NOTES BY THE EDITOR.

DEATH OF MR. JOSEPH COTTIER.

Among the special contributions to the current number of the MONTHLY WEATHER REVIEW is one that we esteem of much importance to those who are studying the fundamental problem of meteorology. This paper was sent us by Mr. Cottier on June 29, and we anticipated great pleasure in introducing Mr. Cottier and his subject to the readers of the MONTHLY WEATHER REVIEW. But, alas! our pleasure is turned to grief by the intelligence of Mr. Cottier's untimely death, from typhoid fever, on August 17, at Paris. Mr. Cottier was a young man of brilliant promise. He was about to enter upon the last year of a well-deserved fellowship in science in Columbia University, New York City. The memoir with which he honored the MONTHLY WEATHER REVIEW was his last work before starting on his vacation trip. It may be considered as a special application of a more general work on hydrodynamics that he had nearly finished, under the stimulus of Prof. R. S. Woodward, of Columbia. Doubtless this latter memoir will also be published, and both will serve to fix in the annals of science the name of one whose early death is a sad loss to meteorology.

DEATHS OF WEATHER BUREAU OBSERVERS.

Mr. B. S. Pague, local forecast official and section director for Oregon, sends us the following notes in connection with his report for July:

Mr. W. H. Goudy, voluntary observer, died at Hubbard, Oreg., on July 12, aged seventy-five years. He was a pioneer in Oregon, a successful farmer, and a highly respected citizen.

Prof. S. E. McClure, in charge of the meteorological work at the State University, Eugene, Oreg., was killed the night of July 27, 1897, while descending Mount Ranier, Wash. He accompanied the Mazama party and conducted the observations. In descending, his foot slipped and he was precipitated down a 300-foot incline and was instantly killed. He was thirty-five years old, highly intelligent, of good promise, popular, and respected. He was killed while pursuing scientific work. The Bureau has lost two valuable men.

RETIREMENT OF PROFESSOR HANN.

From the London Geographical Journal for September, 1897, we learn that Prof. Julius Hann has, at his own request, been relieved of the post of Director of the Central-Anstalt fur Meteorologie und Erdmagnetismus, which he held in conjunction with that of Professor of Terrestrial Physics at the University of Vienna, and has been appointed Professor of Meteorology at Gratz, in Styria. While recognizing the eminent merit of Professor Pernter, yet we are sure that the meteorologists of America will unite with those of Europe in regret that Professor Hann has been forced by sickness to seek a relief from his onerous duties in Vienna. One can but hope that he may be able to accomplish at Gratz even more than he has done at Vienna for meteorology.

CLOUD HEIGHTS AT TORONTO.

In the Monthly Weather Review of the Canadian Meteorological Service for the month of May the director, Prof. R. F. Stupart, publishes the first that we have seen of the results of the observations of the heights and velocities of clouds made at Toronto in accordance with the recommendations of the International Meteorological Committee. The published observations represent only seven days out of the thirty-one, but they are worth reproducing in order that our correspondents may obtain the earliest possible information with regard to the results of this important work. It is understood that the work done by the Weather Bureau and, possibly, also that of the Blue Hill Observatory will be published as a whole in one report.

In the following table we have rearranged the Toronto observations according to the heights of the clouds instead of the day of the month. The reader will, therefore, more easily perceive the range of altitudes through which clouds of any given class are observed, as also the slow rate of increase of velocity with altitude on any given day as contrasted with the rate for any given class of clouds. The table emphasizes the futility of any effort to ascribe an average height or velocity to any given class of clouds. For instance, there can be no doubt but what the cumulus clouds exist throughout such a wide range of altitude at Toronto (and throughout a much wider range if we consider both the tropical, the temperate, and the polar regions) that any system of nomenclature that ascribes to them specific altitudes must lead to great confusion. The present table shows us that cirro-cumulus exists at altitudes of 6,000 and 10,000 meters, while the cirrus proper come in between, at 7,000 or 8,000.

Cloud heights, Toronto, May, 1897.

Name of cloud.	Altitude.	Moving from—	Velocity, hourly.	Date.	Time.
	Meters.	°	*Miles*		*h. m.*
Cirro-cumulus	10,032	n. 17 w.	91.8	7	2 06 p. m.
Cirro-cumulus	7,626	s. 45 w.	42.9	15	10 57 a. m.
Cirrus	7,335	n. 42 w.	38.6	21	12 58 p. m.
Cirrus	7,089	n. 42 w.	38.7	21	12 43 p. m.
Cirro-cumulus	6,135	n. 6 w.	65.8	17	12 33 p. m.
Strato-cumulus	3,949	s. 65 w.	53.5	12	2 30 p. m.
Strato-cumulus	2,806	s. 35 w.	48.4	14	2 46 p. m.
Strato-cumulus	2,624	s. 41 w.	48.0	14	2 35 p. m.
Cumulus or alto-cumulus	2,302	s. 56 w.	33.6	13	3 01 p. m.
Cumulus	2,301	n. 41 w.	20.9	15	10 27 a. m.
Cumulus or alto-cumulus	2,283	s. 46 w.	33.6	13	2 45 p. m.
Cumulus or alto-cumulus	2,174	s. 47 w.	24.3	13	2 35 p. m.
Cumulus or alto-cumulus	2,030	s. 61 w.	32.8	13	2 50 p. m.
Cumulus	1,971	s. 44 w.	43.7	14	2 51 p. m.
Cumulus	1,936	s. 47 w.	36.8	14	2 22 p. m.
Stratus	1,042	n. 40 w.	21.7	21	12 58 p. m.

NOTE.—A few of the figures in the above table are open to some uncertainty, owing to defective type in the printed page from which the data are taken.

RAIN GUSHES IN THUNDERSTORMS.

Mr. Edgar Richardson, at Healdsburg, Colo., under date of July 27, says:

When living in West Virginia I used to observe that, during a thundershower, after every clap of thunder the rain would come down with increased quantity for a few moments and then let up again. The whole effect seemed to be caused by the thunder discharge letting loose an increased quantity of water above. I once saw an explanation of this, but have lost it. Will you kindly explain the cause, if possible?

Several plausible methods of explaining this phenomenon have been accepted from time to time in the history of meteorology, but the progress of our knowledge has successively dissipated these explanations as erroneous, but without, as yet, replacing them by something nearer the truth.

One of the oldest suggested explanations was that the commotion in the air produced by the thunder jostled the cloud particles together into larger drops that fell as rain. Generally the drops reach the ground so soon after the thunder, possibly even at the same time with it, that this explanation fails. Even the large drops would require ten seconds to fall 1,000 feet, and the clouds are much higher than that; moreover, no amount of noise, such as the firing of a gun into a small cloud of escaping steam, will produce any such formation of large drops. The idea that violent explosions can produce rain was thoroughly refuted by the famous experiments made by Dyrenforth a few years ago in Texas. Equally erroneous is the idea that has been widely believed in for several hundred years that explosions and cannonadings can break up and dissipate hailstorms, thunderstorms, and rain, when they are not wanted.