

**Interview with Dr. Akira Nakajima**  
**Conducted by:**  
**Dr. Kupfer & Mr. McManus**  
**August 9, 2005**

Mr. McManus: This is Carl Kupfer, Ed McManus and Professor Akira Nakajima, and we're going to get started with the interview. We went over with Dr. Nakajima that we will use the interview as part of an oral history of distinguished people who have been part of the past of the National Eye Institute and to document that past. We'll also use it as material for the chapters that we're writing in a book on the history of the NEI, primarily the chapter on international—there will be a separate chapter on the international activities that we're writing. So we're looking forward eagerly to getting some input from Professor Nakajima. The first question that I had for him was, Akira, when did you first become aware of the National Eye Institute which was formed in 1969?

Dr. Nakajima: Yes, yes. It's a great honor to have this interview and to be a part of the history of the NEI. Actually, in 1966 when we had the International Congress in Munich (?) there was a satellite on ocular biochemistry in Tutzing. It's a very nice resort up on Starnberger See and I attended there and I met for the first time, Jin. Then Jin was a very important person in biochemistry up there and I admired him and I wanted to meet him and we've become very good friend. And at that time he was at the Howe Laboratory in Boston.

Mr. McManus: Jin Kinoshita.

Dr. Nakajima: Yes, Jin Kinoshita. And that was the beginning of my connection with NEI.

Mr. McManus: What year was that again did you say?

Dr. Nakajima: '66.

Mr. McManus: '66?

Dr. Nakajima: '66 with Jin in Tutsing, attending Biochemistry of Eye Symposium. And he has been working on some aspects of cataract enzyme. Since then we communicated with Jin and Toichi.

Mr. McManus: Kuwabara.

Dr. Nakajima: They were in the same laboratory with Dave Cogan and both Toiche and Jin wanted some ophthalmologists who are specialized in biochemistry or histology, and incidentally I have very able persons who are doing research work in biochemistry and in eye pathology, Okisaka in pathology. Okisaka and Kabasawa in biochemistry. Kabasawa was a research student in biochemistry then and he left ophthalmology. He was half ophthalmology but mainly biochemistry and he was working on a chemical modification of protein under Professor T. Sekine. And Both Okisaka and Kabasawa went to Howe Laboratory and then there was a beginning of a National Eye Institute. Both had to follow Jin and Toichi to move to Washington and they were very busy preparing movement of their department. They left Boston for the National Eye Institute.

Mr. McManus: When it was formed in the early 70s.

Dr. Nakajima: Yes.

Dr. Kupfer: Did Kabasawa go to NEI also?

Dr. Nakajima: Yes.

Dr. Kupfer: Tall fellow.

Mr. McManus: Tall fellow.

Dr. Kupfer: Yeah, I remember him.

Dr. Nakajima: With Jin.

Dr. Kupfer: Right.

Dr. Nakajima: And that was the beginning...

Mr. McManus: Well—go ahead.

Dr. Nakajima: With the request we sent to NEI, many young students and they are very, very grateful to NEI for letting them do a very nice piece of works. And it was a big experience for Japanese ophthalmologists to have done such work at the NEI as well as they experienced the atmosphere of the United States, at least American science world.

Mr. McManus: Why—you began to explain some of the reason but why was it that the Japanese vision scientists and especially ophthalmologists interested in research wanted to come to the US to be trained?

Dr. Nakajima: Well. Of course, there are some who went to Europe for example Tokyo Medical School, their department ophthalmology sent their youngsters to France and some others sent to Germany and a few went to Russia, but mainly 70% comes to the United States because the United States was leading the world.

Mr. McManus: Carl you wanted to ask about the JSPS?

Dr. Kupfer: In 1976 an agreement was reached between the National Eye Institute and the JSPS.

Mr. McManus: Japanese Society for the Promotion of Science (JSPS).

Dr. Kupfer: Japanese Society for the Promotion of...

Mr. McManus: Science.

Dr. Kupfer: Science, yes. (Laughter) And that primarily identified Japanese scientists to go to different laboratories in the United States and elsewhere.

Dr. Nakajima: Yes, yes.

