

**INTERVIEW WITH SHELDON CHANG
FORMER CHAIRMAN OF ELECTRICAL ENGINEERING DEPARTMENT**

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Dr. Hartzell: All right, tell me a little bit about your background.

Dr. Chang: I was born in 1920 in Shanghai and I grew up in Beijing, China. I went to American University, Beijing University. At that time the President was Latham Stuart, he later becomes Ambassador of United States to China. in 1938, at that time China, Beijing is occupied by Japan. Because flew the American flag, we were not interfered by Japan. Then sometime in the spring of 1940, I wrote an article about future war between Japan and United States. After that, the first point of attack would be Pearl Harbor.

Dr. Hartzell: Where was the article.

Dr. Chang: That's some Chinese article about world affairs and after that article Japan and America really get into war, Russia way before 1935 Free China in the south. At that time my family were already in Free China. I was in Beijing because I was, my father felt I should stay in one place to complete my education. Beijing is our ancestral home.

Dr. Hartzell: By Free China, what do you mean?

Dr. Chang: That's a part of China not occupied by Japanese.

Dr. Hartzell: Oh, I see.

Dr. Chang: At that time Japan occupied northeast part of China and almost River

Dr. Hartzell: Which river?

Dr. Chang: Yangtze River, yes. Yellow River was mostly in their hands already. At that time they did not allow students to go to Free China, but they allowed commerce in between the two parts of China. So if I want to go, I have to be dressed like an apprentice or someone

Dr. Hartzell: A businessman.

Dr. Chang: Oh, we were not quite up to that, too young. So, I dressed like an apprentice in the south and then I thought the best way was to be carrying Japanese ship because then there was least notice of you, so I took a Japanese ship from Kenjing to Shanghai. Once I got there, I took a short distance from Shanghai to Ling Por, a commerce ship. Once I reached Ling Por I was inside Free China. Then I traveled to Kunming, that's where one of the best universities in China was there. The three top universities combined together, Beijing University, one is King Wai University, one is Nan Kai University combined to one university called National Southwest Associated Universities in Kunming. I became a physics student in the third year. There I met Frank Yang. Frank, his father was a math professor in the same University, and he lived about a few miles from the University. He carried a very big bag with all his books in the bag. So I gave him a nickname, the little kid carrying a big bag.

Dr. Hartzell: What year was this?

Dr. Chang: 1940, right. That was the height of the Japanese bombing Kunming, Chunking, but we got alert and was in the mountains when they came, actually there was no menace to the students there. Then I graduated in 1942 and entered the graduate school of physics of that same university the same year as Frank Yang. Then Frank moved away from his family to a roommate, three of us, actually four of us, Frank, myself, a Professor Tong, he's one of the top in solid state physics, later he was a student of Max Born in England. Another was Ling, he is in Biology, he became Professor in this country. Then in 1943 I thought that I must do something for the war effort so I went to Garment Radio Work, as a radio designer, design military equipment. Then in 1944 America gave lend-lease to China in various forms. One form was scholarships for coming to United States to study, and the Chinese government gave that scholarship by open competitive Since I was working on radio engineering, I took the examination in electrical engineering and got out in 1945.

Dr. Hartzell: 1945.

Dr. Chang: I took the examination in the winter of 1944 and got out in 1945.

Dr. Hartzell: Now did, what did Frank Yang take?

Dr. Chang: Frank Yang took physics examination and that way Boxers

Dr. Hartzell: Boxers?

Dr. Chang: Boxers indemnity money, you know there was a Boxer Rebellion and the Chinese government gave a lot of money as compensation to the Asian nations who were in that war. America was the only nation who used the money for education purposes in China. They used the money to first establish University, and also used the money for the scholarships to Chinese students to come out abroad to study. You can use that money to go to England and America. That is the highest honor in China. Frank got number one in that examination.

Dr. Hartzell: Is that right, good for him.

Dr. Chang: Frank came out attending the same year 1945, but he went to the University of Chicago, I went to Purdue University.

Dr. Hartzell: Purdue is a good engineering school.

Dr. Chang: That's right.

Dr. Hartzell: All right. So you were here in 1945.

Dr. Chang: Right, and I finished Purdue in 1947 and went to work for a few years for industry.

Dr. Hartzell: Whereabouts in industry?

Dr. Chang: In Ohio. Then in 1952 I joined New York University, I joined the faculty of New York University, they promoted me, by 1958 I was a Full Professor.

Dr. Hartzell: Very good. All right, well, that's your background. 1958 to 1963 when you came here, what did you do?

Dr. Chang: I was teaching at NYU from 1952 to 1963. Then I came to interview for Stony Brook.

Dr. Hartzell: Who was responsible for bringing you to Stony Brook?

Dr. Chang: Thomas Zemenien, he talk about Stony Brook, and I felt at that time Stony Brook was very well funded. And it is one place which is probably going to be a great university, I came to Stony Brook. My interview was with Dean Irvine, who was, at that time they needed a chairman of electrical engineering department, actually I was more interested in a Full Professor not all this administration duty but that was not possible. So my interview was in the spring of 1961 in Planting Fields. At that time I lived near Lincoln Center, when Lincoln Center was newly established, there also were the establishment of Lincoln Center there some apartments called Lincoln Towers, I lived in Lincoln Towers. So I came to interview at Planting Fields following the instructions, then I saw some building which certainly did not look like a college of engineering, more like an oriental building. Then Dean Irvine came out, he looked really like the King in the King and I. He was very nice, he certainly didn't act like the King in the King and I.

Dr. Hartzell: He was minus his hair.

