tail of this species the appearance of feeling about for something, on its own account. The curves are so irregular at times, that the organ appears as if broken in several places. When at rest, some individuals have the habit of curling the tail closely against the body in a flat coil. Its capabilities are best seen in slender specimens, in which the tail is less thick and clumsy. Very likely Amblystoma jeffersonianum, and species of similar build, have the organ similar in sensitiveness and utility. Amblystoma mavortium, however, is lower in rank, and has the tail better adapted for swimming or pushing, as in other more aquatic forms. S. GARMAN.

Cambridge, Mass., June 27.

Association of official agricultural chemists.

The next meeting of this association will begin Thursday, Aug. 26, in the library of the Department of agriculture. All agricultural chemists holding official positions under the national or state governments, in agricultural colleges or experiment-stations, are entitled to membership. All other chemists interested in any way in the analysis of fertilizers or food-products are invited to attend the meeting, to present papers and take part in the discussion.

One of the chief objects of the association is to secure uniformity in methods of analysis employed. The attainment of such uniformity is of little less value than accuracy, in work of this kind.

I take this method of calling the attention of the chemists of the country, who are not members of the association, to the coming meeting.

H. W. WILEY,
Pres., and chairman of exec. com.

Washington, June 26.

Barometer exposure.

I have read with pleasure the paper referred to by Mr. Gilbert in his letter (*Science*, vol. vii. p. 571). His method seems to have shown, as clearly as could be without direct experiment, that the wind had the effect of lowering the barometer-readings in the building on Mount Washington. This direct evidence, if needed, has, I think, been supplied by the observations on Blue Hill, where it has been noticed, not only that the barometer in the building suddenly falls if the wind-velocity suddenly increases, but that during high winds the pressure in the building can be varied at will by merely opening and closing an aperture in the top of the building.

It does not seem unsafe, then, to draw one or two conclusions from these facts. In Loomis's tenth paper (*Amer. journ. sc.*, January, 1879), from an examination of a large number of storms, he arrives at the remarkable conclusion that "the low centre at the height of Mount Washington sometimes lags behind the low centre at the surface of the earth, apparently as much as two hundred miles." Mount Washington is only about one mile high; and if we draw two lines, — one to represent the earth's surface, and the other the storm-axis, — and make them diverge only one division in two hundred in length, the two lines will appear to the eye almost parallel. Such an inclination of the storm-axis seems incredible, and renders it probable that the apparent lagging was due to some other cause. Loomis shows, in this same paper, that the occurrence of high winds on Mount Washington from any easterly quarter is exceedingly rare; and in his eleventh paper he says, "In a majority of those cases in which an area of low barometer passes ever New England, attended by the usual system of circulating winds at the surface stations, this system of circulating winds does not extend to the height of six thousand feet." The effect of the indraught below only makes itself felt at the height of Mount Washington in front of storms by lessening the velocity of the prevailing westerly current, and in the rear of storms by increasing the velocity of this current.

This at once suggests that the apparent lagging of the storm-axis, or rather of the time of minimum pressure, on Mount Washington, is due to a mechanical effect of the wind on the observatory.

Mr. Gilbert has shown in his paper (pp. 531–533), from a series of observations, that wind-velocities of forty miles per hour from the north-west had the effect of lowering the pressure in the observatory on Mount Washington as much as eight-hundredths of an inch; wind-velocities of fifty miles, as much as thirteen-hundredths of an inch; and he estimated that wind-velocities of one hundred miles would lower it as much as half an inch. This equals any of the effects found by Loomis, and gives a plausible reason why the minimum pressure should occur later on Mount Washington than at sea-level. The same explanation applies to the lagging of the times of maximum pressure, since Loomis has shown in his second paper (*Amer. journ. sc.*, January, 1875) that the wind-velocities are larger in front than in the rear of maximum pressures.

Loomis also found that there was a lagging of the diurnal curves of pressure on Mount Washington and other mountains. He says in his tenth paper, "At the base of Mount Washington the principal maximum occurs at 8.30 A.M., but on the summit it does not occur until noon, being a retardation of three hours and a half."

Mr. Gilbert shows, on p. 526 of his paper, that from June 26 to June 28, 1873, some element on Mount Washington, which was undoubtedly the pressure, went through a diurnal variation coincident with the wind-velocity. During this time the wind each day reached a maximum near midnight, and a minimum near noon. This is a normal feature on high mountains; and if an increased wind-velocity tends, by a mechanical action on the building, to make the barometer read lower, it is readily seen that the pressure would tend to be lowest near midnight, and highest near mid-day. If, now, a double diurnal oscillation due to other causes be superposed on this, the chief maximum would occur much nearer noon than at lower stations, where the action of the wind is in the opposite direction.

The variations in the wind's velocity may not be the only cause of the phenomena considered in this letter. Loomis thinks that the wind-directions, and Ley that the upper cloud-motions, indicate a lagging of the storm-axis; and it seems probable that the expanding and contracting of the air from heat and cold have something to do with the occurrence of the chief maximum on mountains near noon, and in the lagging of the minimum pressure in storms; but the variations in the wind-velocity are undoubtedly an important factor, and it is very desirable that its influence might be eliminated.

H. HELM CLAYTON.

Blue Hill meteor. observ., June 28.