Rev. F. Miguel Selga, S. J., Delivers A Most Interesting Scientific Address

Mr. President:

During my seven years of service to the Government it has been my privilege to be associated, both here in Manila and in the provinces, with many students of the University of the Philippines, and truth compels me to repeat that I have always found them good, honest, ambitious, faithful to the Christian principles and loyal to the ideals of the University. When you invited me to explain to the student body the organization and activities of the Weather Bureau, I felt highly honored and exceedingly pleased; highly honored, the invitation coming from the highest authority of the University; exceedingly pleased, having the opportunity to speak to my friends.

DIVISIONS OF THE WEATHER BUREAU

The present organization of the Weather Bureau embraces four divisions.

First the Magnetic Division for the study of magnetic currents and their variations, of great importance to the aeronauts and navigators for their compasses and their charts. Prior to 1905 the headquarters of the magnetic instruments were in Manila, but when the Meralco began to operate the trolley car system, the artificial electric currents that interfered with the cosmic action of the magnets made the transfer of the instruments to Antipolo an absolute necessity. There on a hill about a mile away from the center of the town, in a dark room specially fitted for magnetic observations, the magnetic instruments are recording day and night the small variations of the magnetic components, to be communicated monthly to the scientific world as Philippine contribution to international magnetism.

Seismology is the activity of our second division: its object, the volcanoes and seismic centers of our islands: its territory, the net of seismological stations of Guam, Butuan, and night, in a vivid silent way, by the recording pens of the Manila seismographs. At the very moment that blocks of houses were collapsing under the great stress of the San Francisco earthquake, before the telegraph and cable combined brought to Manila the news of the great world-disasters at Valparaiso in 1906, at Messina in 1908, at Coquimbo on November 11, 1922 the seismographs of the Manila Observatory were spasmodically and sinchronically echoing the cataclysm, centered 14,000 kilometers away. Only 11 years ago, immediately before the eruption of the Taal Volcano, which destroyed the barrios of Quilot and Bugaan and brought about the death of 1300 people, the Vicentini seismograph of the Manila Observatory astonished the world with a record of 995 earthquakes in the short period of 11 hours.

IMPORTANCE OF ASTRONOMY

Opposite to us, across the campus, few yards away from the University Hall, stands that mysterious rotating dome, the palace of Astronomy. There is no subject which appeals more strongly to the imagination than that of Astronomy, as Sir David Gill has said; nothing which lifts men to a higher plane of thought or gives them a better grasp of the infinite power of the Creator; nothing that exemplifies more completely the unity of design that exists in the Universe; nothing that teaches more emphatically the Christian lesson of humility and yet, at the same time, affords the highest proof of the intellectual possibilities open to man. From that dome, the largest telescope in the Far East, a 20" refractor, is pointed to the sky, to fix the position of comets, to determine the contacts of eclipses, to study the surface-changes of the planets, to measure the relative distance of double stars. To the Manila telescope an appeal has been made by the Harvard Observatory for photometric measures of variable

means of the transit instrument, ascertaining hereby the correct time for the whole Archipelago. Correct time is required from the Manila Observatory by the Manila Railroad Company for the dispatch of their trains; correct time is sought at the Observatory by the vessel-masters and navigators, who bring their chronometers to be adjusted and rated; correct time is requested by the survey parties of the Bureau of Lands, by the hydrographers of the Coast and Geodetic Survey and several times by cable from Guam for the American and Japanese warships and destroyers; correct time is transmitted to and shown by the time ball that drops automatically just at the very noon every day from the top of the Observatory mast, thus giving a time-check to the vessels anchored in the Bay and bringing to all offices the welcome news through the Cold Storage whistle that it is time to quit work and go out for lunch. Every day, without exception, no matter whether July fourth or Thanksgiving day, five minutes to eleven o'clock in the morning, a solemn moment—all the telegraph wires of the whole Archipelago are withdrawn from commercial use and connected with the master clock of the Observatory, which automatically closes and opens the electric circuit and send its rythmical tick, tick, tick, every second, to all the telegraph stations all over the islands, giving to every citizen in the community the opportunity of checking the time of their clocks.

OUR ASTRONOMICAL OBSERVATIONS GOOD PHILIPPINE PROPAGANDA

The dreams of our forefathers have been lately realized; electrical conditions being normal, anywhere in the vast expansion of the Pacific to the East or at any place in the Indian Ocean to the west of the Philippines, any vessel can listen in and pick up the time signals of Manila Observatory broad-casted by the Cavite Radio Towers twice a day, 5 minutes to 11 a. m. and 5 minutes

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