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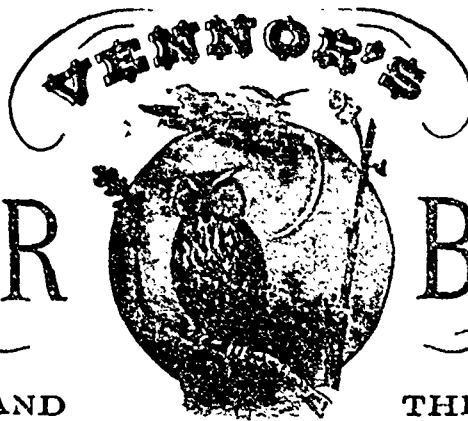
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WEATHER

FOR CANADA AND



BULLETIN

THE UNITED STATES.

A PAPER DEVOTED EXCLUSIVELY TO THE WEATHER AND ALLIED TOPICS.
 "Study the Past if You would Divine the Future."

VOL. I.—No. 6.

MONTREAL, JULY, 1882.

SINGLE COPIES, 5 CENTS.

Calendar for the Flower, Fruit and Vegetable Garden.

FLOWER GARDEN.—All plants that require staking, such as dahias, roses, gladioli and many herbaceous plants, should now be looked to. Carnations and other plants that are throwing up flower stems, if wanted to flower in winter, should be cut back; that is, the flower stems should be cut off, to say, five inches from the ground.

FRUIT GARDEN.—If grape vines show any signs of mildew, dust them over with dry sulphur, selecting a still, warm day. The fruit having now been gathered from strawberry plants, if new beds are to be formed, the system of layering the plants in small pots is the best.

When apples, pears, peaches, grapes, etc., have set fruit thickly, thin out at least one-half to two-thirds of the young fruit.

VEGETABLE GARDEN.—The first ten days of this month will yet be time enough to sow sweet corn, beets, lettuce, beans, cucumbers and rutabaga turnips. Such vegetables as cabbage, cauliflower, celery, etc., wanted for fall or winter use, are best planted this month, though in some sections they will do later. Keep sweet potatoes hoed to prevent the vines rooting at the joints.

[The foregoing notes apply chiefly to the Northern United States and Canada.—Ed.]

—Fogs in February are related to frosts in May, just as "cold dips" in December are related to "thaws" in January. Both are simply illustrations of the "give and take" principles of the law of general compensation.

—Spring thunder storms in Northern sections of country are almost invariably followed by periods of backward weather and North-westerly winds.

—September will give frequent and heavy rains West and South; while Eastward and in the Maritime Provinces there is likely to be drought and early cold.

—The summer will act in a somewhat similar manner to 1878. Look at your back records.

—The coolest portions of July are likely to be about the 11th and 12th and the 26th and 27th days; and the hottest period between the 15th and 20th. The month, however, will enter warm and sultry generally.

—The early portion of July will be dry in Northern and middle sections of country and perhaps showery and unsettled at Western points.

Continued on page 2.

7th Month. JULY. 31 Days.

- Sat. 1 Very warm and sultry.
 Sun. 2 4th Sunday after Trinity. Hot and sultry.
 3 Rather dry weather in Province Quebec and eastward.
 4 Rain and thunder storms in western sections.
 5 Generally pretty warm, evenings cooler.
 6 Indications of rain and more cloud.
 7 } Cloudy and cooler with local rains.
 8 }
 Sun. 9 5th Sunday after Trinity. Weather becoming cooler and cloudy with rains or indications of rain.
 10 }
 11 } Decided cooler in most sections with cool to
 12 } cold evenings and nights and windy weather.
 13 } Weather still dry in Canada. Rain much
 14 } needed in many sections in northern areas.
 15 } Smoky showers becoming more frequent
 Heavy rains west and south.
 Sun. 16 6th Sunday after Trinity. Muggy, hot, and stormy.
 17 } A heated term generally with thunder
 18 } storms and hail storms in Northern States.
 19 } Very oppressive. Daily reports of damag-
 20 } ing storms of winds and lightnings. A very
 muggy period with hot winds.
 21 } Showers, cloudy and cooler at night. Windy
 22 } and cooler, a decided change in weather.
 Sun. 23 7th Sunday after Trinity. Fair and warm, cool nights.
 24 Cooler and moist winds. Rains west and south.
 25 Oppressive and windy, storms brewing, cool nights.
 26 Frequent rains and much cooler. Windy weather.
 27 Continues cooler with cool to cold nights.
 28 Very fine and pleasant in majority of sections.
 29 Warmer again with storm clouds.
 Sun. 30 8th Sunday after Trinity. Unsettled and showery. Stormy.
 31 Cloudy and showery. Period of storms, cool nights, much more rain latter part than fore part of month in northern and middle sections.

Note.—The 11th and 12th days and the neighborhood of the 26th and 27th are likely to be the coolest portions of the month. Between the 15th and 20th general heat and storm.

Such weather!
 I never!
 All rain and no sun,
 No rides and no fun.
 While women are moaning,
 "House cleaning not done!"
 Boots round the fire steam,
 And waterproofs stream
 It really does seem
 "Old Probs" must be vex't
 About what to do next.

Brief Predictions.

—The weather is likely to be severe in Kentucky through Dec, Jan., and fore part of March during the winter of 1882-83.

—December is likely to be a month of great storms, generally on Atlantic, American and British Coasts.

—The last week of Jan., 1883 will likely prove stormy or wet in "Western District."

—Generally foggy weather on Gulf St. Lawrence and Atlantic Coast last week in Jan., 1883.

—The March disturbance seems to point towards the middle of the month this time—and the best portion will probably be between the 10th and 15th in nearly all sections.

—Summer frosts in the St. Lawrence River Valley almost invariably are accompanied by wind and rain storms in Western and South-western and often Southern sections. Consequently when we can predict the former with considerable confidence we may likewise anticipate the latter.

—The year 1883 bids fair to enter extremely (perhaps intensely) cold in North West.

—"A windy Spring.—A severe summer and a stormy autumn." Lord Bacon. How was this in 1882?

—First frosts probable in Northern Mississippi and adjacent sections about 22nd or 23rd of October.

—Very heavy rains in portions of Ky. in November.

—It will likely be remarked at Southern Stations that the autumn of 1882 resembled in many respects that of 1879.

—The summer of 1883 will probably form a couplet with 1882—as this first is, so will the last be.

—The 4th of July, coming, as it does, on a Tuesday is fortunate, as the weather will have time to settle, after the usual Sunday disturbance—for the Sundays are likely to be days of stormy or unsettled weather in July.

—Dominion Day in Canada is unfortunate this year in coming on a Saturday—as the Saturdays are unpromising days in July, as well as the Sundays. Will our U. S. neighbors make a "swap" with us and take something "to boot?"

We would direct special attention to the September issue of this paper which will be ready for mailing by the middle of August. It is to contain the first detailed sketch or forecast for the two closing months of the year, NOVEMBER and DECEMBER, and the probabilities for the entry of the NEW YEAR.

Back numbers of the BULLETIN, including MAY, may be had for 25 cents.

(Continued from page 1.)

LOUISVILLE, KY., AND "WESTERN DISTRICT."

The winter of 1882 will set in stormy and cold, and severity is likely to continue with but few intermissions up to the 5th or 6th of March, when a milder period will set in.

March will be, on the whole, an unsteady month, varying from harsh to mild.

April and May will likely be warm and advanced months, and May wetter than April, with heavy rain-falls at many points in Kentucky.

June and July fair, and favorable weather, with, of course, the usual summer storms.

August will give some heavy rains, and will be a more changeable month than September.

September bids fair to be fine. Frosts probably about and after the 20th. The 25th and 26th likely dates for frosts.

October will enter warm. Cooler weather after the 15th or 20th and frosts likely about 28rd.

November and December are likely to act somewhat similar to the year 1879, in the "Western District," generally.

Simple Method of Mapping Barometer.

	Sun. 4.	Mon. 5.	Tues. 6.	Wed. 7.
.5				
.4				
.3				
.2				
.1				
30				
.9				
.8				
.7				
.6				
.5				
.4				
.3				
.2				
.1				
29				
.9				
.8				
.7				
.6				
28.5				

EXPLANATION OF THE CHART.

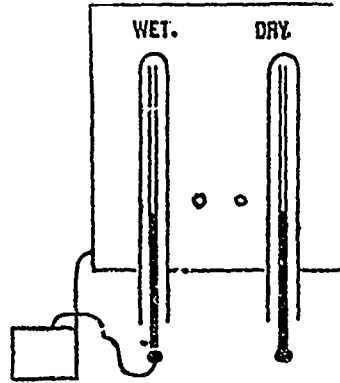
The above chart represents the movement of the barometer reduced to 32° F., and corrected for the Port of Toronto during the last four days ending at midnight on Wednesday, June 7th. The dotted lines represent the height of the mercury in inches and tenths, and the readings are given to the nearest twentieth by dividing the space between the lines. In this case the mercury stood at 29.25 inches at 6 a.m. on Sunday morning, rose to 29.30 by 2 p.m., and continued at that until midnight. At 6 a.m. on Monday it had risen a half-tenth more, or to 29.35; at 2 p.m. to 29.4, and at midnight to 29.5, and so on, the line of ovals marking the rise and fall of the mercury.

Richard Mansill, of Rock Island, Ill., has just published the seventh annual of his Almanac of Planetary Meteorology—a new system of his, the base of which is that all planets, comets, and satellites go through a reversed change of motion, volume and density at their perihelions and aphelions, each orbital revolution, this being effected through "reciprocating electric currents" undulating between the planetary bodies. Mansill's weather predictions have attracted a great deal of attention, and he claims that his forecasts are founded on a wider field of phenomena than those of Tice, Vennor, or even the Weather Bureau at Washington.

A Simple and Valuable Instrument.

A recent issue of the Cincinnati Commercial gives us the following:

To find the varying conditions of the air in respect to moisture, an admirable arrangement may be made of two common thermometers, as shown in the following diagram:—



The instruments are perpendicularly secured on a piece of board ten or twelve inches apart, and both should show the same temperature. The bulb of one being now covered with a wick leading into a small covered vessel fastened to that side of the board and at some little distance from the bulb, and containing preferably rain water, the readings of that instrument will usually be different from those of the other, or dry bulb. This is due to the water absorbed by the wick rising by capillary attraction to the bulb and evaporating, causing cooler air around that bulb, and thus lowering the mercury in the tube. In dry weather evaporation goes on rapidly. In damp weather the evaporation is slow. When the air is thoroughly saturated with moisture, evaporation from the wick ceases, and the two thermometers read alike. This is to say, the moisture in the air when thoroughly saturated has the same effect upon the clear or "dry" bulb as the water held by the wick has upon the covered or "wet" bulb. Should, for instance, the dry bulb read 60° and the wet bulb 50°, the percentage of relative humidity in the air would be 44, or low. Should the dry bulb read 60° and the wet bulb 40°, the humidity would be 24 per cent., or very low. Should the dry bulb read 60° and the wet bulb 58° the percentage of humidity would be 88, or high; but should both read alike, care always being taken that the vessel is kept supplied with water and the wickering clean, the percentage of humidity would be 100—that is, the air would be thoroughly saturated with water. The greater the difference in the readings the dryer the air and the less chance for rain. But a knowledge of the mere percentage of existing moisture is not of so much practical importance to the farmer or other whose business pursuits depend upon weather conditions, as the fact whether dampness is increasing, and therefore rain probable, or whether the air is drying and fair weather likely to ensue. These facts are admirably indicated by this little instrument. The approaching or separating thermometers, taken in connection with the wind direction, whether rain winds or dry winds for the district are prevailing at the time, together with other local signs and the low or high barometer areas, the cloud or rain and fair weather areas through the country, more especially to the westward of our longitude, since conditions east of us seldom effect our weather, should enable any one to satisfy himself as to the probable weather for at least a day or two in advance.

The Oft-Mooted Question.

Writing from Glasgow, Scotland, Graham Hutchinson, Meteorologist, expressed himself as follows, relative to the connection between the "Moon and the Weather:"

"After comparing, by means of a meteorological journal, the times when changes of weather occurred, with the changes of the moon, and with other periods of her age, I am satisfied that there is no connection between them. It is usual for those who believe in the moon's influence, to ascribe to the change of moon all alterations of the weather which happen within two or three days thereafter. In this insular climate, where the weather is so exceedingly variable, it is not surprising, that with so much latitude in point of time, innumerable coincidences should have been observed. It may be safely asserted, however, that with a similar latitude, not only the time when the moon changes, but any other period of her age, might be at random fixed upon, and equally satisfactory evidence of her influence in producing a change of weather would be obtained."

[Will some of our readers kindly drop us a line on this subject, whether this be for or against the moon theories. Who sides with Hutchinson?—Ed.]

The Weather and the Obelisk.

The report that the obelisk erected in Central Park, New York, already shows the effect of the change of climate to which it is subjected, need not surprise any one. When at Heliopolis, and more recently at Alexandria, it was exposed in an atmosphere of almost uniform temperature, and very rarely to a rainfall. It was as much a stranger to ice and snow as a native of Nubia. The preservation of the wonderful monolith of the Nile, and the freshness of the paintings upon the ruins of Karnak, Thebes, and Memphis, are due to the dry equable quality of the climate rather than to any inherent excellence of the stone or pigment employed. But in Central Park, exposed to the fiercest storms, to sudden changes from hot to cold, and from cold to hot; covered with sleet and ice one day, and subjected to the sun's burning rays the day following, it is too much for the constitution of this venerable millenarian, even though wrought of the toughest syenite granite.—Commercial Cin.

The June Frosts.

WHAT YEAR WAS IT?

MORROW, June 6, 1882.

To the Editor of the Commercial.

In what year and on what night of the month did the great June frost occur which killed everything in the way of fruit and grain in the Ohio Valley? Was it in 1857 or 1853? By answering through the columns of your tomorrow's issue you will oblige

TWO READERS.

Saturday night, June 3, 1850.

THE JUNE FROST OF 1867.

CINCINNATI, June 8.

To the Editor of the Commercial.

Noticed your reply in to-day's issue, to "Two Readers," in regard to the severe frost of a particular June. The night of the 5th of June, 1857, was the date of the severest frost, followed the 2nd night after by one a little less severe.

Respectfully

WM. HANNA, SR.

There were sharp frosts in the Ottawa and St. Lawrence Valley Rivers on the 6th, 7th and 8th of June, 1878. In fact we have frosts upon these dates in Canada at least three out of five times. Frosts, however, in the latter part of May lessen the severity of the early June frosts.—Ed. BULL.

The Cold May

Boston Advertiser.—The mean temperature for the month of May was 49.8 deg., which is 4.7 deg. lower than the lowest mean for the month of May recorded since the signal station was established, in 1870. Last year the mean was 54.9 deg. The total rainfall for the month was 6.05 inches, the greatest amount recorded for May since 1873, when the total was 5.16. Rain fell last month on fourteen days.

June Flakes.

