

Gordon Sato Transcript

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Interviewer: Paul Watanabe (PW)
Interviewee: Gordon Sato (GS)

PW: This is an interview with Gordon Sato, it's February 3rd, 2011. He's being interviewed at the Institute for Asian American Studies at the University of Massachusetts Boston and he's being interviewed by Paul Watanabe. Good afternoon.

Gordon, let me begin by asking you to speak briefly about what you're currently, are engaged in with your life.

GS: Right now, we're doing a Manzanar Project, which is trying to relieve poverty in the world. And...and our approach is to grow seawater plants in the desert and right now we're currently involved in Morocco where we're trying to plant this arid desert with plants that can grow in seawater with seawater irrigation. And these plants we're using are mangroves, which can grow in seawater, Spartina grass, which can also grow in seawater. Spartina grass grows in clusters in Massachusetts and can be harvested for hay for the animals. And we're growing another plant called Natura, which can grow in seawater, which originated in...

PW: Somewhere.

GS: Yeah. My memory's bad. But anyhow, it can, it was brought from...

PW: Somewhere to this area, that area.

GS: Yeah.

PW: Can I ask you something about the – so, you're currently involved, as you said, I think you said, in Morocco. As I understand it, the origins of this project went back, focused on Eritrea, is that correct?

GS: Yeah.

PW: Can you fill us in a little bit about the origins of the project?

GS: Yeah, I...I got involved in Eritrea because I found these people were trying to get their independence from Ethiopia and so I got involved with Eritrea because I found out that the Ethiopian famine was mostly an Eritrean famine because the Ethiopians were trying to starve out the Eritrean rebels. So I found out about the Eritreans and then went to, went to Eritrea through... My memory's so bad.

PW: Right, but you went to Eritrea.

GS: Yeah, but through...What the heck is the country that...

PW: Sudan? Somalia?

GS: The Sudan, yeah.

PW: Right, yep.

GS: As I went to the Sudan and was transported to the part of Ethiopia where the rebels had control. And that was a little hairy, yeah. And I went to Eritrea and tried to figure out how these people can survive and so we, I got interested in fish farming and we grew fish in the northern part of Eritrea and that was fairly successful. And we were able to provide protein food for the wounded. We did some, all we did was dig holes, get seawater, and then fertilize it to get algae to grow and then the fish who ate algae...I've even forgotten the names of the fish but we were able to grow fish.

PW: Did you begin these mangroves there as well or did it work there?

GS: Yeah, we tried to grow mangroves. But we were mostly interested in growing fish. And then, the Eritreans won their independence and then they went into independent Eritrea and tried to figure out how they could grow food and I saw that mangroves grew in the small part of the intertidal zone of Eritrea. And we, and I tried to grow a few mangroves where they were likely to grow. And I planted five mangroves and they all died. And then I looked to see where mangroves grew naturally and they only grew where fresh water flowed during the rainy season into the sea. So I tried to figure out why they grew in freshwater. So I looked at, compared seawater to algae medium and found out that the only thing missing from seawater was nitrogen, phosphorus, and iron. So we provided nitrogen, phosphorus, and iron, we could grow mangrove trees. And we grew over a million mangroves where mangroves never grew before by providing nitrogen, phosphorus, and iron. And we learned how to do that by putting urea and ammonium phosphate in a plastic bag with a one-hole and this fertilizer would leak out in about four years and you know, we grew where mangroves where they never grew before.

PW: Wow.

GS: Yeah.

PW: Actually, maybe at the end of this discussion I'm going to get back to this because it's part of the legacy of a part of your life some sixty years earlier it sounds like in some ways. So let me ask you just a little bit now to give us some background about your parents, where you were born, who your parents were?

GS: Well, that's a rather painful part of my life. And uh...yeah, I really don't want to talk about it.

PW: Okay, go ahead.

GS: But in Manzanar, you know, food was very bad and so, what I did was grow a garden. And so I was thinking about how you could grow food in a desert. Now, Manzanar was fairly easy because we had access to freshwater from the stream. But then when I got to Eritrea, yea, I got to thinking about how to grow food in the desert. Yeah.

