perspective in the overall management of cancer these days.

**Dr. del Regato:** Some twenty years ago when we got one of the first cobalt units of teletherapy in Colorado Springs; we decided to approach several problems until then not touched by radiotherapists. Among them was an attempt to curative treatment of inoperable carcinomas of the prostate. We had five year survivals of patients with inoperable carcinoma of the prostate, when actually the treatment of carcinoma of the prostate, with an aim to cure, had not yet been tried for the first time at Hopkins or Harvard University, at the Memorial Hospital of New York or the M.D. Anderson. Today radiotherapy for carcinoma of the prostate is done in any hospital; but we were

the first to do this. The reason why radiotherapists of note had not attempted to do radiotherapy for carcinoma of the prostate, was a dogma that existed in the field of radiotherapy from the very beginning, that adenocarcinomas were "radioresistant". This was a misconception. What was misinterpreted was the fact that adenocarcinomas regress slowly, just like they develop slowly. Actually they are as radiocurable as other carcinomas are, provided they are given the proper radiation exposure. We provided the very first patients who had inoperable carcinoma of the prostate, and who were cured by radiotherapy. Today, of course, thousands of patients have benefited by this approach. Recently, the American Cancer Society offered me the 1983 Distinguished Service Award on the basis of this work and the President of the American Cancer Society, Dr. Willis J. Taylor, was kind enough to tell publicly that he himself had benefited by this work since he had been treated and cured of his carcinoma of the prostate by means of radiotherapy as advocated by us.

**Dr. Chahbazian:** Let me ask you the inevitable redundant question that I'm asked almost every day by patients, families, and some doctors; "are we going to have a cure for cancer one day?" What is your response to a question of that order?

**Dr. del Regato:** That question is often asked by people who consider cancer as one disease, and you and I know, cancer is a conglomerate of some 250 different malignant tumors that could be considered as 250 different diseases. Even for one organ like the breast, not all cancer that develops in the breast is the same and consequently one single solution is not. The greatest sins that we commit in medical education is to allow students to be swayed by the simplest concept of the basic scientist who would consider all cancer the same. Radiotherapy brought about the greatest revolution in the treatment of cancer around the beginning of the century, and created the need for special institutions to look into the problem of cancer, not only from the point of view of radiotherapy, but from the point of view of research in all forms of treatment. We are living a great vogue of drug therapy; drugs have proven to be effective in very few malignant tumors; choriocarcinoma of the female, in the treatment of acute leukemia in children, and in some rare tumors like Burkitt's sarcomas that occur in children in Africa. But in the majority of other tumors, drugs have not proven to be curative by themselves and at the present time they are used as adjuvants to other forms of treatment like surgery or radiotherapy. I don't think that this will hold. New modalities of radiotherapy are developing. A great deal is being done about combination of certain drugs that might act as sensitizers of radiotherapy and there is also physical factors, such as hyperthermia combined with radiotherapy to obtain better results. To which extent these things will be successful, only time will tell.

**Dr. Chahbazian:** Before we finish this presentation, do you have any closing statements or remarks to make, Dr. del Regato?

**Dr. del Regato:** Well, there are also such things as the acceleration of nuclear particles, like neutrons, that are being experimented with. It is quite possible that this will develop into some practical modality of treatment. At the present time, for instance, neutrons can destroy malignant tumors of the brain but they indiscriminately destroy normal brain tissue. The idea is to find a differential effect of normal tissues and tumors. This of course is the great opportunity in radiation therapy and that remains an open field of research.

**Dr. Chahbazian:** I would like to take this opportunity now to make a couple of closing remarks on my own before we finish this presentation today. I feel personally very fortunate for having trained with you and also not only that, but having worked with you for almost 20 years. This has been

certainly a unique opportunity for me or a privilege that not too many others could share. In this period of time, I've learned a considerable amount from you, and I still do to this day, and you have not only been my teacher, but I consider you as a very good friend, and part of our family. As I've told you many times before, I have always considered you as my second father and I am certainly very honored and privileged to be in that position. I would like also to take this opportunity to thank you for the unique privilege we have had over the past two days to make these tapes and I know that this is the first time we are trying it and I feel it will serve its purpose well one day.

**Dr. del Regato:** I am very grateful to you and honored by what you say I hope that the script and tapes prove to be useful. I'm sure that they are not perfect in that it is relying on our memory which is not the best and it is impromptu. Thank you once again.

**Dr. Chahbazian:** You are right, it is a home-made project.

Thank you very much.