Very heavy rains in the North-West. The outlook for the Illinois corn crop not encouraging.

June frosts reported in the vicinity of Millersburg, Ohio, on the 12th. Also light frost same date in Lower St. Lawrence Valley.

The Ohio corn crop reported to be in a sad shape. This has been the coldest corn-planting in twenty years.

The army worm has appeared in alarming numbers in the wheat in Scioto County, Ohio. Fields of grain are being laid waste.

The harvest prospects in most parts of Ireland and France are good.

Recent warm and favorable weather has improved the outlook for the Illinois corn crop.

The June crop report of the Department of Agriculture shows a deficiency of area in cotton, with an improvement, however, more recently. Wheat crop fine.

The rain is working overtime. The smile of the sun between the drops makes the farmer laugh clear to his pocket-book.—*Troy Times.* The Canadian farmer, who seldom has a pocket-book, laughs down to his jack knife.—*Ed. Bull.*

It is said that the winter of 1882 was singularly fatal to grape vines in the Hudson River Valley. Old, hardy vines of 15 years' growth have suffered as much as young vines of but one or two years' growth.

Captain Hansen, of the Hamburg steamer *Frisia*, says that June 5, on the way to New York, he saw an iceberg, and—"its height above water was fully two hundred feet, and as that portion always represents but a seventh part of the entire mass, it must have been fourteen hundred feet high. On the rear portion of the iceberg a number of Northern birds resembling elder ducks were visible. A black object also appeared for a moment between the crevices of the ice, which one of the men who saw it through a telescope declared to be a sea-horse. We saw two more icebergs of an average height of one hundred feet, before the day was over. This was latitude 42.06, longitude 49.04.

The salmon in the rivers and streams throughout England are dying in large numbers. The fish are attacked by a sort of leprosy. In three or four days it extends over the body of the largest salmon, and the fish is done for. The disease has features in common with a form of fungi, but whether the fungus develops the disease or the disease the fungus, is not satisfactorily settled. All the same it is fatal to the fish, and threatens salmon fishing in England with ultimate extinction.

The *Silkean Gazette* reports a hail-storm in villages of that Province that was of amazing destructiveness. Stones of the size of hens' eggs were showered throughout a whole night upon the unfortunate hamlets, and they fell with such force that they crashed through roofs, killed horses and cattle, destroyed barns and dwellings, and broke down trees. At the same time a brook that ran near by rose until it became a rushing torrent and burst over the adjoining lands. In the morning it was found that eleven persons had lost their lives, their bodies being found bruised and disfigured beyond recognition; horses and cattle were killed, and many buildings destroyed, or so badly injured that they had to be torn down.

The Spring in England.

Englishmen may be excused just now for talking about the weather. A uniformly mild winter, followed by an early spring in which everything has made favorable progress, is a combination with which we have of late years been strangely unfamiliar. The forwardness of the vegetation in all parts of England has lent a charm this year to the Easter holidays which they generally lack even when Easter falls a fortnight later. The trees and hedges are as green as they often are by the third week in May. The plane trees in London and the thorns in the different parks are almost in full leaf, whereas in other years we have often in the middle of April been witnessing the first buds. Nearly as much might have been said with truth even a week ago. The rain was very badly wanted; and the effect of the genial showers which have visited us within the last few days was visible in a moment. The richness of the verdure in and about London must be seen to be believed. Instead of having January in the lap of May, it is not a very great exaggeration to say that we have June in the lap of April; and we only hope that so precocious a maturity may not be the forerunner of an early decline when summer begins to verge on autumn, and when all are looking forward to a harvest of unusual abundance. The farmers hitherto have been obliged for once in their lives to admit that if the weather had been made for them it could hardly have been more favorable. Still, if such thoughts may be allowed to intrude on us at so agreeable a moment, we must remember that, of the two, even a wet, cold spring is less mischievous than a wet, cold autumn; and that a good harvest time does far more to compensate for a bad seed time than the best seed time can do for even a moderately bad harvest time. Let us, however, hope for the best. It seems to be admitted on all hands that if the weather "holds," and the year fulfils its promise, the British farmer will once more be an illustration of the felicity imputed to agriculture in all ages of the world.—*London Standard, April 22.*

Weather Briefs.

—Great storms through Massachusetts 29th May.

—General storms on Lakes and in North Carolina 3rd and 4th June.

—First summer-like weather in St. Lawrence River Valley first week in June.

—At San Antonio, Texas, on the last day of May, a remarkable rain fall of 2.32 inches occurred within eight hours.

MAY IN CINCINNATI, O.

The average temperature of the past month in Cincinnati was 61°. The warmest day was the 8th, when the maximum temperature was 83° and the average for the day 74.1°. The coolest day was the 2nd, average temperature 50.3°. The lowest temperature was on the morning of the 3rd, 41°. There were eleven days upon which the temperature fell below 50°, and frosts occurred at different times during the month. An uninterrupted spell of fine weather prevailed from the 15th to the 20th, covering the period of the May Festival. During the month there were nineteen days upon which rain fell, and the total rainfall was about eight and a half inches. The normal yearly allowance of rain for Cincinnati is only about forty inches.

May, upon the whole, has been chilly, wet and uncertain.

The general average temperature for June, at Cincinnati, is about 75°. It is predicted that the present month also will generally fall below its average.

June Drift.

GREAT RAIN-FALL TORONTO, ONT.

The amount of rain-fall, as registered at the Observatory during June 3rd, 4th and 5th was 1.55 inches. Of this 1.37 inches fell on the 3rd. It is only about once in every three years that the rain fall equals that of Saturday. In June, 1870, 2.36 inches fell during one day, being the largest on record for a number of years. Some may remember the heavy rain-storms of three or four years ago, when cellars were flooded, and the question was raised as to whether the city was liable for the damage through not having sufficient sewer capacity to carry off the water fast enough. The City Engineer at that time stated that the sewers were constructed to carry off one inch in twenty-four hours, and that this was quite sufficient. Either the Engineer or the clerk of the weather must have made a mistake, for the mains are not large enough to carry off such a large quantity of water. The velocity of the wind between seven and eight o'clock, when it was highest, was 28.5 miles per hour, or about the speed of an ordinary railway train.

CHICAGO, June 3.—During the last twenty-four hours it has rained almost incessantly throughout a large part of the western corn belt, causing great anxiety regarding the corn crop. Despatches received this morning report the ground saturated and a large area of low land flooded, and that further planting must be deferred some days. Much of the corn up is also being smothered by weeds. After making all due allowances for the exaggerations of some of the despatches, the situation is certainly critical in the extreme. Advices regarding wheat are less discouraging, but it is conceded that further rains would greatly lessen the chances of a good crop.

—Sharp frost along the Valley of the St. Charles River, Quebec, on 2nd June.

RAIN-FALL, SPRINGFIELD, ILL.

June 3rd.—In the 24 hours ending 6 a.m. to-day, 3.79 inches of rain fell. Since last May to date a fraction over 14 inches have fallen.

Heavy Rain-Falls at Montreal.

1858 was a year of unusual rain falls in the Upper St. Lawrence River Valley, and therefore is worthy of being placed on record for future comparisons. Rain fell during this year on no fewer than 111 days, on the Island of Montreal. It was raining 521 hours 33 minutes, and was accompanied by thunder and lightning on 20 days. According to the observations taken at the Observatory of St. Martin, Isle Jesus (just behind Montreal), this amount of rain exceeds by upwards of 7 inches the usual average compared with a series of years, and was owing to the excessive rains of June and July.

In June of this year (1858), a heavy storm of rain occurred on the 10th day, which lasted 28 hours and 43 minutes—amounting to 6.175 inches. There fell in one hour (from 5 to 6 p.m.) 0.933 inches.

The river surrounding Isle Jesus rose eight inches in height.

A second heavy storm of rain set in on the 12th July at 3 a.m., and lasted until 12.40 p.m. of the 13th day, and indicated 6.374 inches; the wind which accompanied this storm was from the N. E. by E. The river in the neighbourhood of St. Martin (site of Observatory) rose nearly two feet in perpendicular height. The amount of rain which fell during this month was 12.214 inches, and it is the most rainy July on the record. In August, the amount of rain which fell, as might have been expected, was less than the usual mean quantity for that month.

SNOW.

Up to the 31st of December of this same year, snow had fallen on forty six days, amounting in all to 58.96 inches in depth. It was snowing 231 hours, 30 minutes. This amount of snow shows a decrease equal to 58.80 inches as compared with the mean amount of a series of years. This also seems natural when we take into consideration the extreme wetness of the summer.

The first snow of the season of 1858 fell on the 4th of November, and the last snow of spring fell on the 21st of April.

June Weather Reported from Montreal.

June 2.—Although in this region the atmosphere has been dull and lowering for a number of days, there were but sprinklings of rain until the 31st of May, when warm showers set in, and June made its entry warm and summer-like with local rains, which will be of immense advantage to the country, while pasture lands will be benefited to an incalculable extent. Seeding time, though later than usual in many parts of Canada, has otherwise been fairly favorable. Since the publication of last circular, the average mean temperature in this city was 5° higher than was noted in that issue (54°); the highest indication 68°, was on the 26th and 31st ult.; the lowest 43°, was on the 26th, the average daily mean being 59°. Until the entry of June ungenial and backward weather predominated over the greater part of the northern hemisphere, notably in some of the Southern States—Virginia, North Carolina, and portions of Illinois. Official statements regarding the condition of the wheat in the United States are, however, generally favorable. There were 16 ocean steamships in port at the entry of June.

June 9.—There were heavy showers of rain here on the night of the 3rd and 4th, since then a rise of temperature has been experienced, the weather of the past few days having been warm and seasonable, vegetation making rapid progress. A thunderstorm passed over the city on the afternoon of the 8th. Indications by the thermometer were, highest 75° on the 1st inst., lowest, 45° on the 2nd inst., with reports of frosts in some sections; average mean of the past six days, 59°. Reports about crop prospects in Ontario are fairly favorable and much more so than in Quebec. There were reported severe storms of wind and rain on the 3rd and 4th inst., in some of the Western States, followed closely by reports of damage to corn in some places; otherwise, however, crop prospects are understood to be favorable. Since last circular was issued unprecedented hail storms were reported as having occurred in the northern counties of the Southern States and in the South West, and now it is stated that in these places the cotton and tobacco crops are destroyed. This, however, it is too early to pronounce upon.

June 16.—The weather is unsettled again and there were frequent snows of rain here yesterday, (15th), a thunder storm occurring at intervals during the day; but the preceding four or five days were clear and pleasant, partly sultry and the first really warm period experienced this year. All kinds of crops are making encouraging progress, and there is the prospect of a bounteous yield. The range of temperature continues upward, but light frosts occurred in the Lower St. Lawrence on the 12th.

The maximum temperature 81° occurred on the 14th inst., minimum 45° on the 11th and 12th days, average daily mean 61°.

Exceedingly variable weather has again been experienced in some of the Western and South Western States. A destructive hail-

storm passed over a region west of Arkansas on Saturday, (10th) and at night a hurricane of wind and rain did a great deal of damage in some parts of Colorado. Damage by river floods was also suffered in Indiana on the 14th inst.

Considerable destruction to railroad property and crops was caused by a rain storm on the last mentioned date in Illinois. Forest fires are now reported to be raging in Wisconsin.

Briefs.

Owing to the extreme sensitiveness of the thermometer to changes of weather, it has been frequently proposed to consider its indications as fully equal in importance to those of the barometer; but great caution is necessary in acting on this idea. The accuracy of thermometrical observations depends upon a great many conditions, such as aspect, exposure to the air, elevation above sea-level and above the surface of the ground, all of which are immaterial or can be allowed for in dealing with the barometer.

The term "dangerous winds," used by the U.S. Signal office, has ordinarily a somewhat different meaning according to location of the station. Thus the severe gales of the Atlantic (where the hourly velocity of the wind ranges from 40 to 70 miles) are comparatively very rare on "the lakes," where the limited sea-room causes winds that on the neighboring shores are registered only as "brisk" (i. e., 20 to 25 miles) to become "dangerous." Again, the direction in which the wind is blowing is a most important consideration, and as general experience shows that most danger is apprehended from wind blowing on to a lee shore, the "Cautionary Signals" may very properly be expected to be hoisted only in case such winds are apprehended for the port in question.

This CAUTIONARY SIGNAL is a red flag, by day, and red light, by night.

—Prof. Bury's Ballot, of Utrecht, and others, have shown that we can tell with considerable certainty what wind may be expected to blow at any place if we only knew the readings of the barometer, taken a short time previously, at a number of stations situated within a distance of, say, one hundred or two hundred miles from that place. The rule is—

"Stand with your left hand toward the place where the barometrical reading is lowest, and your right hand towards that where it is highest, and you will have your back to the direction of the wind which will blow during the day."

Thus the wind may be expected to be:—

Easterly	} when the pressure is highest in the	} north	} or lowest in the	} south.

Southerly.....do.....east.....do.....west.
Westerly .....do....south.....do.....north.
Northerly....do.....west.....do.....east.

The force of the wind on each day bears some proportion to the amount of difference in barometrical readings noticed between any two stations situated near the place where the wind was felt. Thus we find that it has been shown that a westerly gale hardly ever blows in the British Isles unless, at least a few hours before, the pressure in the north of Scotland is half an inch less in amount than it is on the south coast of England.

A May Snow-Storm, South.

DAVENPORT, Iowa, May 23.—A heavy snow-storm at two o'clock this morning set in, and continued four and a half hours. Fully three inches of snow fell, melting quickly by daylight. No such storm is remembered as having occurred before. The nearest to it was on the 7th of May, 1845. Very sharp frosts all round.—*St. Louis Paper.*

Monthly Report for May, 1882.

FROM MOUNT IDA, ARKANSAS.

(SPECIAL CORRESPONDENT.)

	1882.	1881.
Rainfall for the month of		
May	12.45	10.15
Number of days on which rain has fallen	13	14
Highest thermometer during month	86°	88°
Lowest thermometer during month	38°	62°
Average thermometer during month	65°	72°

Cyclone on the 8th inst. at 7.45 p.m. from S. W. track a mile wide; passed two miles south of here; tore to atoms more than a hundred buildings in this county. Killed a man and a woman and much stock. Forest swept clean; farms ruined.

On the 10th at 6 p.m. from west a sudden storm of wind, rain and hail, thunder and lightning blew down trees and fences, and the hail riddled vegetation. It only lasted about ten minutes, and in that time about 1.20 inches of rain fell. The largest in my experience, and I am 74 years old.

The Winds and the Weather.

If we could predict how long the wind was to continue in the direction in which it happens to be, and without altering its velocity; and if we could also predict when, and to what extent, its direction and velocity would alter, predictions re the weather deduced from the direction and velocity of the wind, would be more to be relied on than any, or even all of those mentioned in our articles on "Weather Prognostications." Indeed, the claims to which these prognostications of the weather have to correctness, or rather to the probability of being correct, depend chiefly on their indicating imperfectly, whether the wind be blowing from a wet or dry direction, and whether it be blowing with greater or less velocity. But though it cannot be predicted how long the direction and velocity of the wind may continue without changing, still, by prognosticating upon the supposition that the direction and velocity of the wind will continue as it is, there is more or less probability, at least for one, two, or perhaps three days thereafter, that our anticipations will be correct.