PW: So, let me ask you a little bit, so you and your family were in the Los Angeles area where you grew up. And so your schooling was in that area. What was the neighborhood like that you grew up in, the part of Southern California?

GS: I grew up with mostly Mexicans, Okies, and Arkies, and a few Japanese.

PW: Were your parents *issei* or...?

GS: My mother was a *nisei*.

PW: What did they do for a living?

GS: My mother worked in a fish cannery, my father worked in a business where he dried fish and sold it all up and down California.

PW: So you're a, you're growing up, you're a young person going to school I presume at the time of Pearl Harbor, this time of the war, do you have any recollections about the aftermath of Pearl Harbor and your family initially having to respond?

GS: Well, it was a rather painful period.

PW: They were on Terminal Island so one of the first groups to actually have to move.

GS: Yeah.

PW: So your family ends up going to camp. And much like my family, they were...

GS: Manzanar.

PW: Manzanar. And, again, I don't want you to talk about anything in terms of this, as you point out, painful period of time, what I want to ask you a little more about though, is while you're there, you begin to start thinking about the idea of, which begins to affect your later, it sounds like, you're the Owens Valley there, and you're trying to think about how to make that area "bloom" if you will.

GS: Yeah.

PW: So, were you always inclined towards thinking about the sciences or this kind of problem-solving approach?

GS: Yeah. Yeah, I, very early on in life I got to appreciate science and in junior high school, I was taught about electricity and that got me started.

PW: Really? So when you're still in camp, you're now starting to, uh... Were you in high school when your family went to camp? Is that where you were?

GS: I was just starting high school.

PW: You had just started high school. And so you finished high school in Manzanar or around then? And then, can you tell us a little bit about the process sort or the decision to leave camp potentially and continue your education now at this time at the college level?

GS: Yeah, I just... Yeah, you know I didn't have a plan.

PW: Mm-hm.

GS: I just went to college.

PW: You remember who may have advised you or helped you think about the possibility of going to college?

GS: No.

PW: And so, at some point you learn that you, did you, were you accepted at a college, do you remember applying for them or...?

GS: No, not really.

PW: And so at some point you decided you would leave college and, for college, from the camp?

GS: Yeah.

PW: And, you travelled to what college?

GS: Central College in Pella, Iowa. And what I remember about that is people were very good. Yeah. Yeah, the Iowans were very accepting.

PW: Did you recall have any trepidation about traveling across the country to go to Iowa or...?

GS: A little bit.

PW: [laughs]

GS: I remember riding in a bus from Manzanar to Iowa. And the thing is, I was sitting next to a woman, a young woman, and I fell asleep on her lap.

PW: Oh.

GS: And she thought it was very humorous, yeah. But I got to Iowa and I had to make a living so the first job I got was setting up pins in the bowling alley and I didn't know anything about bowling so I used to set up pins wrong all the time, so I didn't last long in that job. And then later, a little later, I got a job at the Wakonda Country Club as a... Yeah, and...

PW: Any memories about your classmates? Do you recall there being any other Japanese students like yourself who were at Central College?

GS: Yeah, yeah, there were two of us, three of us.

PW: I see. Did you interact with them and interact with the general student body or...?

GS: Yeah, um, yeah the memories are vague. But I think, I just went to college a year, then I went to Los Angeles and I worked as a gardener. And then I went into the Army and...

PW: The characterization that you've given about going to Iowa is that the people, as you recall, the people were good to you at the University and the classmates within the town –

GS: Yeah.

PW: – and this is all occurring, still, during the midst of the war, at least for when you got there.

GS: Yeah.

PW: And, did you have any communications with your family back in camp that you can recall while you were away in college?

GS: No. No, they came out to Iowa to... But I think the people of Iowa were very good.

PW: Yep.

GS: Very accepting, and very decent people.

PW: Do you recall what you studied there or was it just kind of the general beginning probably?

GS: It was general, yeah.

PW: Right. Clearly, at least they continued your interest in science, when you were in college, it sounds like it.