Dr. Kupfer: This was for American scientists to go to different laboratories in Japan.

Dr. Nakajima: Yes.

Dr. Kupfer: Was there another arrangement by JSPS with another country besides the United States?

Dr. Nakajima: I do not know.

Dr. Kupfer: Not for ophthalmology?

Dr. Nakajima: Not in ophthalmology. In addition to JSPS there was a US/Japan project in tuberculosis, cancer and some other project run by the ministry of health and welfare of Japan.

Mr. McManus: Right.

Dr. Nakajima: And we—first we wanted to add ophthalmology to this project so that between the United States and Japan in a ministry of health and welfare but they said that there is 15 projects and unless some give up we can add no more. So that was unsuccessful. And I remember Carl went to the US Embassy in Japan and they found out—Minister of Education and JSPS has a big budget of exchange with many other countries and sent their exchange with such people and they were able to arrange this. And it was a very fruitful project, I think, and not only ophthalmology but for all scientists in vision and so on.

Dr. Kupfer: Now the Japanese ophthalmologists who came to the Intramural Program of the National Eye Institute was quite separate from the JSPS.

Dr. Nakajima: Yes, it was quite separate.

Dr. Kupfer: How was that organized initially Akira?

Dr. Nakajima: Uh, various. Some were supported by the department and some by the grant of your funds so it varies.

Dr. Kupfer: It varied. Right. How were they chosen?

Dr. Nakajima: Well, it also very varied.

Dr. Kupfer: Um-hum.

Dr. Nakajima: We submit a person who wanted to do research first and then a reliable person and clinically competent and in addition they went there by the agreement between NEI and ourselves.

Dr. Kupfer: Right.

Dr. Nakajima: I was responsible for some from our department but many others are from other departments.

Dr. Kupfer: I see. It was very decentralized.

Dr. Nakajima: Decentralized. Well, it should be.

Dr. Kupfer: Yes, that's good.

Mr. McManus: In the JSPS agreement, do you remember how the funding went?

Dr. Nakajima: In JSPS it was a part of the organization of ministry of education and they have a fairly large budget, annual budget for scientific exchange, not only in medicine but also in basic science and so on. And uh, a part of their project, this exchange program started and other specialty—many of other specialties was envious for us on agreement between NEI and JSPS.

Mr. McManus: They paid—JSPS paid.

Dr. Nakajima: Yes and also they invite by their budget.

Mr. McManus: And so we must have paid for the US guys, the NEI.

Dr. Kupfer: No, he said they also paid—you said the JSPS would also pay for an American like John Dowling going to.

Dr. Nakajima: That's right, that's right. Yes, yes.

Dr. Kupfer: And JSPS paid for that.

Dr. Nakajima: Completely mutual.

Dr. Kupfer: But when we sent John Dowling, did we pay his travel? We did or did JSPS pay it?

Dr. Nakajima: In the case of John Dowling you paid the travel and we paid the stay.

Dr. Kupfer: The stay, right. That sounds...

Dr. Nakajima: The vice-versa for Japanese.

Dr. Kupfer: Right.

Mr. McManus: So we paid transportation. Maybe that's when we started courtesy associates.

Dr. Kupfer: Maybe, right.

Mr. McManus: That's what we did?

Dr. Kupfer: Yeah, right.

Mr. McManus: We're trying to figure this out. We did all kinds of things but I just remembered that we had an outside contractor called Courtesy Associates to handle these kinds of things and other people at NIH had the same arrangement. That's how we handled providing logistical support to our international activities.

Dr. Nakajima: Well, I still remember your family and Jin and Toichi came to my house right in the middle of a very hot summer and I saw the Sukiyaki the burning and cooling the whole room by air conditioning but still I thought you felt very hot. (Chuckles) And uh, do you remember I serve a French wine sauterne which my father brought back in 1930, the only one left.

Dr. Kupfer: Oh my goodness. (Laughter)

Dr. Nakajima: It was a treasure, my treasure.

Dr. Kupfer: Yes, I do remember that.

Dr. Nakajima: And you are an expert in wine.

Dr. Kupfer: Well.