— We believe that electricity in one form or other, will yet be used to render cars frost-proof, and for the transport of perishable matter.

—Thunder and lightning form a strange couple by themselves. They are neither relatives nor friends of the family of cloud. They seem indeed to be barely on visiting terms with its members, for they come to see them very rarely; sometimes even not for months together; they live apart, and show themselves only on great occasions. Their precise situation in the set is rather difficult to define; but it may be said, with approximate exactness, that they are to weather what swearing is to respectability, what cholera is to disease, what a lion is to beasts. It is possible that they may have a use; but, if so, it has not yet been discovered; for, as their tremendous grandeur is out of all proportion with their ordinary effect of turning milk sour, it really cannot be reasonably supposed that they were created solely for that minutely destructive purpose, neither can it be seriously pretended that their object is to furnish proof that mankind can easily be terrified by sudden flame and sound. So far as we can thus far perceive, they appear to be a pure expletive, superb and violent, but like many others of the manifestations of the weather, totally incomprehensible.—*Chamber's Journal.*

Permanent Snow Drifts.

Sailing in a north-westerly direction, near the Atlantic coast of the northern part of Newfoundland, and thence on to the Labrador, the permanent patches of snow which occasionally show themselves in the mountains, increase in number and dimensions, until on arriving in the latitude of the Mealy Mountain (54° N.) they form a constant and marked feature in the aspect of the country.

These snow patches are drifts of great extent, occupying ravines or valleys in the mountain sides, and they vary from a few square yards to many hundred acres in extent, generally increasing in area with the altitude. The mountain ranges on the Labrador, between Sandwich Bay and Ukkasiksalor, stretch from from north-east by east to south-west by west. The Mealy Mountains, as seen on the coast near Sandwich Bay, do not exceed 1500 feet in altitude according to the admiralty charts, but on the south shore of Lake Melville they attain an estimated elevation of between 4000 and 5000 feet, and are very imposing in their peaked and serrated outline.

On the northern side of Hamilton Inlet and Lake Melville are the Kokkok range, the Fox Mountain, and the China range, which, with some detached peaks, give to the whole of that part of the country a rugged and elevated character. The Kokkok mountains, as seen from Lake Melville, we thought to be fully as high as the Mealy Mountains, and the Salt-water Lake Range, or Tush-is-lik Mountains, which lie north of the Fox Range, may next approach them in altitude. On all of these separate ranges permanent snow patches exist. These masses, which in some particulars have a glacial character, diminish in character during the summer until the first snow storms in September, but they always form a marked feature in the scenery, and according to the Esquimo and residents on the coast are permanent; some years appearing larger in August than during other seasons, but always there. In a stretch of a hundred miles one sees perhaps the same number of permanent snow patches until Cape Mokokovik or Aillik is past, when they become more frequent, and reach much lower down the hill sides, in fact, actually descend to the shore on the range which terminates at Cape Hurricane (lat. 55° 50').

The snow drifts on the coast line, some of them covering many hundred acres in area, maintain themselves without much apparent diminution in size during August and part of September, even when their base is but a few feet above the sea level. Farther in the interior the bases appear to rise in vertical altitude above the sea with the increase of temperature, and probably they may disappear altogether farther inland, below an elevation which is still very considerably lower than the snow line, especially if the country should be wooded, or no surface features exist which would permit of the growth of drifts.

The coast climate, deriving its severity and humidity from the Labrador current, reduces the mean temperature to such an extent as to permit snow drifts of certain dimensions to remain throughout the year in exposed parts facing the south east or east, which is generally the lee side on the Labrador. There is thus a zone existing for hundreds of miles on this coast, throughout which permanent snow drifts in valleys and ravines prevail to a large extent, and the aggregate area they occupy in August gradually increases as we progress towards the north west.

The breadth of this zone varies with the mountainous character of the country, and is especially dependent upon forest growth. Where there are unbroken forests, however stunted, there are no permanent drifts. Hence conflagrations destroying forests tend to foster the growth of snow drifts and their disintegrating and polishing work.

Facts worth Knowing.

—When the barometer falls suddenly in the western part of New England, it rises at the same time in the valley of the Mississippi, and also at St. John, Newfoundland.

—In great storms the wind for several hundred miles on both sides of the line of minimum pressure, blows toward that line directly or obliquely.

—The force of the wind is in proportion to the suddenness and greatness of the depression of the barometer.

In all great and sudden depressions of the barometer, there is much rain and snow; and in all sudden great rains or snows there is a great depression of the barometer near the centre of the storm, and rise beyond its borders.

—Many storms are of great and unknown length from north to south, reaching beyond our observers in the Gulf of Mexico and in the northern lakes, while their east and west diameter is comparatively small. The storms, therefore, move side foremost.

—Most storms commence in the "far west," beyond our most western observers, but a few commence in the United States.

—When a storm commences in the United States the line of minimum pressure does not come from the "far west," but commences with the storm, and travels with it eastward.

—There is generally a lull of wind at the line of minimum pressure, and sometimes a calm.

—There is generally but little wind near the line of maximum pressure, and on each side of that line the winds are irregular, but tend outward from that line.

—The fluctuations of the barometer are generally greater in the northern than in the southern parts of the United States.

—In the southern parts of the United States the wind generally sets in from the south of east, and terminates from the south of west.

—If there were no wind, weather would be immovable. It would rise up and disappear on the same spot, according to local causes. There would be no sort of relationship or sympathy between two weathers of different districts. If there were no wind the modern science of meteorology would have no existence; for if nothing carried storms and rain in a recognized direction, and with a recognized speed, we could not be told by telegraph what will probably be the nature of the weather round our coasts to-morrow.

—Without wind, weather would often be sulky, gloomy, disagreeable, but it would never be furious. Hurricanes, cyclones, tornadoes, and typhoons, are, virtually, mere wind, and yet they incontestably present the most outrageous forms which weather can assume. Without wind all the other elements of weather would be passive; in themselves alone they constitute mere local agencies, it is only when their inherent power is multiplied by the speed which wind bestows upon them that they acquire destructive force. It is the wind which enables the snow to drift and deepen, the rain to travel over whole countries and to inundate them all; the hail to beat down the crops of entire districts; the fog to march along from sea to land. If "life is movement," it is evidently wind which bestows life in weather.—*Scrap Book.*

—For the daily, constant work of wind we have no gratitude; if, indeed, we think of it at all, it is rather to cry out against its violence than to thank it for its services, they pass, unperceived, before our negligent eyes. Here, however, we are forced to recognize and proclaim them, for, without wind, all the other elements of weather that we have been talking about would be as motionless and as torpid as a mushroom in a hollow tree,

A Mound Across the Strait of Belleisle.

ITS EFFECT ON THE CLIMATE OF CANADA.

When the Nova Scotia Railway Syndicate purpose building the Eastern Extension to Louisburg or Cape North, to connect by steamer with Cape Ray, and thence by rail to St. John's, Newfoundland, in order to shorten the ocean distance between Newfoundland and Great Britain from two to four days, they do themselves the honor to entertain a good, feasible and profitable undertaking. By choosing the Louisburg Terminus, the company will be rewarded with the best harbor in the world, and a variety of good, profitable mining acres on the path of the line, with abundance of coal; by choosing Cape North as a terminus, the line will ship on board its supply of coal in Broad Cove, and by tunnelling their way through the angles of the Cape North mountain plateau range flanking on the waters of the Gulf of St. Lawrence, across the lowlands of Cape St. Lawrence, and curving round to Young's Cove, Aspy Bay, in Cape North, they will find a good, practical harbor by some engineering skill being first supplied, and they will kill two birds by one shot in the bosom of the rocky way made thither, viz:—a roadway defended from snows and torrents, and abundance of remunerative mines; such as gold, silver, copper, iron, manganese, mica and other minerals not positively discovered yet. This whole rock region is possessed of commercial importance. Here is gypsum for the world! Asbestos, too, and gems! Good farmlands, too! There will always be found people to ask how is this railway to pay, or what is there for it to carry. Well, the railway will pay itself without our assistance. It would pay the Broad Cove Coal Co. to build that part of the road from the Strait of Canso and hand it over a free gift to the Syndicate for the use of the Syndicate's line from Canso to Cape North and the Syndicate's custom coal. Tourists will immensely patronize this line and its mineral springs. In fact both lines to Louisburg and Cape North should be simultaneously built for the benefit of the Syndicate; and it would be their wisdom to have that stipulation made in their engagement with the Government.

Although for the present time this is the most practicable idea, yet the time is perhaps at the threshold when the Syndicate will conceive the Heroic idea to connect Newfoundland with the Dominion by the best possible means, viz., that of building a mound across the Strait of Belleisle, and connecting St. John's with Winnipeg by building as near as possible upon a certain line of latitude trusting to the mineral fortunes of the way; or by way of Quebec, Montreal, Ottawa or other leading cities.

By filling up the Strait of Belleisle the climatic effect produced would be great, and would extend a "Horn of Plenty" generally and all around to the Lower Provinces and to the neighboring States. The increase of revenue to all the provinces concerned, for three years, when fairly responding to the beneficence of the change brought about, would pay for the expenditure of the rampart across Belleisle.

For such a climate as we have, we would have a climate approaching that of France or Holland. The Gulf of St. Lawrence would be an inland sea about as warm as the Bay of Biscay. We may imagine what a change would supervene in the suitability and fertility of these countries for all cereal grains, and also the abundance and variety of their fruitage,—and the manufacture, industries, and commerce generally, and wealth and refinement that would spring up therewith; and the desirableness and enjoyment of life in such healthy countries, such as gold cannot buy! Only bar the gate on the Lethal frigid-breathed dogs of the Arctic ice and iceberg!—*Rev. D. Southerland, of Gaba-us, in Halifax Evening Mail.*

Winter on Anticosti.

HOW THE ISLANDERS PASSED THEIR TIME—A BACKWARD SEASON—DEATH OF AN OLD SETTLER—THE WRECKED STEAMER LARTINGTON—THE FOOD SUPPLY—SHIPBUILDING—BREAK UP OF THE ICE—WAITING FOR THE FIRST VESSEL.

QUEBEC, June 1.

The following letter was received by the Marine Department yesterday:—

S. W. POINT, ANTICOSTI, June 1, 1882.

To J. A. Gregory, Esq., Department of Marine and Fisheries, Quebec:

SIR.—I have the honor of presenting as usual my spring report, though I fear it does not contain any very novel or interesting information. Our winter, which has passed quietly and rather uneventfully, was fine and pleasant. The bay froze up in the latter part of December, and the ice remained on it without breaking up or moving during the whole winter, providing a good and safe protection for the cable, whose shore end, which I saw when the ice broke up on the 14th ultimo, appears to be unchanged. The ice along shore also remained with hardly any movement during the winter, and afforded unusually good travelling in consequence, though few of our islanders appeared to care about availing themselves of it. Our feathered winter friends, the elder duck especially, visited us in great numbers, materially assisting to stock many a scanty larder on various parts of the island. The shore seals were seen on floating ice on the 24th December, and probably took their Christmas dinner elsewhere. They have not yet made their appearance this spring. The steamship Lartington, wrecked last November at Rivière-du-Brig, has passed the winter uninjured, with the exception of a few plates stove in stern. She owes her preservation chiefly to the favourable position in which she lies, and the very smooth nature of the bottom. She is a new steamer and apparently very strong, and certainly the first iron vessel ever wrecked on Anticosti that has not gone to pieces in a very short time. After remaining quiet all winter, the ice began to run heavily about the middle of March, jamming and packing on the shore and throwing up immense walls from twenty to thirty feet high and miles in length, fortunately, however, without touching the steamer. The distress all over the island has been very great, though, as far as I have heard, there has been no case of actual starvation. It is generally understood that all the Government depots, except this one, have been emptied, and the people at this settlement have been assisted somewhat from ours too. We have also been threatened with a raid from other parts of the island, but have not been visited up to the present. Mr. Francois Goudreau, one of the earliest settlers on the island, died suddenly at his home at Ellis Bay during the winter. He was among the oldest and best known residents on the island, and in his youth had been a friend and comrade of the celebrated Gamache, who then owned Ellis Bay, and at whose death bed he was the only attendant. I think this is the only death on the island since last fall. The fishermen at English Bay built a schooner of 5 tons during the winter, intending to engage in the seal fishery this spring. She could not be got out till late, owing to the ice, and when launched was found to leak badly. There was also difficulty about obtaining sufficient provisions for the voyage, and from one cause or another her departure has been delayed till the sealing season is over. The spring has been very backward, the snow still lying deep on the ground in many places, though it is now fast disappearing. We have seen no sail as yet from this lighthouse, though the ice has been all gone for a long time and the first vessel of the season is anxiously watched for.

If the Gaspé coast is as clear of ice as ours, the Nova Scotia packet should soon pay us her first visit, when I shall forward this report and other documents.

I have the honor to remain, sir,
Your obedient servant,
EDWARD POPP, Light Keeper.

Newfoundland News.

WINTER WEATHER—CATTLE DYING—FAILURE OF THE COD FISHERY—VESSELS INJURED BY ICE—WHALES DRIVEN ASHORE—THE MAIL BOAT IN THE ICE.

QUEBEC, June 8.

Mr Ronnie, the light-house keeper at Cape Ray, Nfld., writes on May 3rd:—"I have very little of any importance to write, with the exception of the severity of the weather, and that something fearful, snowing every day and every night. Cattle and sheep are dying for want of food, and the snow is too deep to get through the woods to look for anything, and the animals are very weak. The cod fishery has been almost a failure, owing to such rough weather in the first part of the winter, and latterly the ice preventing the men from getting out on the ground. A very great deal of destitution prevails amongst the fishermen in many of the harbors. There are some of the sealing schooners returning from the ice with very poor returns, which in many cases will not cover expenses. Some were very badly hurt by the ice, and fears are entertained that some of them will not be able to get through the ice at all. The crews are exhausted from pumping. Some of them have been pumping constantly for two weeks. There has been quite an excitement here lately by the capture, or rather the driving on shore, of six large whales, at Codroy River. Two drove on shore at the Great River and four drove on shore on one night at the Little River,—quite a providential thing for the people, they being actually in a state of starvation at that time. They have had hard times to get along. They cut off the fat and sold it to a party in Channel for \$1.25 per cwt. taken from the spot. They had not the means of rendering out the oil themselves. The purchaser sends it to St. John's in bulk. There are numbers of vessels and steamships hovering round, keeping clear of the ice and lying by the light at night. The mail boat was three weeks behind time last trip, therefore we are not very well posted. She was fast in the ice off Placentia Bay. She is badly hurt; her port bow was stove in, and six of her iron ribs were broken. They got patched enough to enable her to get along providing she can keep clear of the ice on her route to St. John's, but goodness knows what time we will get another mail.

