common agreement among observers that the violence of storms is exerted only over limited areas, and is progressive in its character. There is also the other fact that the storms are of such duration and violence that the danger to life and property whose period of vibration is very slow.

Mr. Cooper tells us that the velocity of the air, after a storm, must be secured by a scientific treatment of the whole subject, and that the uniformity of practice among engineers, must be the subject of the consideration. If we allow for hereof hereafter, and that we shall never reach the desired end by assuming that there is a general agreement in the opinion of all the observers, a review may assist in promoting a movement in the right direction, this paper is respectfully submitted.

P. S.—The writer would submit the following copy of a letter just received from Prof. Cleveland Abbe, of Washington, hoping that its suggestions may be favorably received by the Society.

WASHINGTON, D. C., Feb. 8, 1881.
Mr. Collingwood, Assistant Engineer, etc.
Sir: In reply to yours of the 8th inst., I will say that the relation between wind pressure and velocity has not as yet formed the subject of any special investigation by the officers of this office, as it is of minor importance in the study of wind pressure. The works of Mr. Cooper, and the subject of this, to engineers and others, is, that his experiments and observations, and the property of establishing at favorable stations, such as Cape Hatteras, and Mount Washington, D. C., are not unsatisfactory. The apparatus is not simultaneously both force and velocity during gales and hurricane.

William E. Worthen.—I would ask Mr. Collingwood if he knows of any instrument by which to determine wind pressure. Some years since I had occasion for such a one, and went to Mr. James W. Worthington, of Brooklyn, N. Y., where he patented a machine. He showed me some, but said that they were not reliable, and that there were other instruments which would indorse, nor do I find since then any new form. Wind pressure is, however, a subject of importance, but in pursuing my inquiry on this I consulted Charles B. Richards, one of our members, who had made experiments with two of Casella's anemometers, in his arrangement for the ventilation of the Connecticut State House; the results of which were published in the January number of the American Journal of Science for 1875. Each instrument was tested by Mr. Casella, and furnished with the anemometer, and I, and each and yet Mr. Richards reports that the indications of the two meters differed so widely as to render them impracticable in them. We have never been able to arrive satisfactorily at either the average windward pressure on a structure, or the amount of. In the matter of ventilation of buildings I take into consideration for the hurricane wind the computation of the numbers of persons in the house—numbers for example, that I follow the time that have stood. There is also the one at Habersham, where the winder of a sugar house, that, I think, to have blown down long ago. In "Silhouetts Journal," some forty odd years since, I read of fowls being taken up in a whirlwind, and their feathers being blown out by the explosion of the air in their quills, showing that there was a considerable vacuum in the storm center. Mr. Cheshbrough suggests whether there might not be a wind pressure instrument made on the principle of a pendulum, which amount the pendulum is swung out of plumb by it. It would seem that the list of a ship under canvas by the wind might offer some data of calculation, but they are unsatisfactory.


W. C. Collingwood (Mr. Collingwood).—Bestimmung der Anemometer Constanten (Fortsetzung), p. 89. St. Petersburg, 1876. Art. VI., Wild's Repertorium fur Meteorologie.

WILLIAM E. WORTHEN.—I would ask Mr. Collingwood if he knows of any instrument, by which to determine wind pressure. Some years since I had occasion for such a one, and went to Mr. James W. Worthington, of Brooklyn, where he showed me some, but said that they were not reliable, and that there were others which would indorse, nor do I find since then any new form. Wind pressure is, however, a subject of importance, but in pursuing my inquiry on this I consulted Charles B. Richards, one of our members, who had made experiments with two of Casella's anemometers, in his arrangement for the ventilation of the Connecticut State House; the results of which were published in the American Journal of Science for 1875. Each instrument was tested by Mr. Casella, and furnished with the anemometer, and I, and yet Mr. Richards reports that the indications of the two meters differed so widely as to render them impracticable in them. We have never been able to arrive satisfactorily at either the average windward pressure on a structure, or the amount of. In the matter of ventilation of buildings I take into consideration for the hurricane wind the computation of the numbers of persons in the house—numbers for example, that I follow the time that have stood. There is also the one at Habersham, where the winder of a sugar house, that, I think, to have blown down long ago. In "Silhouetts Journal," some forty odd years since, I read of fowls being taken up in a whirlwind, and their feathers being blown out by the explosion of the air in their quills, showing that there was a considerable vacuum in the storm center. Mr. Cheshbrough suggests whether there might not be a wind pressure instrument made on the principle of a pendulum, which amount the pendulum is swung out of plumb by it. It would seem that the list of a ship under canvas by the wind might offer some data of calculation, but they are unsatisfactory.


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THE STORAGE OF ELECTRICITY.*

BY SIRWILLIAM THOMSON.

The first and most obvious use of Faraday's accumulator was stated by the author to be the production of electric energy at the most convenient time, and to keep it in the form of electricity which could be most conveniently used; but its largest use in electric lighting would be to allow storage of other motive power and the damping to work economically all day, or throughout the twenty-four hours, with the circumstances of the case, and then storing up the energy so that it might be used when required. There was also a valuable use of the accumulator in its application as an adjunct to the dynamo, in order to further the object of giving greater regularity to the light-giving current and to make it possible that the stopping of the engine would not stop the light, but only reduce its slight, and for a few hours the power of the dynamo would be that of two or three hours supply of full lighting power. The future state of lighting for eight or ten hours for a diminished period of light for eight or ten hours for a diminished period of

* Abstract of paper read in Section A, British Association meeting, York.