Mr. McManus: Now you did mention there were some vision scientists, from this agreement who visited a special basic science center in Japan and I know there was a center for basic science that had some good basic scientists, was it Yoshizawa?

Dr. Nakajima: Institute for Basic Biology in Okazaki, Aichi Prefecture.

Mr. McManus: Right. That's where Dowling went.

Dr. Kupfer: That's right.

Dr. Nakajima: And they specialized in biology and also in chemistry. The institute is still there working very academically and they collect top scientists throughout Japan and I think John Dowling went there.

Dr. Kupfer: Yes he did.

Mr. McManus: He did, he did.

Dr. Nakajima: I think it was in this place.

Dr. Kupfer: He had a wonderful time, partly because his wife spoke Japanese.

Mr. McManus: Right.

Dr. Nakajima: Oh...

Dr. Kupfer: Did you know that?

Dr. Nakajima: I did not know that.

Dr. Kupfer: Yes.

Dr. Nakajima: She learned Japanese?

Dr. Kupfer: Well she was a Japanese.

Dr. Nakajima: Oh she was a Japanese?

Dr. Kupfer: Yes.

Dr. Nakajima: Oh, I see. Oh, I didn't know that.

Mr. McManus: Yes.

Dr. Nakajima: So I'm sure they enjoyed very much there.

Dr. Kupfer: Yes. Um, it is very, very difficult Akira to choose an individual to receive research training and then to expect that they will stay in research. And you had already mentioned about half the people who came went into private practice when they returned, and maybe a third actually were in research. I would say from in my experience that that was very successful.

Dr. Nakajima: Ahhh, the first Japanese ophthalmologist who studied in the NEI from the beginning felt responsibility and he looks after the alumnae society. And he looked at 56 or 57 members who were at NEI during the last 20 years. They made a inquiry study. I brought the results here. Well, in Japan clinical people don't need to do research to become a good doctor. But in Japan we have a system of doctorate who produce good research article and after submitting and reviewed by the committee they get a doctor of medical science. And the only additional qualifications to become a professor or some chief of an eye department of a big hospital, to have a doctorate was kind of a must, so many able doctors have that experience in doing research in addition to clinic. Usually after three or four years of clinical training they choose his likings in pathology, biochemistry, physiology have training in basic science and they got some topic and do some research. Of course there are researches done in basic, in a kind of a public health. After the beginning of post-graduate qualification in ophthalmic specialists, many people prefer to having this specialist qualification, but still the tradition of doing research as part of postgraduate education continues. And I think it is a very important trend and we should keep it. Of course there are people who don't care about any type of research and leave the department to go to private practice. But out of those people we find a person who is interested in research.

Dr. Kupfer: Did many of these people who were chosen already were doing research so you thought given the chance...

Dr. Nakajima: In other words it should be very difficult to go to foreign countries and begin research from the beginning.

Dr. Kupfer: That's right.

Dr. Nakajima: That's nearly impossible.

Dr. Kupfer: You're absolutely right.

Dr. Nakajima: They have a handicap of a language in addition to science so we assure especially in the case of JSPS we have a committee to select and JSPS recruit persons for the committee to decide. The committee was not big at the beginning, for five or six years, I was from the clinics and Prof. Reiji Hatori who was a very famous muscle physiologist, won some prize in Japan, was a partner in basic science. We decided to choose ophthalmologists, physiologist and engineer, one each year.

Dr. Kupfer: This was for the JSPS program?

Dr. Nakajima: JSPS, yes. And for other people it is according to their request.

Dr. Kupfer: Right.

Mr. McManus: The vision research—eye research in the US probably has increased by 10-15 fold—times, since the beginning of the NEI.

Dr. Nakajima: Yes, ARVO has grown tremendously—it's uh now I think 10,000?

Mr. McManus: (also says 10,000 at the same time), yes, right.

Dr. Nakajima: Then they handle everything.

Mr. McManus: Right but a lot of those are in—or half of those are international members.

Dr. Nakajima: Yeah.

Mr. McManus: But the number of researchers—has grown at least 10 or 15 fold in the US. I was wondering has vision research has grown—eye research, in Japan since 1970?