"Yours most respectfully,
"ROBERT RENNIE."

WEATHER AND AGRICULTURE, NEWFOUNDLAND.

In common with the Lower Provinces we have a very late and cold spring this year. The past fortnight has been dry and favorable for agricultural operations which are now well advanced. Agriculture is not at present our strong point. We have three million acres of fertile lands lying in wilderness condition, and only 34,293 under cultivation. The railway will revolutionize matters. It will render the good lands accessible and cultivation profitable by facilitating the transport of farm products. A change is needed. In 1880 we imported farm produce (flour included) to the value of \$2,815,411. With the exception of flour, all this might be produced at home and our people employed and population increased. Our importations of flour were to the value of \$1,487,420, leaving \$1,327,991 for other food imports. There is no better grazing country than this, yet in 1850 we imported oxen and cows to the value of nearly \$100,000, and horses valued at

\$16,500. In importing head meat and poultry we spent \$24,784; on pork, \$434,518; on bacon and hams, \$10,174. We do not even grow enough potatoes, and imported from Prince Edward Island to the value of \$40,806. From the want of roads and railways agriculture has been declining. There were 8,000 more acres under culture in 1855 than in 1874, when the last census was taken. The annual produce of cultivated land is valued at \$620,000.—*St. John's Nfld.*, June 2d.

Results of Predictions.

—The Middleton, New York, *Press* says: "Vennor has predicted a cold summer, similar to that of 1816, when in some parts of the country it was freezing in June and July. Some of our oldest citizens will remember the hard times which prevailed that year and the year following on account of the backwardness and consequent failure of vegetation. In Vermont and other Eastern States it was more severe than in the Western. A subscriber of the *Press* recently showed us a book entitled "Gazetteer of the State of Vermont," printed in 1824, which gives the history of every town in the State, and also incidents of interest that occurred, which the owner, although young, well remembers, and which will be of interest to our many readers. 'One of the most remarkable occurrences in the town of Peacham, Vt., was the loss of a man's big toe by frost in the month of June. Mr. Walker, the gentleman who sustained the loss, was eighty four years old, and was frozen in consequence of being lost in the woods and living out through the night of the 8th of June, 1816.'"

So far as Texas is concerned, Vennor has not greatly missed it in his predictions. Though we have had no freeze, yet as many as three times within the past six weeks has the thermometer been within from two to five degrees of frost in the northern portion of the State, while even in this section fires and winter clothing have not only been required for comfort, but for the health's sake. The earliest settlers vow that they never before realized such a cool spring. But there has been an abundance of rain, and the absence of intense heat, with the moist earth, have rather encouraged than retarded the growth of vegetation.—*Express, San Antonio, Texas.*

—The predictions of the weather which were published early in the year have thus far proven remarkably accurate, and present circumstances seem to justify the farmer trusting somewhat to those already given for the coming months. At least they, and the recent experience we have had, may be taken as indicating the treatment we should give our growing crops, and the measures we should take to mature and harvest safely those things whose growth the peculiar season has favored. Last year ought to have taught every farmer the great value of the frequent stirring of the soil, even in an exceedingly dry summer. Let all be on the alert to learn for themselves, and for those who come after them, the special lessons which this remarkable year is fitted to teach.—*Farmer's Friend, Mechanicsburg, Pa.*

An unprecedented cold and wet spring has followed the farmers of the Northwest up to June 1. While this condition has saved our winter wheat crop, it has, on the other hand, put the corn crop in a critical situation. We therefore must have for the rest of the season exceptionally fine weather to make an average crop of corn. Owing to the drought of 1881 the fields are very free of weeds, and this will be greatly in favor of the crop.

Spring wheat starts off well. Chinch bugs have appeared in Nebraska and Minnesota, but they have disappeared, and we at present see no reason why this crop should not be an average one.—*Farmer's Review, Chicago, Ill.*

Weather in Massachusetts.

REMINISCENCES OF AN OLD STAGER.

(Correspondence of *The Argus*.)

PITTSFIELD, June 1.—The weather is still the topic here. Yesterday, while I was driven over the mountain by one of the old settlers of this country, the old man became loquacious and strong in reminiscences. I referred to the weather we had been having. He looked me over a moment to get beyond my day, and dated his story in the spring of '33!

Said he: "In the spring of '33, on the 26th day of May, the snow fell eight feet on the level. In the morning we all awoke in the old farm house and found ourselves kivered. Father had 1,200 sheep! We climbed the chimney, got on to the roof, jumped into the snow and burrowed for the northeast side of the farm. We found the sheep nicely housed under a twenty five feet drift; splendid accommodations, bath room and water closet annexed! Next morning there came a sudden thaw, and we rafted them sheep into the barn!"

But have you ever experienced such cold weather here at this season?

"Lordy, gracious! on the 17th day of July, '31, we cut ice on the pond!"

What did you want of ice, if the summer was so cold?

The old fellow gave a kind of a dry swallow, as if he had some uncooked oatmeal in his throat, but "came up smiling."

"Well, you see, we had to water the cattle!"

I kept quiet a moment; his mind worked again.

"In the month of August, '29—the 16th, I think. No, that was in June, before sheep shearing, there came on a sudden fall of wet, clinging like snow; father's sheep hadn't been sheared; the snow stuck to their wool and broke 'em down. You have heern tell of the bone-setters, the Sweets. Well, one of them was in Pittsfield at that time, and father has told me a thousand times that Sweet put splinters on over 500 sheep's legs before sundown that very day!"

I remained quiet; he began to appear uneasy, finally he ventured, "You seem to doubt what I say."

Well, my friend, I might as well acknowledge right here, said I, that I am quite a liar myself! The old fellow sadly fixed his eyes on his horse's ear, and kept it there until he dropped me at the mill. I wonder if the pathetic words of Hood ever occurred to that old liar.

"'Tis little joy

To know I am further off from heaven
Than when I was a boy!"

—If ever the happy time arrives when official weather books will be published annually in both Canada and the United States; when rainy days will be calculated prospectively with as much certainty as eclipses; when the date, nature and duration of every storm will be rigorously determined two years in advance—then, evidently, the astrologers will have to abandon their profession. Meanwhile, however, they will probably continue to exercise it without much hindrance; the only serious competition they have as yet, is, not meteorology, but nature herself, for she is generous enough to place at our disposal a variety of little signals, which render us some service as it is, and would render us much more if only we knew how to read them aright. In her hands coming events do really cast their shadows a few yards before time; and if we were clever at discerning the meanings of the shadows, they would perhaps tell us more about the movements of weather than we have hitherto been able to learn from the united observatories of the world.

Wet Summer, Cold Winter.

The direction of the winds is always an important point to note during any of these peculiar seasons. During the wet season (1855) noticed, the most prevalent wind during the year was the N. E. by E.; the next in frequency the W. by N; and, strange to say, the least prevalent the south.

Following this very wet year, in the Province of Quebec, came

THE COLD JANUARY OF 1859.

The month of January, 1859, immediately following the unusually wet summer of 1858, was remarkable on account of the intensity and duration of the cold. In fact, the severity of this month was unprecedented. The weather early in January (1859) was inclined to be mild, the mean temperature of the first day being 39° F. On the morning of the 3rd the thermometer fell to 4° below zero, and on the 4th day there was a slight snow-fall. On the 8th the thermometer indicated 0° (zero), wind west by south. The thermometer continued falling, and attained a record of temperature I believe unequalled in Canada, both as to intensity and duration. The following temperatures were recorded at the St. Martin's Observatory by Dr. Smallwood:—

January 8th, midnight,	16° 4 below zero.
" 9th, " "	36° 0 " "
" 10th, 6 a.m.,	43° 0 " "
" " midnight,	31° 6 " "
" 11th, 6 a.m.,	37° 0 " "
" " midnight,	18° 1 " "
" 12th, 6 a.m.,	19° 4 " "
" " midnight,	5° 0 " "
" 13th, 6 a.m.,	3° 1 " "
" " 7 a.m.,	0° 0 (zero).

Thus, for a period of 124 hours, the temperature was below and at zero. Mercury froze in open vessels, but the column of mercury in the tube of the thermometer did not cease to contract at the lowest temperature—43° 6.

At 10 p.m. on the 9th the barometer attained the unusual height of 30.614 inches.

The cold term ended by a fall of snow which commenced on the evening of the 12th, and ceased only on the morning of the 13th day. The "snap" was felt pretty generally throughout Canada and the Eastern States, and seems to have travelled from the west, eastward.

At Rochester, N.Y., the cold was felt some hours earlier than at Montreal, and 10° below zero was the maximum temperature.

At Brooklyn, N.Y., the lowest temperature was 9° below zero, and was the lowest in a period of 70 years.

At Boston it was	14° below zero.
" Toronto "	38° " "
" Quebec "	40° " "
" Huntingdon "	44° " "

At this last point mercury was frozen solid in about fifteen minutes when exposed in a saucer.

—A large part of America takes the exact shade of its character for each day from the weather which it finds when it opens its eyes in the morning. It is true that in the majority of cases, we are almost unconscious of the subtle influence which is at work upon us, not only because its effects are usually too minute to attract our attention, but also because we are so accustomed to them that unless they happen to be exceptionally marked, it does not occur to us to investigate their cause. This indifference applies, however, to a good many other things besides weather, and the fact of its existence no more indicates that the action of weather on us is not real, than our forgetfulness that we are always breathing implies that we could do without air.

A Dissonance—Valuable Records.

WET SUMMERS AND FOLLOWING WINTERS.

To the Editor of the *Chicago Tribune*.

CHICAGO, May 5.—In the predictions of Vennor for May published by you this morning, he says "that a cold and wet summer is invariably followed by a cold and stormy winter is a truth now so well proven and borne out by testimony of past records, that we cannot lightly put it aside, and if we have good and sufficient grounds for predicting the former, as we most assuredly have at this time, it is but right that we should warn the people of the latter in good season"—*Tribune*, May 7.

That this statement is not warranted by the facts as regards this section of country for the past thirty five years I will show by records. Commencing with the winter of 1848 '49, a long cold one with heavy snow, the preceding summer of 1848 was warm and moderately dry, and the fall very dry. The summer of 1851 was excessively wet, warm and cold at times, the winter following was a moderately open winter. The summers of 1854, 1855, and 1856 were all warm and dry, and the three winters following those summers were the most severe we have ever had. The summer of 1857 was very wet and cold, and so was the fall; but the winter was mild and moderately open. The summer of 1858, and the fall also, was excessively wet and cool, and the winter following was a very wet, open winter. The summer of 1859 was cold and dry, with frosts every month; the winter following dry, cold and short. The summer of 1862 was wet and cool, and the following winter was extremely mild. The summer of 1863 was very cold, but very dry, and the winter following was very cold in January, February, and March. The summer of 1865 was excessively wet and cool at times, and the following winter was an open one. The summer of 1866 was both wet and cold, and the following winter was cold, but not severe or long. The summer of 1869 was excessively wet, and the golden: in thirty-five years, and the winter was short and moderately open. The summers of 1870, 1871, and 1872 were very dry and warm, and the winters following were cold, and the winter of 1872 '73, an excessively cold, long winter, with heavy snow. The summer of 1873 was very cold and quite wet. The winter following was a mild winter, with no severe weather or storms. The summer of 1874 was hot and dry, with grasshoppers in Iowa, Kansas, and Nebraska, and the winter was long and excessively cold. The summer of 1875 was both wet and cold, and the following winter was very open and mild. The summer of 1876 was rather wet and cold (July was hot and dry), and the following winter was long, cold, and heavy snow-storms. The summer of 1880 was dry and very warm, and the following winter was long, cold, and heavy snow-storms. The seasons I have omitted have no especial bearing, but the facts are that a dry, warm summer and dry fall are always followed by a cold winter, and a wet fall by an open winter in the Western States. Whenever mention is made of a cold winter in the foregoing the Mississippi River at St. Louis and the Ohio River have been closed by ice two months or more. I find but two winters from 1848 to 1882 where a cold, severe winter has followed a cold, wet summer. Since 1872 the winters have regularly alternated cold and open.

A. B. H.

Men's minds are as variant as their faces. Where the motives of their actions are pure, the operation of the former is no more to be imputed to them, as a crime, than the appearance of the latter, for both, being the work of nature, are alike unavoidable.—George Washington.

The Weather Bulletin.

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HENRY G. VENNOR, F. G. S.

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ADVERTISING RATES

The last two pages of this paper will be used for advertising purposes, but no cards will be permitted in the body of the text.

CONTENTS.

	PAGE
Almanac and Brief Predictions	1
Predictions for Louisville, Ky.	2
Mapping Barometer	"
A Simple and Valuable Instrument	"
The Moon Question. The Obelisk and Weather	"
June Frosts	"
Cold May. June Flakes. Rain Falls, Montreal	3
June Weather from Montreal	4
Winds and Weather. Mount Ida, Ark.	"
A May Snow Storm	"
Permanent Snow Drifts	5
Facts Worth Knowing	"
Winter in Anticosti. Newfoundland	6
Results of Predictions	"
Weather in Massachusetts. Wet Summer, Cold	"
Winter. A Dissenter. Valuable Records	7
Contents. Editorial Notes. OUTLOOK	8
Prognostications. Weather Theory	9
Fiery June. Moon Theory. Decay of Spruce	10
Winter Killing of Wheat. Weatherly Speak-	"
ing	11
Storms, their Causes. Panic of 1873	12
Weather in April. Ornithology	13
Gloomy Forebodings. Tri-State Pic-nic	14
Weather, 41 years of	15
Advertisements	16

Editorial.

Please wait for the 1883 almanac as PREMIUM much better than "Farmers Friend."

Kindly inform us of any change in your address.

Do not blame us for the bad weather, we do not make it.

Advance proof of predictions will only be sent to very remote points, in order that our far off subscribers may be on an equal footing with those who reside nearer to us.

Ice men may rest happy and reduce their prices for they have "a good time" before them. In fact we cannot anticipate the end of it.

Do not hesitate to let us know where we have been quite "out" in our predictions and we will look closer into that particular section of country.

We would direct special attention to our chapter on Prognostications by the appearance of the heavenly bodies. It explains points that most of our readers have probably often pondered.

"One swallow does not make a summer," nor does one straw hat, nor does one "miss," make a false prophet." But it takes a great many "hits" to make any appreciable increase in the "profits."

We have used and can strongly recommend the "Mercurial Fitzroy Barometer," advertised in another column by Hearn & Harrison, opticians. In fact there are none other so reliable.

We will mail to every subscriber, who sends us in five other names for year, an advance proof of the predictions for the approaching month, as soon as these are in type, which will be considerably in advance of the paper itself.

The "Professors" who are most antagonistic to our predictions, are almost invariably those who have first tried themselves and utterly failed. They write us down "an ass,"—forgetting that this animal is reputed to be the most weather-wise of the brute creation.

Our *Bulletin Almanac* must be used advisedly. We merely give it as a general arrangement of our general forecast of the month. We first locate the days of disturbances, to the best of our belief, and then sort out the probabilities for the periods between these.

