

## Research Group of the Committee for the Publication of Hantaro Nagaoka's Biography

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The Research Group, whose members are Dr. Kiyonobu Itakura of the National Institute for Education Research, Mr. Tōsaku Kimura of the National Science Museum, and myself, has completed a biography of Hantaro Nagaoka, which will be published soon (in Japanese) by the Asahi Newspaper Publisher in Tokyo. The Research Group was organized by the Committee in 1963. It was just after the special exhibition of Nagaoka's science activities, held at the National Science Museum in Tokyo by the support of the History of Science Society of Japan. The Committee has been directed by Professor Yoshio Fujioka, who had learned physics under Nagaoka.

Unpublished materials, *e.g.*, Nagaoka's notebooks, diaries, correspondences, photos were generously donated to the National Science Museum by the family of Nagaoka. In addition, those who had been in contact with Nagaoka kindly contributed informations to the Research Group. The above materials and informations have been arranged, cataloged, and examined by the Research Group.

Hantaro Nagaoka was born at Nagasaki prefecture in the southern part of Japan in 1865 and died in Tokyo in 1950. He was primarily responsible for promoting the advancement of physics in Japan, between 1900 and 1925, as a professor at the Department of Physics, the University of Tokyo. In the earlier period before Nagaoka started his researches, such local studies as the properties of Japanese magic mirrors, earthquakes, and geomagnetism had dominated by the influence of foreign teachers in Japan. In addition to the study of atomic structure, Nagaoka covered varied fields in physics as magnetostriction, geophysics, mathematical physics, spectroscopy, and radio waves. It seems to me that the present Japanese tradition of modern experimental and theoretical physics was almost formed by Nagaoka and his successors. Therefore the book on Nagaoka's biography concerned with the development of physics in Japan as well as that of Nagaoka himself. The contents of the book are as follows:

- I. Nagaoka's childhood and the beginning of physics in Japan in the 19th century.
  - I-1. Childhood and the family of Nagaoka.
  - I-2. Middle school education.
  - I-3. Beginning of physics in Japan.
  - I-4. Student period, the Department of Physics, the University of Tokyo.

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- II. From the experimental investigations of magnetostriction to the presentation of Nagaoka's Saturnian atomic model (1887–1903).
  - II-1. Graduate student period.
  - II-2. Investigations of magnetostriction and their origin.
  - II-3. Associate professor period, the University of Tokyo.
  - II-4. Studying in Germany (1893–96).
  - II-5. Early professor period, the University of Tokyo.
  - II-6. From the participation in the First International Congress of Physics (Paris, 1900) to the presentation of Saturnian atomic model.
- III. Age of Saturnian atomic model (1904–1910).
  - III-1. Origin of Nagaoka's Saturnian atomic model.
  - III-2. Development of Saturnian atomic model.
  - III-3. Social background and international impact of Saturnian atomic model.
  - III-4. Nagaoka's atomic structure and his early spectroscopic studies.
  - III-5. Nagaoka's coil coefficients and his studies on geophysics.
- IV. Studies on spectroscopy and his retirement from the University of Tokyo (1911–1930).
  - IV-1. Nagaoka and the age of "revolution of physics".
  - IV-2. Nagaoka's spectroscopic studies and his nuclear structure.
  - IV-3. Nagaoka and the establishment of the Institute of Physical and Chemical Researches in Tokyo.
  - IV-4. Nagaoka's experiment on the transmutation of mercury into gold and its social background.
  - IV-5. Period of his retirement from the University of Tokyo.
- V. Nagaoka as a science administrator (1931–1950).
  - V-1. Period of the president of the University of Osaka.
  - V-2. Period of the president of the Imperial Academy of Japan.
  - V-3. Nagaoka as the top science administrator of Japan.
  - V-4. Period of World War. II.
  - V-5. End of the war and Nagaoka's final years.