Dr. Kupfer: Since 1970 the budget of the National Eye Institute was \$23 million dollars. In 2005 it's...

Mr. McManus: \$700 Million and I cut that in half and just called it a 15 fold increase.

Dr. Nakajima: Ahhhh.

Dr. Kupfer: Right, so it's the increase in money for research. Has there been an increase for money for research in Japan also?

Dr. Nakajima: Yes, I think so. I don't know off hand the exact figure but of course I can approach...

Dr. Kupfer: No that's okay we were just interested in whether it grew.

Dr. Nakajima: But roughly speaking we have our research money from our ministry of education which is more of a basic research and also a ministry of health and welfare which—deals with a more practical aspects.

Mr. McManus: Industry supports a lot of research I think.

Dr. Nakajima: Industry—not much.

Mr. McManus: Not much.

Dr. Nakajima: Not much. Because of our rule of medical schools, especially students, you know we have big trouble with our students in 1960-70 and they have that kind of allergy with industry.

Mr. McManus: I see.

Dr. Nakajima: Yeah. Always they insisted to stay away from industry because of they were biased they thought. And to a certain extent that's true but for medical science we need cooperation or the industry because we use the industry products for diagnosis and treatment. For example drug—without drug what shall I do? So to find out the good relationship with industry is very important.

Mr. McManus: Who did the—what Japanese clinicians did the studies on aldose reductase in Japan?

Dr. Nakajima: Uh, Akagi.

Mr. McManus: Akagi, yes exactly.

Dr. Nakajima: I think that he worked with Jin and he is a professor at Fukui Medical School at the moment and also Dr. Nishimura.

Mr. McManus: Yeah, yeah sure, sure I know her from NEI.

Dr. Nakajima: She is the professor of pharmacology at Kyoto Municipal Medical School.

Mr. McManus: Now is that drug still...

Dr. Nakajima: Well, Ono, Ono Pharmaceutical Company sells the aldose reductase inhibitor Kinedak. It is the only company in the world who sells it. I think the main indication is the trouble in peripheral nerves in diabetes mellitus.

Mr. McManus: What are the sales? Do you know? I saw that a few years ago but I can't remember...

Dr. Nakajima: Well Ono is doing very well and Ono is enjoying sales over their quota against aldose reductase. And quite recently I think I read some article on the aldose reductase revival. Well, its curious trend of science that goes around.

Mr. McManus: Right. Just for the record the aldose reductase inhibitors were developed by Dr. Kinoshita and others at the NEI and they ran into trouble getting an appropriate compound in the US but they did get one in Japan and it went on the market and I think the sales are in the \$10s of millions or a \$100 million. It's quite substantial for the Ono Company. And Dr's Akagi and Nishimura were two of the people who came from Japan to the NEI intramural program and worked on this technology which was then transferred back to Japan.

Dr. Nakajima: Dr. Nishimura still continues to work on cataract and diabetes and I think she did research when she was at the National Research Institute of Pechiatric Research in Tokyo. I'm told she isolated the human aldose reductase and then decided the gene for it.

Mr. McManus: Yes that's right she did.

Dr. Kupfer: Was there any thought of doing a clinical trial?

Dr. Nakajima: I think so, uh there was I think a trial headed by former Professor of Internal Medicine at Nagoya University. I can't recall the name. Maybe Professor H. Hotta.

Mr. McManus: Yeah, I actually remember that also.

Dr. Nakajima: Not for the retinopathy, but for neuropathy.

Dr. Kupfer: Neuropathy.

Dr. Nakajima: Yeah.

Dr. Kupfer: Well, if they could prove it worked for neuropathy that would be very good because then it would be worth looking at retinopathy.

Dr. Nakajima: Yes.

Mr. McManus: Okay, I think that's it for the exchanges unless you had something else Carl? Did you?

Dr. Kupfer: No, that clarifies it very well and obviously you've always said how great an effect training of these ophthalmologists was when they returned to Japan.

Dr. Nakajima: Yes, yes. Actually thoughts are changing so rapidly but still many, many problems waiting for solution and that is just one of the things.