We expect next winter (1883) to hear a great howl from the old country settlers in the North West and in the succeeding Spring to see numbers flocking back again. The thermometer will cause this. There has been too much written about the "genial climate," during the recent phenomenal winters up there.

We have now collected all our back numbers and will furnish these to any who may wish for them for 25 cents complete. In March number the MOON CHART will be found, and in the April number a very clear explanation of it. The articles on "Weather Prognostication," too, commence in the early papers. By the back numbers we include May, but not June; as this last number all subscribers have received.

Our first premium, "The Farmers' Friend," is exhausted, but our Almanac for 1883 is now in preparation and will be sent free when ready (some time in September) to every name on our list of subscribers to *Bulletin*, from the very first name received. No expense will be spared to make this Almanac the very best yet issued.

The table of rain and snow fall for the past forty-one years at Worcester, Mass., given in the present issue, is a specimen of what steady and systematic work will accomplish. Such records for the centres of recognized weather districts, are alike interesting and exceedingly valuable. It is only the extreme paucity of such that renders our attempts at predicting for all sections a difficult task. Send us then your records and what we pretend to do is to point out which particular period of weather is likely to recur again in your section of country.

The September Bulletin will give the first detailed forecast for November and December. We first make our "longshots," and afterwards in succeeding papers continue revising, and thus keep the people right along with us in our anticipations up to the entry of the respective months. In the case of the yearly almanac we were fettered hand and foot and had not this opportunity. We do the best we can for our readers as far in advance as possible and then keep them informed of any change in our views. This is more satisfactory on both sides.

Hardly had we received the first copy of the June *Bulletin* from press, ere we commenced to receive letters and enquiries, concerning the weather for July. Now we love whole life and earnestness on the important and interesting subject of WEATHER amongst our readers, but kind friends do give us breathing space, or you may interfere with our predicting machinery. We always like, at any rate, to see the first ten days of a month over before anticipating the next. Our aim is to make these 30 day or monthly forecasts, as accurate as possible and to effect this, require invariably to see a month well in before attempting to predict for the next. There having been a singular and unusual demand for the July paper we have put it through early. May it "shoo. neel."

We hear and notice from our correspondence that there are a great many moon theorists in the United States. Now, we wish to be instructed on this vexed question and have to request our readers to write freely their views thereon. If any individual or individuals can prove from a back record of say 50 or even 25

years, that, as a general rule the changes of weather have agreed or coincided with this and that particular phase of the moon. But the records must be authentic. So far, we must state that we have entirely failed to note the connections. If, however, there be truth in the connection or relationship between the spots on the surface of the Sun and our weather as many distinguished scientists are now trying to establish, we do not see any reason for doubting the first named relationship. See Hutcheson's letter in another column of this paper.

GENERAL OUTLOOK.

The *General Outlook* will be kept prominently before our Readers in each Monthly Issue. It will at times modify or alter previous statements, and give just what our views are at the date of writing. In this manner we expect to corner the character of the autumn and early winter months to a nicety.—Ed.

With the exception of some heavy rain-falls and local thunder-storms, a lull in the occurrence of wind and violent storms was observable between the 5th and 10th of June, and in northern sections was experienced the first approach to warmth and summer weather. The first thunder-storms of the season were recorded on the St. Lawrence River Valley on the 8th of the month. The St. Lawrence and Ottawa Rivers were both unusually high, and rising, the wharves in many places being submerged. High water in the early part of June, here has its weather relationships elsewhere. It is consequent upon the character of the Spring, which again gives us tangible data respecting the summer over much of the northern hemisphere.

The prospects for July continue pretty much as already given, with, perhaps, a tinge more of heat, on the average. The latter portion of the month is likely to be the most variable as to temperature.

Unsettled and stormy weather is probable for August in many sections, with a cool to cold period between the 15th and 20th of the month. In northern and eastern sections August is likely to be comparatively dry, and September in western and southern sections the most favourable month of the season. October looks "nasty," but of this month we may be able to write more definitely in our next issue.

June 10th.

VENNOR.

Weather Hints.

—If the sun sets in crimson clouds and rises brilliant, or if the stars are numerous and bright, we know in a general way, that we may reckon on a duration of fine weather.

—Dews and white morning fogs are symptoms of clear days.

—A dark and vapory sun, and a sickly-looking moon with blunt horns, and a circle round her; or pallid, big and non-ocintillating stars are all signs of approaching rain.

—If the sun comes up pale and then turns red, or if the moon is large and ruddy, with sharp, black horns, we may count on wind.

—The Chickweed is called "the poor man's barometer" because it shuts up its flowers when wet is approaching.

—The aurora borealis, when very bright, forebodes stormy, moist, unsettled weather.

—A haze around the sun indicates rain; it is caused by fine rain or mist in the upper regions of the atmosphere.

—A halo round the sun has often been followed by heavy rains.

—A halo around the moon is also an indication of rain. The larger the halo, the nearer the wet spell.

—Lack of dew is another rain sign.

—Sharp white frosts in Autumn and Winter precede damp weather, and three successive white frosts are an infallible sign of rain.

—Previous to rain flies bite sharper and stick to us closer, and bees remain in the hive.

—But the few of the many signs we have briefly instanced only apply to the immediate future and have nothing to do with the far-seeing prophets whose prognostications, also largely based upon natural causes, peer into futurity months—nay, years in advance.

Prognostications of the Weather.

(Continued from the May Number.)

IV.—PROGNOSTICATIONS FROM THE COLOR OF THE SKY, AND THE APPEARANCES OF THE HEAVENLY BODIES.

The darker the color of the sky is when viewed perpendicularly upwards, the more it indicates dry weather; and on the contrary, the plainer it is, the more favorable to wet weather. It was formerly stated that the gaseous elements of the atmosphere were all together invisible; and that the sky would appear jet black, that is, would reflect no light whatever, were it not for the aqueous vapor which the air contained. The circumstance of the sky presenting any color therefore but jet black, is owing to the reflection of light (which is itself of a white color), by aqueous vapor. And the reason assigned for the blue shade is, that the blue rays are reflected more copiously than any of the others. Now, as the deviation of the color of the sky from jet black to blue, white is produced by the power of aqueous vapor in reflecting light, it is obvious that the stronger the light, or the larger the amount of aqueous vapor contained in the atmosphere by which light is reflected, the paler the color of the sky ought to be. And, on the contrary, the less light, and the smaller the amount of aqueous vapor contained in the air, the nearer the blue shade should approach to black. In forming an opinion of the future weather from the color of the sky, it is to be recollected that the points of observation competent at different times, must be equally distant from the zenith, and from the direction of the sun. The reason why these circumstances require to be attended to is, that the color of the sky becomes paler in proportion as the amount of light is greater, or the point of observation nearer the direction of the sun, or nearer the horizon. Supposing the amount of aqueous vapor contained in the air, and the amount of light to be the same, most light is reflected by the aqueous vapor which is nearest the direction of the sun, and accordingly, the color of the sky becomes darker, the further the point observed recedes from the direction of that luminary. And other things equal, the color of the sky appears darker according as it is viewed more perpendicularly upwards, because the amount of aqueous vapor contained in the line of view which reflects the light, increases from the zenith to the horizon.

SUN OR MOON.

When the color of the sun or moon appears pale and dull, it indicates wet weather; and on the contrary, when it is bright and clear, it indicates dry weather. The nature of this prognostication is also obvious. Though aqueous vapors reflect light, they have a proportional influence in intercepting the direct luminous rays of the sun and moon. Hence, when the sun and moon look paler and duller than usual, or, in other words, give less light, it indicates that the amount of aqueous vapor

contained in the intermediate atmosphere, relative to its capacity, is greater than usual; and that a larger proportion of the light transmitted by the sun and moon is thereby intercepted. On the other hand, when the sun and moon look brighter than usual, it indicates that there is an unusually small amount of aqueous vapor contained in the intermediate atmosphere relative to its capacity, and accordingly, an unusually small proportion of the sun and moon's light is thereby intercepted.

HORNS OF THE MOON.

For similar reasons to the foregoing, when the horns of the moon are sharp, or when the margin of the moon generally is well defined, it indicates dry weather; and, on the contrary, when the horns of the moon are blunt, and its margin is somewhat ill defined, it foretells wet weather. The nature of this prognostication is analogous to the one preceding. When the amount of aqueous vapor in the air is larger than usual, the aqueous vapor contained in the atmosphere, in the direction between the spectator, and the sky in apparent contact with the margin of the moon, reflects the moon's light with so much intensity that it can hardly be distinguished from the direct rays of the moon, rendered less vivid in consequence of a portion of them being intercepted by aqueous vapor. Hence, in such circumstances, the horns of the moon appear blunt, and its margin somewhat imperfectly defined. On the contrary, when the amount of aqueous vapor contained in the atmosphere is much smaller than usual, a small portion of its direct rays is intercepted, and less of its light is reflected by the aqueous vapor contained in the atmosphere, apparently immediately exterior to the margin of the moon, as seen by the spectator at the surface of the earth. In such circumstances, the moon itself looks unusually clear and bright, while the color of the sky by which it is surrounded is unusually dark. Hence, owing to the contrast of its own brightness, and the unusually dark colored sky by which it is surrounded, its horns appear sharp and vivid, and its margin generally well defined.

CIRCLE ROUND MOON.

In like manner, when the moon is surrounded by an iris, it indicates rain. The reason of this is, that the iris is produced by the moon's light being reflected by aqueous vapor contained in the atmosphere between the spectator and the sky, apparently exterior to the margin of the moon. The iris, therefore, indicates an unusual quantity of moisture in the atmosphere, and hence the reason that it indicates rain.

APPEARANCE OF THE STARS.

Supposing no moon visible, if the stars look larger and somewhat paler, less vivid, and at the same time less numerous than usual, it indicates an unusual amount of moisture in the atmosphere, and accordingly foretells rain. On the contrary, when the stars look smaller, more twinkling, and at the same time more numerous than usual, it indicates an unusual smallness in the amount of aqueous vapor in the atmosphere, and accordingly foretells dry weather. The increased, apparent size of the stars, results from the reflection of their light by aqueous vapor, contained in the atmosphere immediately exterior to their apparent margin. The diminution in their numbers results from many of them becoming invisible, in consequence of a larger proportion of their direct rays being intercepted by the more than ordinary amount of aqueous vapor contained in the atmosphere.

VALUE OF SUCH INDICATIONS.

In reality, all the preceding prognostications of wet or dry weather, deduced from the color of the sky, and the appearances of the heavenly bodies, indicate merely that more than the

ordinary amount of aqueous vapor is contained in the atmosphere, in the one case, and less than the ordinary amount in the other. The reason why a greater than the ordinary amount of aqueous vapor in the atmosphere foretells wet weather, is, that in such circumstances its amount is unusually upon the increase, and this may be owing to the wind being in a rainy direction. On the contrary, the reason why a less than the ordinary amount of aqueous vapor in the atmosphere foretells dry weather, is that the wind, in such circumstances, is usually out of a dry quarter, and generally little of it. Besides, clouds and rain are sooner produced by a favorable combination of the ordinary causes, when the air is saturated, or nearly saturated with aqueous vapor, than when it is much under-saturated.

Upon the whole, weather prognostications deduced from the color of the sky, and the appearances of the heavenly bodies, are fully as much to be depended on as those deduced from the indications of hygrometric instruments.

Another Weather Theory.

(To the Editor of the Witness.)

SIR,—Allow me to doubt Mr. Vennor's prediction as to an early winter. If the attraction of solar heat has any effect on the weather we may expect the reverse, viz., a rather late fall. The past month, as I pointed out, was a month of conjunctions, all the planets were exerting their pulling power on the sun in an opposite direction to the earth. This, if it caused anything, would certainly bring cold weather and a late spring. Just as in the game called a "tug of war," with six or seven great fellows at one end of the rope and a small boy at the other, the little chap would have but a slight chance, the earth at present is in the small boy's predicament; but next fall the aspects will be different, and several of the larger planets coming to or position will exert their immense attractive power on the solar disc, and give us a tolerably late fall in compensation for the present cold spring. A word in proof of the sympathy between the members of our solar system I was observing Jupiter one evening last April, and was greatly surprised at the distinctness of his belts. Upon looking north, however, I saw a brilliant Aurora spreading upward. Thinking the Jovian phenomena accounted for, I waited until the streamers covered the planet's disc, when, to my surprise, it was scarcely visible, being hidden by the streamers as by any other thin cloud. This, I think, proved the display identical; that the forces agitating our own atmosphere had swept through space at the same time to the prince of planets, and were creating displays among his cloud zones as well.

WALTER H. SMITH.

Montreal, June 1st, 1882.

[Time will prove who is correct. We have watched Mansill's predictions—based upon conjunctions of the heavenly bodies—now for some years, and have discovered nothing to strengthen our faith in such a theory; whilst, on the other hand, there has been, and is now, a very general acknowledgment of the accuracy of our system.—Ed.]

—The temperature generally falls suddenly on the passage of the centre of great storms, so that sometimes, when a storm is in the middle of the United States, the lowest temperature of the month will be in the west on the same day that the highest temperature is in the east.

FIERY JUNE.

A MONTH NOTORIOUS FOR CONFLAGRATIONS.

The month of June is proverbially the month of disastrous and terrible conflagrations.

On the 21st of June, 1877, the terrible fire of St. John, N.B., took place, which swept away fully half the city, and nearly every place of business, rendering 15,000 people homeless, destitute and starving. The loss of property was estimated at \$15,000,000, while the insurance companies lost in the vicinity of \$6,000,000. On the 22nd of June, 1878, a large fire broke out on Queen St. in this city, destroying the Messrs. Ives & Co's hardware manufacturing establishment and the coffee and spice mills of Messrs. Ewing & Co. The loss was estimated in the vicinity of \$200,000.

What is commonly known as the Quenneville tragedy occurred on the second of June, 1879, consisting of the destruction by fire of Morey's livery stable and the foul murder of the night watchman, Alphonse Quenneville, by parties unknown.

The burning to the water's edge of the Sound steamer "Seawanbaka," opposite Randall's Island, East River, took place June 29th, 1880, and resulted in the loss of forty lives under the most distressing circumstances.

On the 9th of June, 1881, the terrible conflagration at Quebec destroyed St. John's Ward entirely sweeping away over one thousand houses and leaving nearly two thousand families homeless, and entirely unprovided for. The total loss was estimated at \$12,000,000.

A Large Fire in Montreal.

MONTREAL, June 13.—A terrible fire occurred to-night in Clendenning's block, Victoria Square. Miller's Son's bookbinding and stationery store, Greenshield's dry goods, and Clendenning's stove store were gutted. Loss, \$1,450,000; three-fourths insured. The fire is still raging fiercely. The water power at the beginning was not sufficient to cover the upper stories. The fire is now on the Craig street side. From all appearances the whole block, except McIntyre & French's, will be burned, but the flames will not extend further. Origin of fire unknown. A block of buildings at Dowagiac was burned to-day. Loss unknown.