Dr. Chang: Uh, huh. come to Stony Brook 1963 not 1962 because I did not want to give NYU a very short notice.

Dr. Hartzell: All right. Why don't you go ahead with the soup, I'll stop this. Do you have any regrets about coming to Stony Brook?

Dr. Chang: No.

Dr. Hartzell: Did things work out well for you here?

Dr. Chang: Not completely ideal, but I think it worked out for me.

Dr. Hartzell: Do you have an idea of

Dr. Chang: About what a university is or should be. There are two models of a university. Most models, most universities actually choose two models. One model is a gathering of scholars in their area dedicated to the advance of knowledge and publication of knowledge and the working structure is only incidental to make this possible. So if this is the case, then the administration of the university is at the service of the professors. The other model is the university just like a factory. The professors are the workers and

the students are the product and the administration will lord over the workers, I think Stony Brook is somewhere in between. I'd like to see it be the first model.

Dr. Hartzell: You say Stony Brook is somewhere in between.

Dr. Chang: Correct.

Dr. Hartzell: It takes time to have an institution which consists of persons organized for certain purposes. It takes time to have an institution have a shake-down cruise until it finds its identity and the forms of action that it really can do best and wants to perpetuate. You consider Harvard has a history of three hundred years and Yale two hundred fifty, something like that. I think one of the differences, the Harvard Corporation consists of five people very carefully chosen for their ability, their understanding of what an educational institution is. The local Council at Stony Brook is chosen for political reasons to enhance the reputation of the individual. Some of them know very little about education quite a lot on the tape. Any children?

Dr. Chang: I have five.

Dr. Hartzell: Five.

Dr. Chang: Two from one marriage and three from the second marriage.

Dr. Hartzell: They planning to go into engineering?

Dr. Chang: None.

Dr. Hartzell: None.

Dr. Chang: One is going into medicine; one is computer science, he got a scholarship so that's why he is going to Stanford; one is going to Madison; my youngest daughter is going to be a freshman, freshlady, freshgirl at Stanford.

Dr. Hartzell: Are you thinking of going back to the West Coast at some time?

Dr. Chang: We have no plans at this point. I have a lot of chemist friend and also the consulting relationship probably won't be broke after my retirement. I may not be able to Long Island has excellent weather.

Dr. Hartzell: If you were to single out your most important contribution to the University or plural contributions, what would you say they would have been?

Dr. Chang: I tried my best to put together the electrical engineering department with emphasis on teaching. We have an excellent coverage of all the areas in electrical engineering. And the students, the report back from the students, they are all doing well. So that's When you consider Frank Yang coming here is a contribution certainly, Dr. Pond and John Toll made that happen, I was just a messenger, there was a letter.

Dr. Hartzell: So Frank Yang was a roommate of yours back in Hunming.

Dr. Chang: Right.

Dr. Hartzell: Do you have an contacts with Brookhaven?

Dr. Chang: Some contact. I was at Brookhaven in the summer one summer when they were building the alternating gradient synchrotron back in 1959. Later when I joined Stony Brook I published some paper in economics, then Brookhaven has an energy research project, they engaged as a consultant, mostly economic, I was consultant for them for a while.

Dr. Hartzell: Who headed Brookhaven, who was in charge of that policy?

Dr. Chang: I don't remember now.

Dr. Hartzell: Not Philip Palmetto?

Dr. Chang: No, it was a younger guy. At the time I think I was only research, that was over ten years ago. It came about because Kenneth Arrow, the economic Nobel Prize winner called on a paper with me on exploration of mining oilAt the time when we wrote the paper together he was at Harvard.

Dr. Hartzell: How did you know him?

Dr. Chang: We had a meeting on optimization techniques at University of Rhode Island in Kingston. Kenneth Arrow was there, I was there too; so we decided to work on this together.

Dr. Hartzell: Question 15, who were the individuals in your thinking who were most important in the development of the University? You mentioned John Toll, and you've mentioned Alec Pond and Frank Yang, anybody else?

Dr. Chang: Oh, I think there are a good number of very important contributors in different areas. It is difficult for me to relate outside my own personal knowledge. Actually to be very frank I don't pay very much attention outside my own department. Bentley Glass certainly.

Dr. Hartzell: And Tom himself, Tom Irvine.

Dr. Chang: Right. Hartzell.

Dr. Hartzell: Me, how so.

Dr. Chang: You put it in good form before John Toll took over. I think I'm commenting on two different styles. I think actually John Toll put more emphasis on administration and you put more emphasis on economics. I like your approach better. One thing I was against John Toll was he extending the administrative structure too far.

Dr. Hartzell: I see. He was a builder, in that respect he was somewhat like Ed Pellegrino.

Dr. Chang: Ed left so quickly

Dr. Chang: Yes, Ed got more impatient, I think, than his honor did. Ed is where he belongs now, he's a name professor and Director of the Kennedy School of Ethics at Georgetown University, but he also has very close give and take with the hospital and the medical school faculty.

Dr. Chang: I don't know if that's a more significant job than founding the medical Health Sciences Center here.

Dr. Hartzell: Well, it's a different one. Between Stony Brook and Georgetown, he was President of Catholic University for three years.

Dr. Chang: Uh, huh.

Dr. Hartzell: I understand he left because they wanted him to raise money, and he didn't want to do that.

Dr. Chang: That's difficult for a President not to do. Frankly, a close friend told me what it takes to be the president of a private university, shake widows' hands.

Dr. Hartzell: It's nice to, however, to be in a country where widows have money and are free to do as they please with it.

Dr. Chang: It's a different perspective.

[end of interview]