formed. Most of the observations relied upon for proving this effect have been the traces of a barograph recording upon Draper's principle, and there have been very few actual observations of a barometer. Quite recently there have been observations of a barometer, under varying conditions, on Mount Washington, with wind-velocities of eighty and ninety miles. The results have been published in the *Monthly weather review* of the signal service, for February, 1887, and are so interesting that a brief review of them is here given. The chimney in the signal office on Mount Washington is about two feet square, and has three inlets into the office-room. One of these is a ventilator near the top of the room, and the other two have stove-pipes running from three stoves. It is quite evident that the chimney has a fair communication with the room. The experiments consisted in reading a mercurial and an aneroid barometer, 1°, chimney closed; 2°, chimney opened; 3°, same as 1°; 4°, leeward window open; 5°, same as 1°; 6°, windward window open; 7°, same as 1°. The successive readings were made quite rapidly, though generally three or four minutes elapsed between each of the seven conditions. Five sets are published with the wind from sixty-five to ninety miles per hour. Under 2° (chimney open), the pressure fell twice mean −.0065 of an inch, and it rose three times mean +.0037. Under 4° (leeward window open), four times the pressure fell −.019, and once it rose +.002. Under 6° (windward window open), the pressure rose mean .043. Making due allowances for imperfect connection between the chimney and the room, it must be admitted, I think, that there is no evidence of a partial vacuum being formed by the suction of winds, up to sixty-five and ninety miles per hour, blowing across the chimney.

The most interesting results, however, are those with the window open to windward. In an eighty-mile wind, experiment would indicate an increase of pressure of about .44 of an inch, but here we find the total effect one-tenth of that. It seems to me that the effect of wind on the barometer has been much exaggerated, and we may rest assured that our observations during very high winds have not been vitiated so very much. It may be of interest to note that this same slight 'pumping' or uneasiness of the barometer was noted by Mr. Beall, the observer on Mount Washington in 1883. In making his comparative readings of the station and extra barometers at the end of each month, he found it necessary to exercise the utmost care and speed in order to make correct readings during very high winds. The total oscillation seldom reached .01 of an inch.

H. ALLEN.

Washington, D.C., April 25.

The barometer during thunder-storms.

My attention has been called to the fact that the time given for the squall of July 21, 1885 (printed '1886' by mistake in your last issue), did not agree exactly in time with the sharp depression of the barometer shown on the diagram accompanying my letter on p. 392. This was due to an error in the barograph clock, which was then new, and not well adjusted. Mr. Alexander McAdie, who had charge of the station on that day, and Mr. Frank Brown, were watching the barograph during the squall, and both state that the depression of the barograph was coincident with the occurrence of the squall. The squall was so violent that Mr. McAdie wrote that 'life for a while did not seem certain.'

H. HELM CLAYTON.

Blue Hill meteor. observ., April 23.

The source of the Mississippi.

I am in receipt of a pamphlet, entitled 'The source of the Mississippi,' from Ivison, Blakeman, Taylor & Co., and am pleased to see therein that the laurels deservedly won by Nicolett and others are maintained to them. My father, Bazil H. Beaulieu,— who had charge of a trading-post on Lake Itasca in 1846 for the American fur company, and who in 1847 accompanied, as assistant geologist, the first geological party (Dr. Norwood, Whittlesey, and others) that went over and drafted Itasca and Elk lakes in going to Red Lake, and went over the lakes again on their return, and also drafted the Mississippi from its source to Dubuque, Io., — concurs in the opinion, as established by the late survey, that Nicolett was the first man that gave to the world of science a faithful and honest report upon, and maps of, the source of 'Gitche-tebe' (or 'mighty-water') River, — the Indian term for the Mississippi. It certainly seems shameful that the vain ambition and venturesome spirit of the Captain Glazier stamp should seek at this late day to aspire to and appropriate to itself laurels nobly won by deserving men in the cause of science half a century ago.

THEO. H. BEAULIEU.

White Earth, Minn., March 21.