THE GREAT TYPHOON IN THE PHILIPPINE ISLANDS IN SEPTEMBER, 1905.

THE Bulletin of the Manila Observatory for September, 1905, prepared under the direction of the Rev. J. Algué, S.J., affords a striking example of the way in which any abnormal features of the weather are completely masked in monthly, or even shorter, mean values. An inspection of the latter would lead to the conclusion that the month of September was quite normal notwithstanding the occurrence of the terrible typhoon on September 25–26, which was probably the most violent of any yet experienced, not even excepting that of November 5, 1882, the worst previously on record. We gave a brief note of the storm soon after its occurrence, taken from newspaper reports, but the following further particulars from a discussion by the Rev. M. S. Mata, S.J., assistant director, may be of interest.

The disturbance appears to have originated in long. 142° E. and between lat. 11° and 12° N. on September 22, and its path over the Pacific was approximately from east to west; it reached the land on the evening of September 25, and swept across the archipelago in a south-easterly to north-westerly direction, reaching Hainan, in the China Sea, on the evening of September 28. The breadth of the storm was about 100 miles, the centre passing about twenty-four miles south of Manila; the average velocity of translation was 13·5 miles an hour. The first indication of its approach at Manila was on the morning of September 25, when the barometer registered a notable fall of pressure. On the previous day the readings were very high; an anticyclone so well defined had rarely been observed over the Philippines. On the morning of September 26 (at which time telegraphic communication to the south-eastward was already interrupted) the fall became alarming, and continued until 2h. p.m., at which time the minimum (29·21 inches) was reached, the mercury having fallen about 0·7 inch since 9h. p.m. of the previous evening; after a short pause the mercury rose again very rapidly. Between noon and 3h. p.m. the gusts of wind attained a rate of about 103 miles an hour. The rainfall in twenty-four hours amounted to $4\frac{1}{4}$ inches, of which 2·3 inches fell between 3h. and 5h. p.m., after the passage of the vortex, the wind changing from east-north-east to south-east, with rapidly rising barometer.

The s.s. *Pathfinder* was overtaken by the storm in San Bonifacio (lat. 12° 10′ N., long. 125° 30′ E.), and recorded some notable oscillations of the barometer; at 8h. a.m. on September 25 the reading was 29·78 inches, and the mercury fell rapidly until 7h. 37m. p.m., when the minimum of 27·17 inches was registered. There was a comparative lull in the wind for three or four minutes, and then it blew more fiercely than ever, with a rapid change of direction from north-by-west to west, and drove the ship ashore; in a few minutes the wind shifted to south, and by midnight the barometer had again risen to 29·61 inches. Immense damage was caused by sea and land, especially at the eastern stations. We reproduce an illustration of the destruction of the observatory at Legaspi (lat. 13° 9′, long. 123° 45′); the sea, which had not risen so high for thirty years, rushed into the town with extraordinary force, some parts being submerged to a depth of $2\frac{1}{2}$ feet to 5 feet. At many other places not a single building was left uninjured, and some of the largest trees, which had withstood all previous storms, were uprooted.

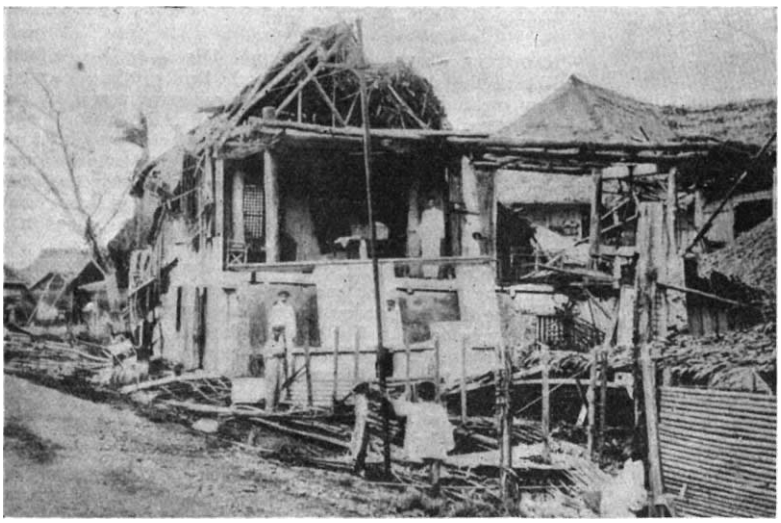

FIG. 1.—Meteorological Station of Legaspi, after the typhoon of September 25–26, 1905.

THE NEW BUILDINGS OF ARMSTRONG COLLEGE, NEWCASTLE-ON-TYNE.

THE new buildings of Armstrong College, to be opened by the King on Wednesday next, July 11, consist of the front wing of the college, together with the large public hall immediately behind the front. The imposing front block of buildings, about 100 yards in length, faces nearly west, and is on the border of the open space known as the Castle Leazes. In the middle of the college front, rising to a height of 120 feet, is the handsome Sir Lowthian Bell tower. The chief entrance is at the base of the tower, and gives access to a spacious vestibule which communicates with the north-east and south-west wings, the principal staircase, and the large public hall to be used for lectures, meetings, and examinations.

The front wing consists of four floors. On the ground floor to the north of the entrance are the principal's room, the council room, the staff common room, and a large common room for men students. To the south of the entrance are the secretary's office, the college office with strong room, and the electrical engineering department. This last consists of a lecture room, and a spacious laboratory with wide gallery on one side. On this gallery is the main electrical distribution board, to which leads are brought from every part of the building. There is a second laboratory of the same size in the basement beneath. Outside the college, on the basement level, is built a house for storage cells. Over the ground-floor corridor, in connection with this department, is a large photometric room fitted up with suitable appliances for carrying out tests in a complete manner. Access to this room is obtained from the gallery of the ground-floor laboratory.

On the first floor is the library, with a photographic dark-room adjoining, which is used for lantern-slide and other photographic work. Accommodation is also provided on this floor for the mathematics, the naval architecture, the literature, and the education departments, with their several lecture and private rooms. On the second floor there is provision for the botanical department, consisting of an elementary laboratory, an advanced laboratory, a research laboratory, lecture and preparation rooms with dark-room, and the professor's private room. There are also on this floor lecture rooms for philosophy, modern history, classics, and modern languages, as well as private rooms for the several heads of departments in these subjects. On the third floor is the zoological department, which contains a large room more than 70 feet long, one half of which, towards the front, is used as a zoological museum, and the other half as an elementary laboratory, and also advanced and research laboratories, lecture room,