Mr. McManus: Right.

Dr. Nakajima: There are many possible targets since aldose reductase but it remains to be a problem.

Mr. McManus: Yeah, Pfizer has a new drug that they're working on with Rick Ferris. I should have asked this earlier but to sort of set the record—what roles have you played in international ophthalmology? You're on the International Council...

Dr. Kupfer: He was the President of the International Council of Ophthalmology.

Dr. Nakajima: Yes, and now I am the Honorary Life President of the International Council of Ophthalmology, it's a great honor.

Mr. McManus: Yes.

Dr. Nakajima: I served on the Council when we decided to invite the International Congress in 1978 in Kyoto. It was decided in 1974 in Paris and I was elected to the President of the 23<sup>rd</sup> International Congress in 1973 at the Council Meeting of Japanese Ophthalmological Society. I went to Britain and I was a kind of a pioneer in Japan in studying abroad. My

British Council Scholar was 1956-57 and I went around Europe and saw many famous professors including on my way back Prof. Jules Francois. He was the President of International Council of Ophthalmology in 1974-1982. At that early time the United States was beginning to go up. And when I was in London Sir Duke Elder invited me to go into his institute but originally I went to Royal Eye Hospital to do some kind of research about blindness prevention so I declined to accept his kind offer. I didn't want to embarrass my boss, Prof. A. Sorsby. I did some research work on refraction and myopia and devised some new method of measuring all of the optical element of the eye before going to UK. And also I did some research on trachoma when I worked in rural northern Japan. In London, Prof. Sorsby asked me to do a retinitis pigmentosa experiment. So while in London I did some experiment on it, now I dropped it. And two years later Dr. Mishima went to London—went to the Institute to work with David Maurice and so that was the beginning of his career in ophthalmic research and then he went to Boston and worked with C. Dohlman.

Dr. Kupfer: He almost decided to stay in the United States—Mishima.

Dr. Nakajima: Yes, yes.

Dr. Kupfer: Because he also went to Columbia when Dr. Dave Maurice went to Columbia.

Dr. Nakajima: That's right.

Dr. Kupfer: He was all set.

Dr. Nakajima: He was an assistant professor there.

Dr. Kupfer: That's right.

Dr. Nakajima: But the University of Tokyo...

Dr. Kupfer: That's right, he couldn't resist the University of Tokyo—that was it.

Dr. Nakajima: He was in the United States for four or five years...

Dr. Kupfer: Oh easily.

Dr. Nakajima: With an interrupted period of 8 years.

Dr. Kupfer: Right, right.

Mr. McManus: Now you were also involved—I think Juntendo University, Department of Ophthalmology was a collaborating center of the World Health Organization in prevention of blindness.

Dr. Nakajima: Because of my interest in prevention of blindness and on return to Japan from London there was a creation of Asia Pacific Academy of Ophthalmology and as I was newly returned from foreign countries my senior asked me to look international affairs. So I began my international career by looking after Asia Pacific Academy of Ophthalmology, in cooperation with W. John Holmes of Hawaii.

Mr. McManus: Right—right here?

Dr. Nakajima: He was interested also prevention of blindness. In the Philippines there was a society of eye, ear, throat and nose at that time. And Dr. Geminiano T. de Ocampo in organizing the Asian Pacific Academy they fought a big fight in Philippines to make the separate ophthalmology society, separate from existing Society of ENT. I think the United States tradition was like that.

Mr. McManus: Yes.

Dr. Nakajima: I guess in the U.S. separation of eye from ENT took place sometime later than Philippines.

Mr. McManus: Probably closer to the late '70s. Because Dave Noonan and Bruce Spivey. I think Dave Noonan was the only guy from the original academy staff who ended up in the San Francisco group because they were originally headquartered in Minnesota and when they split they went out to San Francisco. This was after the NEI began and after I joined the NEI. So, this was towards the late 70s.

Dr. Nakajima: Late '70s? So late? I thought this was during the '60s.

Mr. McManus: No.

Dr. Kupfer: All through the '60s and the early '70s it was the Academy of Ophthalmology and Otolaryngology.

Dr. Nakajima: Oh, I see.