BRIEFS AND RECORDS.

A DISASTROUS FLOOD.

VICTORIA, B. C., June 13.—Frazer river is still rising. Everything is under water at Chilliwack and Sumas. Sumas prairie resembles a gulf, and the heavy drift of timber is carrying everything before it. The bridges are all carried away and the farmers are sending their families away for safety. At Yale the suspension bridge is in danger. Considerable damage has been done to the railway works.

HEAVY STORMS IN THE WEST.

CHICAGO, June 11.—Specials from south-eastern Iowa, western Missouri and central Illinois, report heavy rain storms, in places, assuming the form of water spouts and doing much damage to property and washing away bridges, and railroad tracks.

Keep a cup of powdered borax on your wash stand, it will do wonders in the way of softening the skin. If you have been working in the garden, or doing things about the house which have tended to make your hands rough, when you wash them dip your fingers in the borax, and rub your hands well with it.

Prof. Whitney does not lay any weight on the removal of the forests as a cause of the dryness and desolation of former fertile and populous regions of the earth. He admits that the greater proportion of land to water in late geological eras may have a little to do with the decreased rain fall; but he attributes the diminished precipitation mainly to a lowering of the intensity of solar radiation during geological time.

TRUTHS.

That an occasional meal away from one's own house and at another's table relishes better than any at home.

That some men can get more fun and comfort out of a \$5,000 income per annum than others can out of a \$10,000 one.

That when men cease to believe in the Divine, or think they do, they begin to bow down before something human—or inhuman.

That a man will travel miles agonizing at every step from a bit of gravel or an obtrusive peg in his shoe before he'll stop and take it out.

That a man never knows what a weak, fickle and uncertain master he has in himself until he is at liberty to govern his own life and do as he pleases.

That when a poet or a philosopher dies a dozen men and women try to kitetail themselves to his name and write themselves into fame by telling all they know of him.

That so many people forget the weather they experienced last year and declare they "never saw such a spring as this before." No, never. What, never? No, never.

That histories written fifty years ago assert how the people of that time were living "at the apex of knowledge and enlightenment," which remark is sometimes repeated to-day.

That when a philosopher or scientist puts forth some new idea, all the wool-gathering, the guesses, and his maunderings afterwards written by him about, around and concerning that idea or truth, or semi-truth, as the case may be, are often by his admirers regarded as most important and sacred words.—*Argus*.

The Moon Theory.

—Since the establishment of meteorological stations all over the earth, it has been proved by millions of observations that there is no simultaneousness whatever between the supposed cause and the supposed effect. The whole story is a fancy and a superstition, which has been handed down to us uncontrolled, and which we have accepted as true because our forefathers believed it. The moon exercises no more influence on weather than herrings do on the Government of the United States.

—The notion that the moon exerts an influence on weather is so deeply rooted that, notwithstanding all the attacks which have been made against it since meteorology has been seriously studied, it continues to retain its hold upon the majority of us, and yet there never was a popular superstition more utterly without a basis than this one. If the moon did really possess any power over weather, that power could only be exercised in one of these ways. By the reflection of the sun's rays, by attraction or by emanation. No other form of action is conceivable. Now, as the brightest light of a full moon is never equal in intensity or quantity to that which is reflected towards us by a white cloud, in a summer day, it can scarcely be pretended that weather is affected by such a cause.

—That the moon does exert attraction on us is manifest. We see its working in the tides, but though it can move water, it is most unlikely that it can do the same to air, for the specific gravity of the atmosphere is so small that there is nothing to be attracted.

—Laplace calculated that the joint attraction of the sun and moon together could not stir the atmosphere at a quicker rate than five miles a day.

—As for lunar emanations, not a sign of them has ever been discovered.

Decay of the Spruce.

(To the Editor of the Witness.)

Sir,—In your issue of May 17th, I read a communication from Fairman Hall on the subject of "The Decay of Spruce Timber." I am pleased to read in your valuable paper a few lines from an experienced person on such an important subject. I was not aware until I read Mr. Hall's letter that the spruce timber in Quebec was dying. I was in hopes the trouble was confined to our own Province alone. It must be a universal decay all over the Dominion. I am a man of considerable experience in the spruce timber woods of this part of the country, being engaged for the last sixteen years each winter cutting and hewing spruce roots and other timber for ship building purposes. In the winter of 1872 and '73 I first noticed the spruce timber dying. My attention was drawn to it by observing woodpeckers at work on green, healthy-looking trees. On examining those trees I found the bark in the first stage of decay. On cutting such trees I closely watched for signs of rot about the roots, but found none, and as I had to remove the boughs and hew the timber up to nearly the extreme top, I had a good opportunity of observing all that was to be then seen; but, strange to say, the bark for nearly the whole length of the tree and the lower branches was all that showed any infection, the timber itself appeared to be perfectly sound. From that time up to the present I have each winter taken notice of the gradual decay of our spruce trees. The first year they will show a decaying of the bark; the second year those trees will be quite dead to the extreme top, but the timber inside seems to be perfectly sound, and will make lumber for house building purposes but totally unfit for ship-building use; the third year those trees are useless for any purpose, and others alongside seem to be in the first stage, and so each year the decay goes on. When I first observed it in 1872 I conceived the idea that it was occasioned by a succession of heavy gales we had in August, September and October of 1871, which shook the forests and disturbed the roots, and consequently broke off the small fibrous roots which gave life to the tree, and the decay began in the bark and boughs, although the great secret was the disturbing of the roots by heavy winds, and our forests being rapidly cut away and thinned out, exposed the remainder to other gales, but since that time I have observed the timber in small valleys, where it was completely sheltered from all winds, to be affected, in some cases nearly every tree, some in the first stage, and others in an advanced stage of decay, so that my theory of it being caused by gales of wind would seem to be wrong. I am now at a loss to account for it. It certainly looks like a blight or distemper, and I would like to hear from others on the subject.

RODERICK ROSR.

Cheverie, Hant's County, Nova Scotia.

In all anticipations of the character of the weather (for short periods) it is advisable to draw our conclusions from a variety of the means of prognostication. Thus, not only the present and immediately previous conditions of the barometer should be taken into account, but also the direction and force of the wind, and the appearances of the clouds and sky. The propriety of this recommendation is evident from considering that the different means of prognostication give sometimes the same, and sometimes opposite, indications. If, for instance, the barometer is high, and has been gradually rising for several days previous, while the wind is from a rainy direction, such as from the east or south, the probability of such a wind bringing rain is much less than if the barometer was low, and had been gradually sinking for several days previous. In like manner a cloudless, or nearly cloudless sky, is a less certain indication of dry weather continuing, when a wind of considerable velocity blows from a rainy, southerly direction, than when there is very little wind, and its direction is from the north of due east.

The first and worst of all frauds is to cheat one's self.—Bailey.

The Blue Jay.

A noted dandy is the jay,
With mitred crown and plumage gay.
Consider him and all his kin!
They reap; but neither toil nor spin;
Yet Solomon, in all his glory,—
Of whom we read in ancient story,—
Was not arrayed like one of these
Now pirating among the trees.

Our crested jay, with all his beauty,
Has neither sense of right nor duty,
A wary and a cunning thief—
His wickedness exceeds belief.
He looks where cosy nests are swung,
He steals their eggs, destroys their young,
And gobbles them like worms and millers,
As if they were but caterpillars!

But let us hear his merits, too,
And give the devil and him their due;
His wit is pure intelligence,
His cunning equals human sense;
He knows the power of dynamite;
He knows the gunner, too, at sight;
And marks the distance he should flee,
As if by trigonometry.

His insect food is rare and various—
Proceres, harpalus, carbonarius,
Anisopterix pometaris,
Paugi, zerene catenaria,
Achetæ, full-grown noctuida,
Halesidote, tortricidæ,
He nicely traps while keeping sentry;
He knows them all as well as gentry.

With ready zeal he joins the cat,
When from the barn she drives the rat;
Then screams aloud, goes into fits;
And scares the cat out of her wits;
Drives frightened puss outside the door,
And takes possession of the floor.
Wherever he assumes his station,
He's master of the situation.
—Wilson FLAGG, in *Boston Transcript*.

The Winter-Killing of Wheat.

[Correspondence Country Gentleman.]

The report from all sections is that the wheat was more or less Winter-killed, and though the winter was an open one, with no very extreme weather, there must be some reason for it, aside from the cold. Wheat may be classed among our most hardy and vigorous plants, and will stand an untold amount of simple freezing and thawing, providing its seed-bea remains firm, and yet, wheat with its feet well planted, has been killed the past winter in great quantities; so some other cause than freezing out will have to be assigned. The result of considerable examination of wheat fields this Spring, and consultations with our best wheat growers, leads me to the conclusion that wheat is quite as often killed by poisoning as by frost, and that wheat "rotting on the ground" is only the last step in this stage of poisoning, a result I find, since this article was written, also reached by the *Country Gentleman's* correspondent, W. J. F.

The more valuable the wheat land the most humus, or vegetable matter, will be found in it. Not the crude vegetable matter of our peat swamps, charged with humic acid, but the matter artificially applied in the form of manure and clover along with the natural soil. The value of this is in its state of decay, caused by the oxygen of the air, aided by the cultivation, and if certain conditions are met, this land will bear the finest of wheat, but that it also often kills either the whole or part of the wheat, may be seen from the following: If water remains for a long time in this soil, in a state of inactivity—not passing out to give place to a fresh supply—the stagnation that ensues will form humic acid, as truly

as in the peat swamp, though in a less generous way, and in an open winter wheat will grow if the conditions are at all favorable, and this acid is either taken up with the other elements the plant absorbs, or else the acid acting upon the exterior of the plant roots so affects them that they fail, either in properly absorbing the fertility or extremity of the roots. The plant is starved from the destruction of the spoliators, and is then described as having "rotted in the ground."

My observation has been that wheat will stand a great deal of running water, if it is in the form of an overflow, and the drains immediately after the inundation clear the ground of standing water. It is not this wheat that is affected, but the wheat on lands that holds the surplus water until it is removed either by the slow process of percolation, or else by evaporation. Almost any wheat field will show places where the water has been in surplus quantities; yet it is in these very "hollows" where the humus will be found in greatest abundance, while on some clay knoll, not one-fourth as fertile, there will be a fine stand of wheat, the reason being that the one had drainage, if only by filtration of the soil, and the other spot held its surplus moisture until the acid formed and killed the wheat plants.

In winters when the ground is frozen continuously from December until April, the thawing out is followed so closely by copious rains and warm weather that the soil is soon put into its normal condition, and little chance is offered for the development of poison. The lesson of all others the past winter is ample drainage, so that the water can be removed from the soil before stagnation can develop its poison. It is also to be supposed that bone meal owes much of its value as a stimulant (or fertilizer) on wheat to its power to neutralize the acids, should they form even in a slight degree, and by its stores of plant-food assist in fostering the roots of the wheat by an almost forced growth.

Weatherly Speaking.

The remarkable weather we have been lately experiencing has caused scientific gentlemen, meteorologists, and the professional weather prophets, to devote more than ordinary study to the subject. Vennor and Tice and one or two other vaticinators of lesser fame have predicted a cool and moist Summer consequent upon the cool and moist Spring, but our own St. Louis Academy of Science may be said to take some issue with the gentlemen alluded to. At the last meeting of the Academy, Dr. Engelmann read a paper on the weather, basing his views on past experience. He said that it had been agreed by meteorologists and others, that May, 1882, was about the coldest May in the knowledge of man. The mean temperature was considerably colder than the normal; for while it was as high in 1880 as 71.3° and 71.4° in 1881, in 1882 it was only 60.7°. Only twice had he found it as low—in 1838 and in 1867, when the temperature was 60.5°. In both the years mentioned, a hot Summer followed the cold May. Of course, he said, it cannot be predicted upon the precedents that the coming Summer will be hot. It will be worth while, however, to keep watch of the season, and compare predictions, precedents, and actual facts. The farmer is interested in the matter and will, no doubt, take occasion to keep a sharp eye upon the changes and elemental disturbances. As a pendant to the matter above, it may be said that the Summers of 1838 and 1867 were very unhealthy and epidemics were prevalent.—*St. Louis, 17th June.*

Measurements of the Great Lakes.

The following measurements of the great lakes will be found interesting and are absolutely correct, having been taken by Government surveyors.

The greatest length of Lake Superior is 335 miles; the greatest breadth is 160 miles; mean depth, 688 feet; elevation, 627 feet; area, 82,000 square miles.

The greatest length of Lake Michigan is 300 miles; its greatest breadth, 108; mean depth, 690 feet; elevation, 506 feet; area, 23,000 square miles.

The greatest length of Lake Huron is 300 miles; its greatest breadth is 60 miles; mean depth, 600 feet; elevation, 274 feet; area, 20,000 square miles.

The greatest length of Lake Erie is 250 miles; its greatest breadth is 80 miles; its mean depth is 84 feet; elevation, 261 feet; area, 6,000 square miles.

The greatest length of Lake Ontario is 180 miles; its greatest breadth is 65 miles; its mean depth is 500 feet; elevation, 261 feet; area, 6,000 square miles.

The total of all five is 1,265 miles, covering an area of upwards of 135,000 square miles.—*Chicago Times.*

Railway Gardening.

If our railway companies would employ a forester and gardener or two, they might employ their thousands of acres of waste lands for crops, grass, fruit trees and so on, with profit, so that they could afford to refuse to be any longer in the position of the poor shop-keeper or barber who fills his shops and pastes his walls over with advertisements and placards because he cannot make two ends meet without the small sums obtained by this disfigurement. At present our railway companies allow their stations and bridges to be so hideously pated and papered over that the property has the appearance of the last stages of struggling poverty. In many parts of Belgium the land has been planted with fruit trees and other things many years, and in Wurtemberg for about twelve years past a forester has had charge of the lands. He pays particular attention to planting the slopes of excavations and embankments to prevent washing and slipping, grows quick fences, and, where practicable, fruit and timber trees. The gardens at the stations are largely devoted to fruit, and so made useful and ornamental at once. A profit of about 14s. an acre has, it is said, been made for the past five years on the ground so utilized.—*London Engineer.*

The June crop report of the Ohio Board of Agriculture, condensed from about one thousand and township returns, will give the following prospects. Fruit estimates are based on the full crop of two years ago; all others on the crop of last year: Wheat—Condition 99 per cent., a probable total of 37,320,000 bushels as against 37,580,000 last year. The damage to wheat by the April frosts was 4½ per cent. Rye 106, barley 98, oats 103, timothy meadows 164, clover 85, pasture 97. Potatoes—Acreage 102 per cent. Corn ground is wet and heavy, and planting later than any spring for at least twenty years. Only 82 per cent. reported planted June 1. Apples, prospects 66 per cent., pears 62, peaches 38, grapes 82, berries 87. Fruit and wheat are most injured by frost in the southern half of the state. The latest reports complain of much "cheat" or "chess" among the frosted and flooded wheat. The weather is now more favorable for corn.

