

(2) Vicinity of active volcanoes.—Dr. Matsuyama has observed at several stations distributed around Sakurajima, in 1916, 1917, 1918, and 1922, in order to investigate the possible underground variations following the eruption in 1915. Dr. Yamamoto has observed likewise around Asama in 1921 and 1922. The results are now under discussion, and shall be shortly published.

(3) Coal-fields and oil-fields. Observations of Dr. Matsuyama at the coal field of Fushun, in Manchuria, and those of Dr. Yamamoto, at the old-fields of Niiguta, in Northern Japan, shall be likewise shortly published, being now under press.

It is intended to carry out these observations of gravity-gradients still further.

6. The Determination of Gravity at the Manila Observatory. (1921-1922)

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On the occasion of the first Pan-Pacific Congress, at Honolulu, a geologist from the Philippines made a request to a representative of the Coast and Geodetic Survey to have a complete gravity outfit sent from Washington, D.C., to Manila. The dream of the geologist was to measure the intensity of gravity, in a short time, at any place, in the reconnaissance expeditions through the islands of the Archipelago. When the bulky, heavy, complicated mechanism arrived at Manila, all plans of gravity survey and field observations were abandoned, and the instrument was set aside. It then occurred to me that the instrument might serve to a useful purpose, if put to the determination of the intensity of gravity at Manila. The main considerations I had in mind were three: First, the importance of Manila, as scientific center, is such as to deserve to have its gravity force measured. Second, it is not unlikely that a net of gravity stations will be extended through the islands in the future; to have Manila as the standard gravity base was considered highly desirable. Third, there was an excellent opportunity to check the work done in Manila, in 1906, by the Italian hydrographer, Alessio. The convenience of the station I had in mind was such as to make the work inviting and alluring. The temptation was not to draw back from the hardships of the investigation, but to let oneself easily be drawn into it. With these ideas in mind, I approached the local officials of the Manila branch of the Coast and Geodetic Survey, who not only loaned the outfit to the Manila Observatory, but detailed one of their technical experts to assist in mounting the apparatus, and to acquaint the observers with the standard rules of the Central