Mr. McManus: I came to the NEI in '73 and I remember them coming down—it could have been '74 or '75 to visit the NEI.

Dr. Nakajima: So the Philippines preceded that and Japan was from the beginning only ophthalmology. Ophthalmology was independent from other ENT from the beginning. I think it's because of the history. Before Meiji era, we had the visit of the Dutch ophthalmologists and they found out trachoma so prevalent, and ophthalmology was so important and ophthalmology grew as an independent. Important specialty from the beginning of introduction of western medicine.

Dr. Kupfer: When roughly was that in the Meiji era?

Dr. Nakajima: Oh, it was in 1840, 50.[NB: 1868-1912]

Mr. McManus: What era was that?

Dr. Kupfer: Meiji.

Dr. Nakajima: Meiji begin an in 1867. So there was a beginning of a western medicine a few decades before the beginning of Meiji's era.

Dr. Kupfer: And it was the Dutch who came.

Dr. Nakajima: The Dutch.

Dr. Kupfer: That's interesting.

Dr. Nakajima: Dutch ophthalmologists such as Pompe Needelfort, the pupil of Prof. Donders came.

Mr. McManus: Now, you got into it internationally and Juntendo became a collaborating center with the WHO?

Dr. Nakajima: Yes because of the International Prevention of Blindness activity activated by Maumenee. I still remember in 1967 or 8 I had a phone call from Ed Maumenee that I must go to the ministry of health and welfare to vote at the general assembly of WHO to reach out information of blindness was a very important issue. So I went to minister of health to vote for this in the whole beginning, 1967-68.

Dr. Kupfer: I think it was '67.

Dr. Nakajima: '67 yes, oh you know that thing?

Dr. Kupfer: Because that's when the WHO made a commitment to enter into the prevention of blindness.

Dr. Nakajima: That's right. Yeah that was the first one, the beginning. And then in '72 there was a WHO meeting at which I attended, chaired by the Italian...

Mr. McManus: Tarizzo?

Dr. Nakajima: No, not Tarizzo. It was that professor in Rome, Prof. G. B. Bietti, a very famous professor.

Dr. Kupfer: I know who you mean, um, when he passed away they had to create three new professors... (laughter).

Mr. McManus: A very important guy.

Dr. Nakajima: He was the chairman. And the future policy was set by this committee. He was a very good friend of François a very famous one, teacher of Dr. Tarizzo Mano. Anyhow, and at the meeting we set the policy of prevention of blindness in the world and it was published in the WHO Technical report serious No. 69. Around that time or before that time in 1966 there was society on the prevention of blindness existed for some time since 1920 originated by a French professor, Jon Pierre Bailliart. And they discussed only the blindness in Europe or developed countries.

Dr. Nakajima: Association of the Prevention of Blindness usually meets every four years, at the time of the International Congress of Ophthalmology, and the Congress in Munich, in 1966 Ed Maumenee brought up the question that this society is talking about the developed country but there are huge problems of blindness in developing countries. And there was a kind of a quarrel. And afterwards in 1974 in Paris there was a preparation to reorganize the International Prevention of Blindness Society to include worldwide problems and not only by ophthalmologists because ophthalmologists does medical practice but nothing to

do with collecting funds and management, so we have to have people who looks after that side. So the International Society was reorganized to the International Agency for the Prevention of Blindness.

Dr. Kupfer: Agency?

Dr. Nakajima: Yeah.

Mr. McManus: The International Agency for the Prevention of Blindness (IAPB).

Dr. Nakajima: International Agency for the Prevention of Blindness.

Dr. Kupfer: Sir John Wilson was at the?

Dr. Nakajima: And Sir John Wilson took the initiative. In the 1956 or '57 British Council (I went there by British Council Scholarship). British Council arranged my visit to see John Wilson to his place, and we discussed at length of all the blind people, whatever it is he wished to have a site whenever possible and the prevention was the best way and we agreed to this. And we continued our friendship and exchanged since then.