A Sheaf of Richest Grain.

(By Ebon E. Haxford.)

He saw the wheat fields waiting,
All golden in the sun,
And strong and stalwart reapers
Went by him one by one.
"Oh, could I reap in harvest!"
His heart made bitter cry;
"I can do nothing, nothing,
So weak, alas! am I."

At eve, a fainting traveller
Sank down beside his door
A cup of cool, sweet water
To quench his thirst he bore.
And when refreshed and strengthened,
"The traveller went his way,
Upon the poor man's threshold
A golden wheat-heaf lay.

When came the Lord of Harvest,
He cried: "Oh, Master, kind!
One sheaf I have to offer,
And that I did not bind;
I gave a cup of water
To one athirst, and he
Left at my door in going,
The sheaf I offer Thee."

Then said the Lord of Harvest:
"Well pleased with this am I;
One of My angels left it
With thee as he passed by.
Thou mayst not join the reapers
Upon the harvest plain,
But whose helps a brother
Binds sheaves of richest grain."

Storms--their causes.**Editor State Index:**

You know I have not at my command the philosophical appliances, whereby to put nature to the rack and torture her into a revelation of her secret and mysterious laws; and when you ask me to give reasons and causes of the frequent occurrence and the terrific nature of the storms and cyclones which have recently passed over Alabama, you demand answers to questions which I have not the means intelligently to respond to. But my views, derived from my unaided senses, I can give you. About a year ago I told you in your office that, in my opinion, Selma could never be visited by a hurricane. The same opinion has often been expressed by me in regard to the city of Montgomery. This opinion was based upon my knowledge of the hurricane tracks in Alabama, and upon my knowledge of the topographic and orographic features of the country surrounding these cities, as well as upon an experience of their exemption from storms during a period of fifty years. But Selma has had its hurricane; and the city of Montgomery has had its hurricane; and these hurricanes have overruled my opinion, and these favored cities are under shelter from the ravages of the storm king. Well, what is the matter? Has any thing been done to unbridle the winds? Has any thing been done tending to introduce the storm and intensify its electric action? You say in your last issue, speaking of storms and cyclones. "There is certainly some local provocation, and the question is, what produces these whirls in the air?" Let me say the question just now is, not what produces these whirls in the air, but what has provoked these whirls in the air to invade the cities of Selma and Montgomery? Is there any local provocation for it?

In a letter on "Cloud Waves," published in *The New Orleans Times*, April 6, 1876. I made the following request and statement: "Sometime or other ask some of our wise men what effect is produced upon our cloud-system by the railroad systems and the telegraph systems of our country? Every railroad bar is a magnet, and every telegraph wire is an electro-magnetic nerve running through the atmos-

phere, and, in my opinion, producing an increase in the terrific energy of the electric whirl-winds and storms which have visited our country since it has been covered over with a network of railroads and telegraph lines. This is a question deserving the attention of our wisest men."

The foregoing was written and published more than six years ago, and yet the inquiry has never been responded to. Beyond question, something has intensified the destructive agency of the hurricane; and it seems equally clear to me that some recent cause has drawn it into tracks hitherto not open to its ingress. It may be that the removal of the primeval forest has had an influence upon the action of the storm. The climates of countries have been modified, or entirely changed, by the removal of their forests. Every tree that grows with its limbs expanded in the air and its roots spread out in the earth, is, in some sort, a galvanic battery, with its electro-magnetic currents, which, running more or less in a perpendicular direction, tend to hold the atmospheric volume spell-bound, and to break or modify the severity of the surface winds that drive in with increasing velocity and violence towards the axis of the storm. This seems to me to be a physical truth. And if it be a truth, then this influence or force, or whatever else you may please to call it, is something over, and in addition to the mechanical resistance of the tree as a wind-break. The demands of commerce and agriculture have covered the country with a network of railroads and telegraph lines. The same demands have attacked the primeval forests, and the great wind-breaks of the country are giving way. The storms are becoming unruly, and the lightnings are rebelling against man, because of the servitude to which he has reduced them. Now, because I speak in this manner, do not say to me like one of your distinguished citizens did, "You are opposed to railroads," for I am not opposed to railroads, nor to telegraph lines, nor to the removal of the forests, at the behest of agriculture and commerce, but I am in favor of them all, and I would have them all accomplished in such a manner as to bring in the very least of physical evils. But if man has, in the pursuit of these grand objects, unwittingly brought upon himself physical evils, he has the art, the ingenuity and industry to remove them; and beyond doubt he has the capacity to subdue nature and subordinate her laws to his use.

Now, let me give you my opinion why the whirlwinds have been so very frequent in Alabama this year. Early in the past winter the cloud-orbit, as I term it, was well established from Texas to the upper Lakes. This orbit completely surrounded us. In other words, during winter and early spring, this orbit was interposed between us and cold weather. I need not remind you of the vast amount of water thrown down on the track of this cloud wave during winter and early spring, as the whole country has been but too painfully reminded of it. The cloud-orbit has a cold side and a warm side. The north winds, coming from less segments of rotation, fall behind the axis of the cloud in its orbit. Let me tell it in other words: North winds, coming from less to greater circles, fall more and more to the westward of the meridian of their departure. But south winds, coming from greater to less circles, fall more and more to the eastward of the meridian of their departure. These winds, under the influence alone of the diurnal force, could never reach the axis of the cloud. But coming, respectfully, from the north and the south, they are in opposite states of electro-magnetic tension, or polarity, and ought and do attract each other with great and increasing energy until they approach near enough to discharge their electricities. I have often said that the left is the concave side of the winds in north latitudes, and that

the relief of pressure is also on the left side of the winds. This form of the winds comes from the fact that the force of gravitation and the force of electro-polarity of the winds, to a certain extent, overcome the centrifugal force, and draw the winds down into the cloud-wave, in involute descending spirals, curving to the left, and increasing in velocity and intensity of power as they approach the axis of the whirl wind. But these forces can never entirely extinguish the centrifugal force, a contingent thereof always being represented in the calm around the axis of the storm. But when the north and south winds have discharged their electricities they become homogeneous as to polarity, and repellant, moving off in involute ascending spirals around the axis of the storm. This is the law of the whirlwind, in my opinion. When the cloud-orbit came over us from the west, the last month, it brought with it its system of storms and whirlwinds. It is now gone east and placed us on its cool side, but it is too late to make frost. If this scrawl is unintelligible, throw it in your basket.

MARION, May 4, 1882.

J. F. B.

Floriculture.

It is a mistaken idea that flowers should be watered twice a day and twice only, at sunrise and after sunset. Flowers should always be watered when the soil about their roots looks dry. Some plants require to be watered twice a day, some three or four times, some once, and others four or five times a week. Care should be taken to water the soil about the roots, and not to sprinkle the top as many do, thinking that if the leaves and flowers get a dainty bath from the spout of the watering-pot, all is well. The root of the plant wants the nourishment, and not the blossoms and leaves, although, of course, they present a far lovelier appearance when sprinkled over with diamond drops of water.

Another point for amateur florists to observe is the careful pruning of all plants, removing half withered blossoms and leaves. These may be collected in a box, and will make excellent manure. Dead flowers and leaves on a plant spoils its beauty, as soiled lace at the neck and sleeves spoils the beauty of a dress.

Roses grow well in any ordinary garden soil that is free from standing water and well drained. The soil should not contain too much clay, but if this is apparent it may be remedied by an application of wood and coal ashes, lime and stable manure. The rose bushes should be pruned in October and not in the spring of the year as many suppose.

AKRON, O., June 6, 1882.

To the Editor of the *COMMERCIAL*.

Will you answer through your valuable columns, what caused the panic of 1873, and whether or not a panic awaits us in the near future? Yours very respectfully,

DAILY READER.

There were many things that contributed to produce the panic of 1873. The immediate cause was the failure of the firm of Jay Cooke & Co., that precipitated the panic, but the causes lay behind that event, and would have brought it on sooner or later. Chief among the causes was the inflation produced by a depreciated and over abundant supply of paper money; the business of the country was on a credit basis, and the tension of that credit was taxed beyond its sustaining powers. When it gave way in a single place the crash and collapse followed. It is not impossible that another revulsion is in the future, but it is not likely to be as severe or extensive as that of 1873, for the reason that our "medium of exchange" is on a metallic footing, but over production and want of market, added to excessive importation, may bring on a commercial black frost.—*Com. Com.*

The Weather in April.

The *Weather Review* for the month of April published by the General Weather service of the United States, and just received, is an exceedingly interesting number. The weather during April has been exceedingly favorable for agricultural pursuits in almost every section of the country, and trustworthy reports indicated that the crops of cereals would be above the average, and in the southern sections of the country, where there is an unusually large acreage of wheat, an early and abundant crop was anticipated. The April rains on the Pacific Coast had placed the crops in that region out of danger, and in the southern sections of California the pasturage was reported to be excellent. But in the North-western States and in sections of Tennessee and Kentucky, fruit crops were injured by April frosts, while in the eastern sections of the country the fruit crop was well advanced, and promised to compare favorably with the average yield. Injury by frost was, however, variously estimated and was found to be not as great as at first thought.

The temperature of the month ranged from 1° to 3° above the mean along the Atlantic Coast region, and from 2° to 3° above in the Missouri and Mississippi Valleys.

The storms that moved over the United States were south of the average track of April storms. The magnetic storm, occurring during the auroral displays, beginning on the 16th, which will be remembered for their brilliancy, is said to have been the most extraordinary that has occurred for many years. The displays were visible from the British Isles to the Pacific coast, and as far south as Key West. Icebergs encountered by vessels in the North Atlantic were of unusual number, and at the close of the month danger to shipping was great. The southern limit of the ice, between 40° and 50° longitude, reached below 40° latitude, and suggested the danger at that season of the year for vessels passing over that course to and from Europe. The existence of those vast ice fields and the continued southerly tracks of May storms account for the coolness and wetness of May, which has been generally reported as the coldest and wettest May for a number of years. The prevailing sunshine and increasing warmth of the present month so far, has, however, compensated for the backwardness of May.

The *Providence Journal* says of the ever joyous June:

"In this year of grace, April was cold and dry; May was cold and wet, the tender shrubs were as bare as in January, the hardy trees had hardly put forth a leaf. In the latter part of the month the soft maples disclosed a tiny leaf, and the dogwood exhibited its snowy blossoms. Cold nights, however, were the rule and the horsechestnut spikes undeveloped, showed little or none of that exquisite color which only the closest examination enables one fully to appreciate, while the homely and home-like lilac gave tardy promise of its natural and ordinarily early bloom and fragrance. June has bestowed upon us not much of warmth and sunlight, but we know what is in store for us. The early apple trees are in fullest blossom; the wisteria displays its inchoate flowers; the hill-sides have taken on a glowing color, and the grass of the valleys is of a living green. As yet the enjoyment is mostly in promise instead of fruition. The plants which have been set out are alive, but they have made no growth; one does not yet sit in the open air in the evening, and the rose bushes, many of them badly hurt by the winter, evolve but slowly their foliage.

"But genia. June has come; the Japan quince is lovely with an oriental richness of color; its scarlet is contrasted with the yellow of the black currant, and even the Virginia

creepor is giving evidence of a renewed life. To the oldish and conservative citizen there is another and altogether pleasant proof of the advancing season; house cleaning is over; the semi annual anarchy of the house is once more reduced to order and the disturbed equilibrium of the 'Marthas' is followed by that serenity of disposition and that sweetness of temper which characterize the sex. The peace-offering of a new plant which the rural citizen carries to his spouse is now accepted with a gracious smile, and there are dinners once more with the old familiar pictures in their places and that spirit of repose which is so needful to the son of toil, and so greatly due to the well-meaning if not thoroughly disciplined 'old man.' Yes, indeed, we hail June because of its glorious attractions out-of-doors, and its sweet flashes of silence and its peace within. If we are able to emulate nature in her invigoration and beneficence, we shall perform our duties well and give happiness to those about us, as in truth we ought, finding therein an exceeding great reward."

Ornithology of Canada,

Mr. Vennor is preparing a work on the "Birds of Canada," and has an artist employed in making the drawings necessary to illustrate the letter-press. The first part of this work on the *Staplores*, or birds of prey, has already been published and most favorably received, both on this Continent and in Europe. The photographs, however, with which the first volume was illustrated did not please the author, and he has now determined to have special drawings and cuts made under his own supervision. Mr. Vennor expects shortly to leave for Washington, where he intends to remain while examining the collections of the Smithsonian Institute. He says there are no bird collections in Canada worthy of the name of collections, but that our best specimens have already found their way into the museums of the United States, where they are of far more service to science and better appreciated by the people. The museum at Montreal should be sold to Barnum, it is full of deformities.—*Canada First.*

Century Plants Ready to Bloom.

Quite a number of century plants, in various portions of the State of California, are throwing up stalks preparatory to blooming. One upon a ranch in Sonoma valley, on the west side, near the foothills, grew six feet in eight days, or three-eighths of an inch per hour, which is a fair sample of the rapidity of flower-stem development in these interesting plants. At Petaluma two plants are about to bloom, and will be in their prime next week. A mammoth century plant, which has been for years on a farm in the San Gabriel valley, will blossom soon. The plant spreads over a circle of forty-eight feet in circumference. Its flower stem is expected to become forty or more feet high before it completes its growth. At Alvarado a large century plant is now thrusting up its flower stem. Eight or ten other cases are reported in other parts of the State. The *Agave Americana*, or century plant, will, in California, bloom in eight to ten years after being planted. The Mexicans make an intoxicating drink, pulque, from the sap, and its manufacture is said to be very profitable. From the leaves a hemp-like fibre is obtained.

Be prudent, and if you hear some insult or some threat, have the appearance of not hearing it.—George Sand.

To some men popularity is always suspicious. Enjoying none themselves, they are prone to suspect the validity of those attainments which command it.—George Henry Lewes.

I am not aware that payment, or even favors, however gracious, bind any man's soul and conscience on questions of highest morality and highest public importance.—George Kingsley.

An Immense Rainfall.

An unusual quantity of rain fell during the forty eight hours ending yesterday noon (Monday, June 19th). The Rainfall Saturday, measured 1½ inches, and from Saturday noon till Monday, it fell to the depth of 3.54-100 inches, which is unprecedented in this section. — From the *Saratogian* of Tuesday, June 20th 1882.

The announced fateful year "1881" has come and gone and still the great world rolls and swings around. It begins to look, however, as though "Vennor," the gaunt, grim and grizzly guesser about the coming weather, who has always had things to predict, has too often proved to have been in accord with the elements.

Therefore it is that he has distanced "Mother Shipton," who was the first and foremost prophetess for the last 400 years. The cavortings of the mild, unruly winds, as told in both our local and general news columns, will show that Vennor has beaten the mediæval seer clear out of sight.

From *Daily Saratogian* June 20th 1882.

The Remnant of a Tornado.

