

Studies in Japan on Evolution of Stars and Galaxies.

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I heartily congratulate the seventieth anniversary of Professor Mario Schonberg.

I belong to the same generation with Professor Schonberg. Not only this, the relation of myself with him is particularly deep. Besides both being a physicist, I share with him a common ideology and also a strong feeling of comradeship. He is really one of my best "amigos".

On physics, we two have been engaged on the same problem, though independently. I worked over many years on the theory of meson fields, and Professor Schonberg, too, made an interesting theory on the mesons. In fact, he is famous for a number of his important contributions on the theory of fields in general. After the World War II, I studied theoretical problems of the astrophysics and of the cosmology. In this field, too, Professor Schonberg is very famous for his pioneer works.

Our personal contact started in 1958, when I was invited as the scientific director of the Instituto de Fisica Teorica in Sao Paulo. Throughout my stay, Professor Schonberg was the strongest support to me. In fact, he gave me a help in many occasions. I remember the case when Japanese colony in Sao Paulo invited Professor and Mrs Yukawa. Professor Schonberg gave a kind support to Yukawa's visit and made it very fruitful.

In 1961, Professor Schonberg invited me to Universidade de Sao Paulo as a visiting professor. During this my second stay, I really enjoyed friendly and humanly discussions with him and



appreciated the sympathetic and academic atmosphere of his research group. This made me possible to yield a number of interesting contributions to the theoretical physics. Besides, I was able to prepare the Japan-Brasil collaboration experiment on cosmic-rays between the group of Professor Lattes in Brasil and of Fujimoto and others in Japan.

For the Symposium in Commemoration of Professor Schonberg, I prepared the talk reviewing progress of Japanese studies on evolution of stars and galaxies, which I conducted over many years. The main part of my report is from my article "Stellar Evolution and Galactic Evolution", first written in Japanese in 1964 (Kagaku (Science), Oct. 1964), and then translated into English in 1971 (Suppl. Prog. Theor. Phys. No. 50, 1971).

The following is a reproduction of the English version.