Dr. Nakajima: It was a were wide opportunity. In the meantime as I told you I was elected to become the President of the 23<sup>rd</sup> International Congress in 1978 in Kyoto in 1978 was successful. Prof. Jules Francois was the President of the Council, and Ed Maumenee was Vice President. And I still remember I tried to invite China to attend the International Conference.

Mr. McManus: And this was in '78?

Dr. Nakajima: Yeah, '78. And I went to China in 1975, to China and saw Prof. Chang Hsiao Low in Beijing at Tong Ren Hospital and discussed this. And he promised me to mention it with his phases of government. Taiwan was a member from the beginning. And we had no cause to kick out a member unless they failed to pay their dues for three years. And Taiwan rather regularly paid the dues so we had no means of kicking him out. And after all China couldn't come and Taiwan came because we couldn't kick out Taiwan. But Viet Nam came. In 1975 Viet Nam was in fight and in '76 I went to the Viet Nam Embassy asking them to send delegate. At first, they were dubious. And I went to the embassy about 10 times on the matter. At last they sent two delegates to the Congress, and since then we continue our friendship.

Mr. McManus: The uh, I think Carl—when were you President of the IAPB?

Dr. Kupfer: Uh, '82 to 90.

Mr. McManus: '82 to '90. And the NEI began to play more of a role on the world scene with the WHO also and as a collaborating center means and we ran the IAPB for eight years and did lots of things internationally from the NEI. You were certainly aware of the role of the NEI. What did you think of that? I mean, first you were talking about you going over to Britain for training, and then the role of the Dutch and the Germans and the French and the Italians and then the US began to play an emerging role through the National Eye Institute, what were your views of that?

Dr. Nakajima: It's a trend. Europeans first go out and I was looking at the states gains and ability and interest the United States has a part to perform worldwide activity. And to do that Ed Maumenee worked very hard for that. He was from the advisory committee of the WHO from the beginning, I remember.

Mr. McManus: Were you on that committee?

Dr. Nakajima: Yeah I was. I think I attended all the meetings related to the prevention of blindness from '72 on while I was in professorship at Juntendo University.

Mr. McManus: So, that would have been '72 to...

Dr. Nakajima: To maybe '90.

Mr. McManus: Wow.

Dr. Nakajima: And there was a two yearly meeting by WHO and of all the only meeting I couldn't go was a meeting in Ouagadougou, Burkina Faso, Africa.

Mr. McManus: I was there. You were smart not to go there.

Dr. Nakajima: (laughter). Why?

Mr. McManus: Didn't you get that parasite there?

Dr. Kupfer: Oh, no, no.

Mr. McManus: I thought you got a parasite there.

Dr. Kupfer: In India.

Dr. Nakajima: (laughter) What type of parasite?

Dr. Kupfer: Oh, I don't know but as soon as I came back the Allergy and Infectious Diseases Institute got rid of everything.

Dr. Nakajima: You are fortunate.

Dr. Kupfer: Pardon?

Dr. Nakajima: You are fortunate.

Dr. Kupfer: Yes.

Mr. McManus: Because you could go over to the Allergy, over to Tony Fauci's group—I know it wasn't Tony Fauci but...

Dr. Nakajima: You went over there too?

Mr. McManus: No, no.

Dr. Kupfer: They treated me. They had a lot of experience in treating those types of diseases.

Dr. Nakajima: Actually, why I couldn't go because in my university there is a rule either the professor or assistant professor should be on duty. In 1980, the assistant professor, Dr. Atruski Kanai was on leave to United States to set up a microscope with professor Herb Kaufman.

Mr. McManus: Dr. Herb Kaufman.

Dr. Nakajima: He was with University of Florida before and he moved to New Orleans and he asked my assistant professor to set up electron microscope in the laboratory and he was there for one year. And that was in 1980 when we had the meeting in Ouagadougou.

Mr. McManus: You worked also with the International Lions and we're on the—and Carl was on the group, the SightFirst Advisory Committee. How long have you been with the Lions program?

