A Short Biographical Note

Hideki Yukawa

May 25, 1950

Hideki Yukawa was born in Tokyo, Japan on January 23, 1907, as the third son of Takuji Ogawa, who became later professor of geology at Kyoto University. He was brought up in the old city of Kyoto, a centre of culture and eduation in Japan, and graduated from Kyoto University in 1929. Since then he has been engaged in the investigation in theoretical physics, especially in the theory of atomic nuclei and elementary particles. In 1935, when he was at Osaka University, he published a paper entitled "On the Interaction of Elementary Particles. I." (Proc. Phys.-Math. Soc. Japan 17, 48), in which he proposed a new field theory of nuclear forces and predicted the existence of the meson. Encouraged by the discovery of one type of mesons in cosmic rays by American physicists in 1937, he devoted himself to the development of the meson theory based on his original idea. Since 1947, he has been working mainly on the general theory of elementary particles in connection with the concept of the "non-local" field.

Between 1932 and 1939, he was lecturer at Kyoto University, lecturer and assistant professor at Osaka University. In 1938 he took degree of Dr. Sc. In 1939 he went on a trip to Europe, as he was invited from Solvay Institute in Brussels to attend International Conference on Elementary Particles. The Conference was postponed, however, due to the occurrence of World War II, so that he came back to Japan through United States, where he

stayed for a month. From 1939 on, he has been and is now still professor of theoretical at Kyoto University. In 1948, he was invited to the Institute for Advanced Study in Princeton, U. S. A., as visiting professor. Since July 1949, he has been and is visiting professor at Columbia University in New York City.

He is a member of Japan Academy, Physical Society of Japan and Science Council of Japan. He is also a foreign associate of National Academy of Sciences, U. S. A., and a fellow of American Physical Society.

He was awarded Imperial Prize of Japan Academy in 1940, Decoration of Cultural Merit in 1943 and Nobel Prize for Physics in 1949.

He published a great number of scientific papers and also published many books including "Introduction to Quantum Mechanics" (1946) and "Introduction to the Theory of Elementary Particles" (1948), both in Japanese. Since 1946 he has been editing a new journal "Progress of Theoretical Physics" (mainly in English).

He was married in 1932 to Sumiko Yukawa, daughter of Gen-yo Yukawa, who was medical doctor in Osaka. He has two sons Harumi and Takaaki.

His present address is 501 West 121st St., New York 27, N. Y., U. S. A. His residence in Japan is 18 Kodono-cho, Shimogamo, Sakyo-ku, Kyoto, Japan.

Short Biographical Note

Hideki Yukawa

January 6, 1950

Hideki Yukawa was born in Tokyo, Japan on January 23, 1907, as the third son of Takuji Ogawa, who became later professor of geology at Kyoto University. He was brought up in Kyoto and graduated from Kyoto University in 1929. Since then he has been engaged in the investigation in theoretical physics, especially in the theory of elementary particles. In 1935, when he was at Osaka University, he published a paper entitled "On the Interaction of Elementary Particles, I." (Proc. Phys.-Math. Soc. Japan 17, 48), in which he proposed a new field theory of nuclear forces and predicted the existence of the meson. Encouraged by the discovery of one type of mesons in cosmic rays by American physicists in 1937, he devoted himself to the development of the meson theory based on his original idea. Since 1947, he has been working mainly on the general theory of elementary particles in connection with the concept of the "non-local" field.

Between 1932 and 1939, he was lecturer at Kyoto University, lecturer and assistant professor at Osaka University. From 1939, he has been and is now still professor of theoretical physics at Kyoto University. In 1948, he was invited to the Institute for Advanced Study in Princeton, U. S. A., as visiting professor. Since July 1949, he has been and is visiting professor at Columbia University in New York City.

He is the member of Japan Academy, Physical Society of Japan and Science Council of Japan. He is also the foreign associate of National Academy of Sciences, U. S. A., and the fellow of American Physical Society.

He was awarded Imperial Prize of Japan Academy in 1940, Decoration of Cultural Merit in 1943 and Nobel Prize for Physics in 1949.

He published many scientific papers and also published many books including "Introduction to Quantum Mechanics"(1946) and "Introduction to the Theory of Elementary Particles" (1948), both in Japanese.

He was married to Sumiko Yukawa in 1932 and has two sons Harumi and Takaaki.

His present address is 501 West 121st St., New York 27, N. Y., U. S. A.

