

Cleveland Abbe was for a time the academic contemporary of the last two named, as he is now almost their solitary meteorological successor in this country; for of others, we have lost Lawrence Rotch, founder and director of that admirable institution, the Blue Hill Meteorological Observatory, near Boston, by his untimely death four years ago.

It is the practical turn which Abbe gave to his scientific studies nearly 50 years ago that we celebrate to-night, for it was then, when he was a young man in Cincinnati in 1868, that he first put into execution in this country a scheme of daily weather prediction, based upon the telegraphic concentration of widespread synchronous observations. Would that he could be with us this evening to tell the story of that novel undertaking, but in his absence I may perhaps advert to certain matters which might embarrass him were he with us. His private enterprise was soon superseded by the establishment of a national meteorological bureau at the hands of Gen. A. J. Myer, Chief Signal Officer of the Army; and thereupon Abbe was brought to Washington as the one expert of the country qualified to set the new service on its scientific feet. Here for all these years since 1870, first in the War Department, later in the Department of Agriculture, he has been the senior scientific adviser of the Weather Service, and thus his influence in practical meteorology over the length and breadth of our land has been enormous. Although his hand has taken its turn with others at the exacting duty of daily prediction and has carried on its assigned share of the over-great volume of routine tasks that are conventionally customary in meteorological institutions, his heart has never ceased to turn to or to yearn for the more original efforts of scientific investigation. More characteristic of the man than his work in such necessary matters as the construction of tables for the daily routine of reducing barometric observations to the level of the sea, or the preparation of instructions for reducing the daily routine of meteorological duties to the level of the observer, was his translation of several difficult mathematical memoirs on the circulation of the atmosphere, published and distributed by the Smithsonian Institution, out of which I fancy he had greater enjoyment than anyone else—though that is not saying much. Evidently enough, therefore, the one great practical scheme of daily weather prediction, that has made him deservedly eminent in the application of science to the public welfare, did not divert his mind from unpractical scientific research. He has always willingly turned his attention to new problems and become happily engrossed in them when opportunity offered, yet he has ever been ready to interrupt his work and to draw on his great store of learning to answer questions from inquirers of all degrees. I fear that his scientific spirit has not at all times been happy under the regulations that are presumably appropriate in a large governmental bureau, and that his sensitive nature has sometimes been bruised by the arbitrary discipline of wholesale official service. But his is a buoyant disposition, and cheerfulness has long been his dominant quality.

We all regret his absence this evening. As he can not be with us in the flesh, let us draw him forth in spirit from his self-effacing retirement; let us see in imagination the genuine surprise that he would feel on learning of our action in selecting *him* for a high distinction; let us through our memory of other years enjoy the genial smile with which he would return our greeting. Mr. President, it is a great pleasure most cordially to present *in absentia* Prof. Cleveland Abbe, that he may receive from

you, through the hands of his former pupil, his present superior officer and his constant friend, the Chief of the Weather Bureau,¹ the medal which he so richly deserves.

REMARKS BY PROF. C. F. MARVIN.

Mr. President, members, and guests of the National Academy:

Words fail me to speak fully of my deep feeling on this occasion. I can not tell how much I appreciate this great privilege and honor that devolves upon me in accepting this medal for Prof. Abbe, with whom I have been intimately associated for more than 30 years. During this time we have worked side by side, so to speak, and I have learned not only to hold him in the greatest esteem because of his eminent work in science, but also to love him dearly because of those modest, gentle, and beautiful qualities of character that were just now set out in such touching fashion by Prof. Davis. His whole life and energies have been devoted to the advancement of the science of meteorology; he has thought only of its problems and how he could encourage and induce others to unravel its perplexities, and has never given any thought to himself. These characteristics, it seems to me, add greatly to the eminence Prof. Abbe has attained, the eminence unsought by himself but bountifully bestowed upon him by others. Only a short time ago, when it was learned that he had been awarded this medal and he had requested me to receive it for him, I asked him to tell me what to say for him in acceptance. Without a moment's hesitation he replied: "Oh, they do too much for me, they must not forget Henry, Espy, Ferrel, Lapham, and others."

I am only an humble worker in the domain of science and I could never hope to deserve so great an honor as a medal like this for myself. Therefore this is the greatest event in my life, and I feel deeply the privilege and honor of receiving this medal for Prof. Abbe, whom I love and esteem so highly. Just this morning I received a note from Prof. Abbe giving an account, in his own words, of his early work leading to the creation of the weather forecasting service in the United States.

If you will permit me, Mr. President, I should like to read what Prof. Abbe says. It will take but a few minutes and I believe the members of the Academy will be glad to hear from him.

(1873-75)
A SHORT ACCOUNT OF THE CIRCUMSTANCES ATTENDING THE
INCEPTION OF WEATHER FORECAST WORK
BY THE UNITED STATES.

By CLEVELAND ABBE.

My boyhood life in New York City had impressed me with the popular ignorance and also with the great need of something better than local lore and weather proverbs. The knowledge of the sailors and farmers whom I met seemed to me unsatisfactory. The popular articles in the New York daily papers, by Merriam, Espy, Joseph Henry, and others—notably Redfield and Loomis—had by 1857 convinced me that man should and must overcome our ignorance of the destructive winds and rains. It was in the summer of 1857 or 1858 that I read the beginning of the classic article by William Ferrel in the *Mathematical Monthly*. I realized that he had overcome many of the hidden difficulties of theories of storms and winds; from that day he was my guide and authority. During 1858–1864, in the practice and study of astronomy with Brünnow at Ann Arbor, Mich., and Gould at Cambridge, Mass.,

¹ Charles Frederick Marvin.