Dr. Nakajima: Well, I think it's a great, contribution of Carl to ask the Lions to do such a big undertaking in the prevention of blindness. Actually, there are several opportunities by different organizations but Lion Club is different from all the other different society in the sense that they have their membership in the local community and they propose that the problem of the blindness problem from their local community and they want to prove that they do it by themselves or, and without technicians or experts. Once I told that at one the meetings of Advisory Committee of SightFirst. I was involved from the beginning Carl was very kindly wanted me to join. Since then probably I am one of the most members to obtain there are two preparatory discussion meetings the one meeting in Singapore and another in Chicago. And since then once or twice every year there is a meeting—of advisory committee. And probably I attend maybe more than 90% of all of them.

Mr. McManus: You're doing the best you can do by helping them.

Dr. Nakajima: I attend to my duty.

Mr. McManus: You mentioned kindly Carl's role in the NEI's role in getting the Lions and urging them to get into this area. And Carl this is one of my last questions, since this is a history—we are doing a history of the NEI. How do you view the National Eye Institute's role in international ophthalmology? You've already mentioned some of this, about working with the WHO and working with kind of taking over maybe where the European's and others worked before but do you see NEI as an important force or...

Dr. Nakajima: Well, how to express it. Well, it's the center, the only center of ophthalmology to do very deep and extensive work in the prevention of blindness. I understand you are in charge of distributing funds to the researchers in the United States and some abroad so as the United States is investing quite a lot of money. Background research in basic scientists and the role while playing the National Eye Institute is very important and no other institute—for example, in Britain there is an Institute of Ophthalmology. The history is very old, but comparable to the National Eye Institute in size and activity they are active but their activity is limited.

- Mr. McManus: Yeah, but one of the things and I think you already expressed it was the fact that we had a certain success in raising funds and being able to get going at an accelerated level, and then do collaborations with other places, which helped raise ophthalmology up in the US and around the world as a health provider. As everybody said, well let's max the US, this is what they're doing there and it's just the same way as when Germany and Britain started at the beginning. So, it was very interesting when I visited the Okasazki (sp) Institute of Basic Sciences, for them to see that there was an NEI and all this activity going on it help the vision scientists there I think. And then, what else?
- Dr. Nakajima: In Japan currently our friends are trying to set up a somewhat similar institute but although we have a big institute research on cancer, cardio vascular, pediatrics and neural, psychiatric, we tried to set up ophthalmology but still it's in the embryonic stage and government is trying to restrict the function to clinical problems.
- Dr. Kupfer: I think that's a wonderful survey Akira and I think that one of the things that will come out of this interview is when people think of the prevention of blindness they automatically think of François and they think of Maumenee and even if you go back further, John McClain. But you don't see Akira Nakajima's name and we'll take care of that. (laughter)
- Mr. McManus: Yes, as a matter of fact when you were talking, Carl and I have tried to sort some of this ourselves and this will be helpful. And I was thinking wouldn't it have been nice to do this with John Wilson and Ed Maumenee and some of the others back—but at least now and at least we're taking advantage of this opportunity, and I'm very happy that you agreed to do this, and came all the way over here for this interview.
- Dr. Nakajima: I think we have to do more promotion to let ophthalmology in the world know the problem.
- Mr. McManus: Yes, and that's—that's something that's kind of hidden in this, this whole business that one of the big roles—one of the big jobs we had in getting the eye institute going was to get people concerned about eye diseases and problems of the eye and we became empowered but there were a lot of other people doing the same thing around the world, you were doing it in Japan, other people were doing it elsewhere. There was Prevention of Blindness, just to get people interested in eyes and in eye disease and we're all part of that together, and if we can all make that happen around the world, then our job—whatever country we're in becomes easier.
- Dr. Nakajima: Cataracts is the top cause so we could invest money and effort, blindness in the world would become much, much less by increasing cataract surgery. But for other trouble the science doesn't have progress so much that has elderly people increases all of trouble, will increase for some time. So I think that we ophthalmologists can be proud of the progress especially in the prevention of blindness.
- Dr. Kupfer: And now we're beginning on refractive error.
- Dr. Nakajima: Yes, but it is by spectacles, but of course strong myopia poses difficult problems for us. And I think that our next target is glaucoma. Glaucoma is still an enigma.
- Mr. McManus: I'm going to close this now. Thank you very much Akira.