GS: Yeah.

PW: So then you left there and went back there and finished your studies in the Los Angeles area, is that correct?

GS: Yeah.

PW: And then went on, what was your further schooling? After you went to Los Angeles, then you completed your education and...

GS: Yeah, I think it was very... See, most of the time I was working.

PW Yeah.

GS: In fact, I was working full-time when and going to college full-time, same time –

PW: Right.

GS: – so I wasn't a very good student. And then I was working in Pasadena and doing gardening and one day I fell off my truck so I couldn't work; I was lame. So I decided I'd like to apply to Caltech so I walked into Caltech and said, "I'd like to be a student." So the first person I met was a physicist and he said, "What kind of student were you before?" And I said, "Lousy." And he said, "We only take the best here. But what are you interested in?" And I said, "Well, transport across membranes." "Oh," he said, "that's biology. Go see this man Beadle." Beadle was chairman of biology and future Nobel Prize winner. And I went to see Beadle and he wanted to get rid of me, too. So he said, "What kind of student were you before?" I said, "Bad." He said, "We only take the best here. But what are you interested in?" Said he wanted to get rid of me so I said, "Transport across the membranes." And he said, "That's biophysics. Go see this man Delbrück." So I went to see Delbrück and he's a future Nobel Prize winner, too. And Delbrück was annoyed that I was coming to see him. "What do you want?" he said. I said, "I want to be a student." And like the others, he said, "Tell me the story of your life." So for about a half an hour, I told him about the story of my life and how I happened to be there and he said, "We'll give you an exam, come back in a week and we'll see if you can be a student." So I came back in a week and he had a number of faculty assembled to exam me and they were all pretty distinguished people, future Nobel Prize winners and they asked me questions and the first question was, "What's the most populous organism?" So I said, "It's probably Arthropoda." "Right." "Probably Insecta." "Right." "Probably Coleoptera." "Correct!" And then he asked me... "An organism..." Yeah, my memory's not so good.

PW: Mm-hm.

GS: But, yeah... It has a half-life and it decays and if I give you this organism at times zero, can you tell me...decay? And I said, "That's easy, that's just simultaneous differential equations." And he said, "That's right." And so they allowed me to be a student. The thing is, I became a student in one of the most distinguished laboratories because at that time, there were five people in the lab that later won the Nobel Prize. It was Delbrück, who won the Nobel Prize for starting molecular biology. There was Jim Watson who won the Nobel Prize for discovering the structure in DNA. There was a man called Feynman who was a physicist who's learning about biology and he later won the Nobel Prize in physics. And there was a man named Jerne who won the Nobel Prize for immunology and a man named Delbecco won a Nobel Prize so it's amazing, there were five people who later won the Nobel Prize. And most people, I think, were discouraged by being in such an atmosphere, but I wasn't. I figured, you know, I'm not as smart as these guys but I can probably contribute. And so, later on, when they wrote the history of the laboratory, I was considered the most successful student that came out of that laboratory. That's very strange because the other students were brilliant people.

PW: The, uh, I know you're...that's sort of a modest statement about your work as a cellular biologist. But I have to ask one question, and after listening to this, you describe yourself as a lousy student, that was your own description, and yet, I'm sure, and sort of this little quiz that they gave you demonstrated that you had some pretty clear, innate knowledge, too. But the thing that I'm struck by when, just hearing you talk about this, which is still the early part of your life, is this incredible tenacity on your part, right? It's...it takes some guts to go into somebody's office and say, "I want to be a student." Where did that come from?

GS: I don't know.

PW: You must have thought about this.

GS: But I think I had self-confidence. Usually, I was probably the brightest student in classes where I was. Yeah, I had self-confidence.

PW: And along the way, in addition to yourself, it does seem that there are people who took a chance on you. That, you know, whether it's the people of Iowa or whether it's the people at Caltech.

GS: Yeah. Max Delbrück –

PW: Yeah.

