

## **Toshiko Yuasa Laboratory Ceremony**

### **Memories of Toshiko Yuasa**

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**Tsukuba International Congress Center, EPOCHAL**

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Ladies and gentlemen, dear organizers, distinguished guests from universities and abroad, on behalf of relatives, I would like to express my heart-felt appreciation and thanks, for providing us with such an occasion to have a memory ceremony for the late Dr. Toshiko Yuasa.

Toshiko Yuasa is my aunt, one of my mother's younger sisters. Mr. Ichii, present here, is also in the same position. He would be more suitable to present my aunt's daily life, since he took a good care of her, especially after she got ill. However, as my vocational position is closer to hers, I dared to make presentation of my memory of her.

This is only my personal memory. So please forgive me if there are some misunderstandings in small details.

As I was brought up in a remote area, Shimane Prefecture, I had only limited occasions to meet her directly in my boyhood. I was born in Himeji City near Osaka, but it was toward the end of World War II and air raids by American B29 bombers were becoming more and more fierce, since there were munitions factories there. The family, except my father, who had to stay there owing to his work at an academic institution, had to flee from there to my father's parental home at Hamada City in Shimane Prefecture. The City was so remote that in those days, it would have taken more than 24 hours by train to go there from Tokyo. I vaguely remember my mother saying that my aunt had once visited Hamada City shortly after the end of World War II, but I don't remember seeing her there. My aunt, however, continued sending me novel post stamps, since I was known to her as collecting stamps.

It was when I entered the University of Tokyo and decided to major in physics that she was so glad and sent me several old books in physics. Included were, Shin-ichiro Tomonaga's "Quantum Mechanics", Gentaro

Araki's "Theory of Molecules", all of which were very old and could have been given to her by the authors. Dr. Gentaro Araki was a classmate of my father's at Tokyo University of Literature and Science and could have been a close friend of my aunt's.

My father was then an assistant at Physics Department of Tokyo University of Literature and Science. My aunt was a student at Tokyo Women's Higher Normal School and was learning physics experiments from my father at Tokyo University of Literature and Science. My aunt introduced her elder sister, my mother, to my father and they got married.

The first occasion that my aunt met my wife and me personally was in New York when I was studying at Columbia University for Ph. D. At that time she was very healthy and energetic. We went to a Japanese sake bar and drank a lot of Sake. From her career, it is easily understandable that she was very sympathetic to those who were in trouble and had to work very hard. She was impressed with an audio amplifier which I had built by myself in my apartment in New York. She said that Dr. Kohri, a Japanese physicist working in Paris in those days, had made one for her in Paris.

In those days, I had to work very hard at Brookhaven, because Nevis Laboratory could not succeed in remodeling its synchro-cyclotron on which my thesis depended. I had to work nights in a Columbia-Yale experiment, and days for my thesis. One day I met Dr. G.E. Brown at Brookhaven and talked him my situation. He spoke that to my aunt at a conference. My aunt worried and wrote me a long letter advising me to take a good health care.

The next time we met was in Japan. She had been diagnosed with cancer. She didn't drink much this time. At that time, the Director in General of KEK was Dr. Suwa, the first director of the Laboratory. My aunt admired him for his strong will not to drink until the 12 GeV proton synchrotron had its beam successfully. She said, life without alcohol would make a big difference in terms of available time in one's lifetime. Probably she was saying this to herself to keep away from alcohol. She was critically ill. And yet there were a mountain of things for her to do. She must have been thinking how precious a second was. Therefore, it was out of the question for her to lose time by drinking.

My thesis advisor at Columbia University was Madame C. S. Wu. Some people called her a dragon lady or slave driver. Really she was such a person. However I could understand her very well. I never heard complaint

from my aunt about being a woman scientist. I have to admit France was much better in working environment for a minority.

In early America, it was not so. Dr. Wu did a very good work finding parity non-conservation for the first time in beta decay. Some people thought that the work deserved a Nobel Prize, and also that one of the reasons that she didn't get it was due to the fact that she was a double minority. That is, she was not a genuine American, and she was a woman.

Evenings, when other students were absent, Dr. Wu would come into my office and talk about the life in America. She always stressed that one had to do a better job than an American in order to survive in US. If one did the same job as an American, she used to say, one would not be valued. She would say, "You always have to do a better job than the Americans. Otherwise people will not recognize you." Then she used to talk about pains she had to take when she was young in San Francisco. She was almost killed with the poison of beryllium when her boss ordered to process it.

What was embarrassing for me was, when she got excited, she started to talk in Chinese. After talking for a few minutes, she suddenly realized that I could not understand Chinese. This determination of hers to surpass Americans made her a super-worker. She also required others to work as hard, acquiring the nickname dragon lady or slave driver. Though my aunt did not complain, I can easily imagine that there must have been big hardships for her to continue researches as a minority.

As Dr. Wu had rivalry with the Americans, so did my aunt with English physicists. I do not know whether she had a special rival in UK, or she said that in general, but she always said we had to be careful when we argue with an English physicist, since they do a thorough job.

My specialty in physics is a little different from my aunt's, and I don't know much about her works. There are quite a many documents introducing her life and works; among others the one by Dr. Miwae Yamazaki is superb in that it introduces my aunt's personal experiences and feelings in beautiful sentences. By reading it, I was quite impressed. I also heard that there are not a few young women physicists who became physicists inspired by reading the book.

My aunt put the greatest stress on the fundamentals. Someone told me an interesting episode of hers. When my aunt was taking a driver's license, she is said to have practiced the sewing machine, in order to train

the coordination between legs and hands, which is required to drive a manual-shift car.

According to the book by Dr. Yamazaki, the Curie family also regarded the fundamentals and sincerity as the most important. Therefore, my aunt's aesthetic sense resonated with that of her master, Joliot-Curie, and that was the principal driving force for her to continue researches, I think.

I heard my aunt, after suffering from cancer, did everything to fight against illness. I heard that she even drank blood of the animal. My mother tried to persuade her to stay in Japan with her in Shimane. Actually my aunt went to Hamada City in Shimane Prefecture and stayed there for a few days with my parents in a resort hotel named Senjoh-en owned by the local government. The hotel is on a beach demanding Japan Sea. You can enjoy a really beautiful scenery there. They must have spent a good time remembering their youthful days a half century ago.

But my aunt finally declined the offer saying that she had some work to do. Probably she had in mind her responsibility to carry out the collaboration between France and Japan. Mr. Ichii, present here, did his best for her. You will be able to ask him about my aunt's situation confronting the death at the banquet. Many co-worker physicists also tried to help her. Among others, Dr. Mitsuo Sakai devotedly looked after her in Paris.

My aunt must have been greatly relieved of her vocational responsibility by these physicists.

In those days when my aunt was critically ill, I was engaged in an experiment with international collaboration at KEK. Since I was the only person to take care of the data acquisition program, I couldn't leave KEK. If I had done so, some physicists from abroad would have been at a loss without being able to take data. My former thesis advisor at the University of Tokyo, Dr. Haruhiko Morinaga, urgently invited me to come to Paris. But I could not. It was a shame.

Now the situation for working women is improving, I hope. Actually, more and more great works have been accomplished by women in Japan as well as overseas. My aunt must have been very sorry for not being able to accomplish her task to the end due to illness. But now she is watching the great activities by women with hope and expectation, I think.

Thank you very much for your attention.