List of Scientific Papers

1. On the Interaction of Elementary Particles. I. Proc. Phys.-Math. Soc. Japan, 17, 48 (1935).
2. On the Theory of Internal Pair Production. (with S. Sakata) Proc. Phys.-Math. Soc. Japan, 17, 389 (1935).
3. On the Theory of the Beta-Disintegration and the Allied Phenomenon. (with S. Sakata) Proc. Phys.-Math. Soc. Japan, 17, 467 (1935).
4. Elementary Calculations on the Slowing Down of Neutrons by a Thin Plate. Proc. Phys.-Math. Soc. Japan, 18, 507 (1936).
5. Supplement to "On the Theory of the Beta-Disintegration and the Allied Phenomenon" (with S. Sakata) Proc. Phys.-Math. Soc. Japan, 18, 128 (1936).
6. Theory of Disintegration of Nucleus by Neutron Impact. (with Y. Miyagawa) Proc. Phys.-Math. Soc. Japan, 18, 157 (1936).
7. Note on Dirac's Generalized Wave Equations. (with S. Sakata) Proc. Phys.-Math. Soc. Japan, 19, 91 (1937).
8. On the Nuclear Transformation with the Absorption of the Orbital Electron. (with S. Sakata) Phys. Rev. 51, 677 (1937).
9. On the Theory of Collision of Neutrons with Deuterons. (with S. Sakata) Proc. Phys.-Math. Soc. Japan, 19, 542 (1937).
10. On a Possible Interpretation of the Penetrating Component of the Cosmic Ray. Proc. Phys.-Math. Soc. Japan, 19, 712 (1937).
11. On the Interaction of Elementary Particles. II. (with S. Sakata) Proc. Phys.-Math. Soc. Japan, 19, 1084 (1937).
12. On the Interaction of Elementary Particles. III. (with S. Sakata and M. Taketani) Proc. Phys.-Math. Soc. Japan, 20, 319 (1938).
13. On the Interaction of Elementary Particles. IV. (with S. Sakata, M. Kobayasi and M. Taketani) Proc. Phys.-Math. Soc. Japan, 20, 720 (1938).
14. The Mass and the Life-Time of the Mesotron. (with S. Sakata) Proc. Phys.-Math. Soc. Japan, 21, 138 (1939).
15. Mass and Mean Life-Time of the Meson. (with S. Sakata) Nature 143, 761 (1939).
16. Note on the Absorption of Slow Mesotrons in Matter. (with T. Okayama) Sci. Pap. Inst. Phys. Chem. Res. Tokyo, 36, 375 (1939).
17. On the Scattering of Mesons by Nuclear Particles. (with Y. Tanikawa) Proc. Phys.-Math. Soc. Japan, 23, 445 (1941).
18. On the Foundation of the Field Theory. Kagaku 12, 249 (1942); 282 (1942); 322 (1942). (in Japanese).
19. On the Foundation of Classical Electrodynamics. I. Nippon Butsuri-Gakkaishi 2, 65 (1947). (in Japanese).
20. On the Theory of Elementary Particles. I. Prog. Theor. Phys. 2, 209 (1947).
21. Reciprocity in Generalized Field Theory. Prog. Theor. Phys. 3, 205 (1948).
22. Possible Types of Nonlocalizable Fields. Prog. Theor. Phys. 3, 452 (1948).
23. Models and Methods in the Meson Theory. Rev. Mod. Phys. 21, ~~No. 3~~ 474 (1949).
24. On the Radius of the Elementary Particle. Phys. Rev. 76, 300 (1949).
25. Remarks on Nonlocal Spinor Field. Phys. Rev. 76, Dec. 1 (1949).
26. Quantum Theory of Nonlocal Field. Part. I. Phys. Rev. 77, Jan. 1 (1950), in press.

Résumé of Speech at the Nobel-Banquet

The Nobel-Foundation and the Royal Swedish Academy of Sciences gave a great benefit not only to myself, but also to all the Japanese, because they were all extremely rejoiced by the decision of Nobel Committee and they were very much encouraged by it on their way of reconstruction of Japan as a peaceful and cultural country.

Résumé of Address to Students at the Blue Hall after the Nobel-Banquet

The international colaboration of scientists has been very fruitful particularly in physics. Recent remarkable advancement in physics is a proof of the fact that scientists in countries, which are so widely different from each other geographically and historically, could work together in pursuit of the same truth. It is, moreover, a proof of an equally important fact that they could understand each other as a human being as well as a scientist.

The frontier of science is moving forward incessantly. The advancement has been very rapid particularly in physics. Nevertheless there are still many things, which are unknown to us, and things, which cannot be understood by us as yet. All these indicate that there must be a lot of works to be done not only by scientists of our generation, but also by those of younger generation all over the world for years to come.