GS: – later on wrote that he was interested in me because, as a student, often he was not so good. Actually, he failed in his thesis. People solved the Schrödinger equation for hydrogen atoms and hydrogen molecules and so he was given the problem of solving the

Schrödinger equation for helium atoms, which is also, two protons and an electron. Should be easy, and he failed. And no one has solved that problem.

PW: Wow. I'm going to ask you to... So, again, I know it's often difficult but, here you're looking back from the perspective of fifty, sixty years ago and then what's happened subsequently, when you look back at your experiences, whether prior to camp, in camp, after camp, do you take any personal lesson away from that experience? There must have been a reason why we began this conversation, your, much of your current life's work has been focused on the projects in Morocco or Eritrea or whatever, but you call it the Manzanar Project. There must be a reason why you select the name of something that far long ago.

GS: Yeah, I think my experience in camp...has led me to think that one can use logic to solve these problems of say, poverty and hunger and what we're doing, for instance, this great unrest in the Middle East, that's due to poverty. People are hungry and impoverished. In countries that are desert but by the sea, well, that shouldn't be. We should be able to use logic to think our way out of this problem. And I think we have the answer. Grow plants that can grow in seawater in a desert and make the desert a great farming area. So we're in, we were in Eritrea and Morocco. But we have the answer; we know how to grow food in the desert. Yeah, you just grow seawater plants. And you know, we're experiencing some difficulty but there are difficulties I'm sure we can overcome. What we run into in Morocco is wind and sandstorms and these are hard on plants, we'll solve that problem.

PW: Let me ask you finally, so when you meet people now and maybe in other parts of the world, it sounds like, and you tell him about your project and then the name Manzanar, they probably need a little bit of, do you have to give them a little bit of background on what that term means? It's not one that one would find an obvious one. Are they curious about that?

GS: Yeah. In Morocco, the governor of Tarfaya, the former governor, I told him I want this project to be called the Manzanar Project to show that something good can come out of a concentration camp. So he agreed; we can call the project the Manzanar Project.

The thing is, you know that there's poverty and hunger in the world, it's something that logic can solve. I mean, it's crazy that people are hungry and impoverished and so what I envisage is that eventually, we can make the whole Sahara Desert into farmland.

PW: Well that's a wonderful – it's a, and I'm convinced, you make it sound not like a dream, but actually something that we...

GS: Yeah, that will come about. Yeah.

PW: Right. It's like something we should be doing.

GS: Yeah. We should be doing.

PW: Right. It's not beyond our physical capacity to make it happen.

GS: No.

PW: Wow. Well, any final thoughts you want to share with us?

GS: Well, I think one of the things I want to fight, while solving hunger and poverty, is racism. And I grew up with racism. When I was a young child, you know, white people would talk to me as though I were stupid. So, you know, probably you don't, are not too familiar with this problem because Orientals have proven to be good students. But when I was in the Army...when I was in the Army in Korea, a Lieutenant came down from Seoul and he said, "You've scored the highest on the I.Q. test in the Battalion and we want to know why you're a PFC. You've scored higher than the commander who, in the Battalion who's Lieutenant Colonel, higher than four company commanders, higher than two doctors who were Captain and Lieutenant, and higher than about a thousand enlisted men, and he was trying to get the Army to use the I.Q. test to more, to utilize in better... But that's something that I think is a thing of the past. My children have never experienced this. And I think problems of racism are gradually fading away. We have Obama, a Black American President. That couldn't happen when I was a child growing up. I mean Blacks couldn't even play baseball. Now they can be President. And I think Orientals in general are, well, they've done very well. And Japanese Americans are disappearing by intermarriage so it's a problem that doesn't exist anymore or it is fading away. So that's not a problem I'm terribly concerned about but I think hunger and poverty is a problem and we see this unrest in Egypt and Tunisia, it's because people are very poor and very hungry and we can solve that problem with science.

PW: Well thank you very much for spending this time with us, we appreciate it.

GS: Well, thank you for having me.

PW: It's a remarkable, it's a remarkable life and so it's great to have your words.

GS: No, not so remarkable, yeah.

PW: Thank you very much.

GS: Okay, thanks.