Local meteorologists of a hitherto unspotted character have been predicting, for a month past, that there was going to be a drouth. If any dry spell has been en route for this locality, it has either met with an accident or been switched off. If there is anything that is desirable here, for a little time, at least, it is a steady, easy-going, well built, kiln dried piece of weather, with few tears to shed. Still, Albanians should be thankful that the tornado that has wrought such havoc in the far west, and even in this State was reduced to a remnant when it struck this city yesterday, and that it was even so considerate as to drop a portion of its hailstones in Schenectady and send the rest around by way of Saratoga. It blew terrifically and rained copiously here, all the same, though no particular damage was done; and when the clouds began to gather in dense and murky masses, and march at double-quick time across the sky, many thought that a tornado, in all its fury, would surely break upon the city. The first burst turned the hilly streets into mountain streams, but the storm shortly settled down to a steady rain, which ceased in the evening, though the sky continued to threaten.

Comet A. of 1882 is a fraud. It was predicted of it that during the months of May and June it would appear in splendor in the northern heavens, rivaling, if not surpassing the great comet of 1881. When first discovered by Astronomer Wells it was heading this way at the stupendous rate of a million and a half of miles each day, its speed being accelerated as it approached the sun.

But it has made no such display. It is hardly visible to the naked eye, and does not present a very formidable appearance through a telescope. But it is at its brightest now, according to the latest reports, passed its perihelion last night, and describing a parabola is again off, into space, never, probable, to return in this direction.—*June 14th, Cincinnati Commercial.*

A man in any station can do his duty, and doing it, can earn his own respect.—Charles Dickens.

A gentleman is one who understands and shows every mark of deference to the claims of self-love in others, and exacts it in return from them.—Hazlitt.

Gloomy Forebodings.

DIRE EVENTS ANTICIPATED BY ASTROLOGERS—INDICATIONS FROM SIGNS IN THE HEAVENS.

By casting a "figure of the heavens" for the moment of the sun's entry into the cardinal signs Aries, Cancer, Libra, and Capricornus, astrologers in all ages have not hesitated to forecast great events and changes of the world. The civil war in this country was in this manner accurately foretold by "Zadkiel," several years before the first shot was fired at Sumter. This branch of the ancient science is termed mundane astrology. The map of the heavens is drawn from the longitude of the seat of government, and if a fixed sign, Taurus, Leo, Scorpio or Aquarius, ascend thereat, the configurations are believed to remain in force the ensuing three months. The Summer solstice occurs at Washington on Wednesday morning next, June 21st; at 8 h. 8.3 min. in the morning. At that time 14.8 degrees of the fixed, fiery sign Leo, will be rising in the east; five degrees of Virgo will be over the cusp of the second house; one degree of Libra on the third; three degrees of Scorpio on the fourth; nine degrees of Sagittary on the fifth, and fourteen degrees of Capricornus on the sixth. The remaining six houses will be occupied, of course, by the same number of degrees of the corresponding opposite signs. Mars, the herald of

WAR, STRIFE, COMMOTION AND BLOODSHED,

is posited in the ascendant in square to Saturn, which occupies the mid-heaven in the fixed sign Taurus. The moon and Uranus are situated in the second house; Jupiter and the sun are in the eleventh house, sixteen degrees apart; Mercury retrograde is within four degrees of the cusp of the twelfth, while Venus, which has just entered Leo, occupies the centre of this house. The position of Saturn, afflicted by Mars, in the mid-heaven, is unfavorable for President Arthur's administration during the ensuing three months. The President is likely to be the subject of abuse and adverse criticism. The moon, being the significator of the common people, her presence in the second house, in the evil society of Uranus, the significator of strange, sudden and extraordinary events, indicates that this country will most likely experience some

FINANCIAL TROUBLES BEFORE OCTOBER.

The second house, signifying money and property, an unexpected fall in public securities, may not improbably eventuate in a panic. The presence of Mars in the ascendant or first house indicates bellicose tendencies. The country may drift towards the edge of a quarrel, from which it could hardly retire by credit or glory. The position of Mars and Mercury, moreover, is sure to be prolific of much robbery and crime. The eleventh house represents the friends and allies of the country, and as Jupiter, the harbinger of peace, justice and honor, posited with it. Unfortunately Uranus is in square to Jupiter, and thus tends to strengthen the evil dispositions of Mars. Mercury is the ruler of science, literature, art merchandise, etc., and his influence is said to be convertible, being good when configurated with Jupiter or Venus, and evil when with Mars, Saturn or Uranus. In the present figure the evil preponderates. He receives some slight assistance from Jupiter, but that is more than counterbalanced by the aspects of Uranus and the moon. It is doubtful whether the grain crops will prove an average, and trade generally cannot be so good as we could desire. Shocks of earthquakes will be felt in some portions of the country, and the weather for the summer quarter is likely to be hot and dry.

The country is, according to astrologers, entering upon a period of trial and trouble, with a lack of public confidence in the ruling powers, and it is not among the improbabilities, owing to the peculiar position of Mars and Saturn, that some prominent man will meet with violence before the Autumn equinox. *Sunday Mercury.*

No matter what his rank or position may be, the lover of books is the richest and the happiest of the children of men.—Langford.

Those who, not knowing us enough, think ill of us, do us no wrong; they attack not us, but the phantom of their own imagination.—De la Bruyere.

1874.

NINTH ANNUAL

1882.

Tri-State Picnic and Exhibition

OF THE

Patrons of Husbandry

Of Pennsylvania, Maryland and West Virginia at Williams' Grove, Cumberland County, Pa., twelve miles southwest of Harrisburg, on the Dillsburgh branch of the Cumberland Valley Railroad, commencing Monday, August 21, and closing Saturday, August 26.

IMMENSE CROWD COMING!

The display of Farm and Domestic Machinery and Implements, and Agricultural and Products, will be superior to any Exhibition ever held in the Middle States.

Prominent Members of the Order

of Patrons of Husbandry from Pennsylvania, Maryland, West Virginia, New Jersey, Delaware, Virginia, New York and Ohio, the Governors of Pennsylvania, Maryland and West Virginia, and other eminent agriculturalists and statesmen will certainly be there to deliver lectures, addresses, etc., for the entertainment of all. There will be good Restaurants on the grounds, and visitors will be entertained at very low rates.

RAILROAD FACILITIES SUPERB, and the thousands of visitors will find ample accommodations for a comfortable journey to and from the grove.

EXCURSION TICKETS.

EXCURSION TICKETS at very low rates will be sold at all points on the Pennsylvania, Northern Central and Philadelphia and Erie, and Philadelphia and Reading Railroads, and their Branches, good to go on August 19th, 21st, 22nd, 23rd and 24th, and to return until the 28th. To procure excursion tickets on the above roads, write to the Chairman of Committee for orders, enclosing a stamp to pay return postage.

Arrangements are being completed with the Railroad Companies whereby implements and machinery for exhibition will be charged freight one way and returned free of charge. Manufacturers will find this one of the best exhibitions ever held in the United States for the advertisement of their goods. Posters and circulars advertising this Exhibition will be freely distributed throughout the Middle States by the 1st of July.

For Further Information, Address

R. H. THOMAS,

Chairman Committee of Arrangements, Mechanicsburg, Pa.

VENNOR'S WEATHER BULLETIN.

Amount of Melted Snow and Rain—Also Snow Registered at Worcester, Mass., for Forty-one Years.

Year.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.	JUNE.	JULY.	AUGUST.	SEPT.	OCTOBER.	NOVEMBER.	DECEMBER.	TOTAL.			
	Inches Rain.	Inches Snow.	Inches Rain.	Inches Snow.	Inches Rain.	Inches Snow.	Inches Rain.	Inches Snow.									Inches Rain.	Inches Snow.	Inches Rain.	Inches Snow.
1841.....	4.78	25.50	.83	15.	3.43	20.	6.54	6.	3.46	.92	2.94	2.97	4.27	3.84	4.17	4.77	6.	42.92	82.50	
1842.....	1.85	5.	4.13	3.	2.24	4.	2.32	4.	3.24	4.93	1.96	7.12	3.50	.83	3.86	2.12	5.30	40.78	40.	
1843.....	5.05	2.	4.45	30.	5.23	26.	3.13	10.	1.78	4.15	3.36	9.19	1.25	5.19	3.36	2.28	23.	48.67	91.	
1844.....	3.14	13.50	1.44	12.	3.80	18.50	.35	.....	3.67	3.92	3.50	3.39	3.68	7.34	3.06	2.56	8.	37.85	57.	
1845.....	4.17	12.	2.61	20.	3.20	10.	1.01	.....	3.23	1.92	2.91	2.44	2.57	4.44	6.77	4.	5.39	42.49	59.	
1846.....	2.92	13.	2.50	30.	3.38	.....	1.34	.....	5.85	2.37	3.81	2.44	.90	.....	4.08	5.	.....	34.00	52.	
1847.....	4.66	5.	4.08	17.	3.39	8.	1.07	.....	3.52	5.20	4.86	4.20	7.17	2.87	3.75	2.87	.....	50.89	40.50	
1848.....	3.08	4.50	1.61	23.	3.99	6.	1.52	5.	3.56	1.31	3.13	4.28	2.36	6.75	1.94	3.93	3.12	35.83	71.25	
1849.....	.98	2.	1.30	16.50	4.75	3.	1.95	1.5	3.56	3.25	3.75	6.05	7.92	3.37	4.11	.....	8.50	35.84	81.0	
1850.....	4.79	15.	3.33	2.	3.67	20.	5.53	13.	7.50	3.25	3.75	6.05	7.92	3.37	2.14	.....	23.50	65.39	74.	
1851.....	2.07	2.50	3.03	2.	4.01	18.	6.76	6.	3.15	3.16	2.17	1.97	2.59	7.04	5.88	4.	4.78	61.48	78.55	
1852.....	6.44	17.	2.46	11.50	3.42	13.75	10.77	23.	6.45	1.01	3.42	10.71	5.23	6.20	5.30	.....	8.79	20.50	60.06	
1853.....	3.04	10.	6.62	15.50	3.45	8.	4.92	.....	6.78	3.05	6.68	4.06	5.23	5.03	5.82	.....	4.78	20.50	60.06	
1854.....	2.82	7.50	8.09	11.	3.45	.....	6.69	16.	4.56	4.19	3.80	13.14	4.92	8.17	3.12	.....	6.90	15.50	58.62	
1855.....	8.11	9.	4.48	8.	1.23	4.	5.39	.....	6.55	1.44	2.68	5.45	4.02	2.06	2.08	.....	4.08	8.	46.94	52.25
1856.....	4.60	27.50	1.35	9.	1.09	10.25	3.34	.....	4.56	3.44	3.80	6.75	4.92	3.03	5.85	.....	6.11	8.	53.92	65.25
1857.....	4.48	29.	2.24	6.50	2.30	11.75	8.77	.....	3.65	5.17	4.18	4.	5.70	3.09	1.69	.....	3.19	6.25	41.75	28.87
1858.....	3.06	8.50	1.10	4.50	2.29	.....	4.14	5.	3.65	6.16	4.18	5.45	4.02	2.46	3.09	.....	4.65	19.	48.57	68.25
1859.....	5.75	24.50	3.07	13.75	7.71	4.75	2.90	1.	2.68	7.44	7.91	6.76	6.02	2.47	4.38	.....	6.05	16.75	49.03	68.25
1860.....	1.34	14.75	2.77	20.	2.85	15.	5.71	13.	3.50	2.46	5.29	3.09	3.11	3.38	3.93	.....	1.81	3.	41.96	61.25
1861.....	4.33	28.25	1.60	20.	2.85	15.	2.34	1.	1.87	7.44	6.10	3.04	2.14	3.22	5.85	.....	2.50	20.75	44.02	61.25
1862.....	4.47	23.50	3.42	10.	3.51	3.	2.34	1.	1.87	1.18	8.17	3.00	2.66	4.86	4.77	.....	4.41	11.	50.93	69.50
1863.....	4.09	10.50	2.44	12.	5.78	31.	5.28	5.	1.75	1.18	8.87	3.00	2.66	4.86	4.77	.....	4.41	11.	50.93	69.50
1864.....	4.54	4.	1.74	5.75	3.90	10.50	5.66	11.5	5.96	2.40	1.68	3.11	2.98	.....	4.81	.....	3.07	15.25	43.53	46.10
1865.....	3.92	15.50	8.26	8.5	4.72	.....	5.21	.....	5.38	1.72	3.37	3.39	.68	5.1	2.87	.....	2.75	8.3	34.52	24.65
1866.....	2.56	13.	5.27	1.75	3.13	5.	9.09	.....	4.91	3.40	3.78	3.22	4.77	2.37	2.61	.....	3.78	15.	42.15	34.75
1867.....	5.16	44.	4.42	9.50	4.40	23.	2.50	.....	4.91	3.32	7.91	10.79	1.7	3.79	3.79	.....	2.19	1.00	59.14	118.95
1868.....	3.27	27.	1.53	3.75	2.82	8.50	5.18	16.75	8.30	3.08	1.08	3.57	8.60	1.14	4.24	.....	1.85	11.	44.06	75.25
1869.....	2.82	11.50	5.49	16.30	4.83	11.50	2.52	1.50	6.77	3.08	1.40	2.21	4.74	9.81	2.43	.....	5.23	16.50	60.36	59.40
1870.....	6.34	18.	8.04	21.	2.34	20.	6.03	4.	3.70	5.30	2.39	1.74	1.40	5.89	3.48	.....	4.10	5.	41.24	68.
1871.....	4.53	11.	4.36	18.	4.68	4.	3.63	4.	3.70	5.30	2.39	8.94	.90	5.31	4.54	.....	1.15	5.	45.38	46.75
1872.....	1.17	6.	1.85	8.	2.39	7.50	1.42	.....	1.69	1.64	.43	3.40	2.75	5.66	1.35	.....	1.87	11.	32.50	62.50
1873.....	4.42	16.	1.63	17.	3.03	6.50	2.40	7.	3.99	3.61	1.59	5.11	1.06	.82	2.12	.....	1.29	5.87	31.47	61.87
1874.....	2.77	30.	1.64	11.	1.93	10.25	5.30	4.75	4.01	2.65	4.32	8.72	3.71	5.41	5.15	.....	1.68	.....	45.35	61.25
1875.....	2.5	18.	1.59	16.	5.53	18.	2.81	9.25	2.65	2.54	4.32	.96	3.79	7.93	2.18	.....	2.04	20.	29.80	44.75
1876.....	1.59	6.75	2.95	8.50	6.70	9.50	.61	.....	1.42	1.38	1.49	1.43	.48	1.93	5.50	.....	1.85	.....	38.50	26.50
1877.....	3.46	19.	.76	7.50	7.09	.....	2.97	.....	2.45	2.10	2.46	4.42	.67	2.21	5.78	.....	4.32	9.43	38.72	19.88
1878.....	6.70	6.37	1.04	.....	2.88	4.03	6.24	.....	.74	2.26	2.46	4.42	.67	2.21	5.78	.....	4.32	9.43	38.72	19.88
1879.....	1.68	11.50	5.19	15.50	9.57	6.25	.....	.75	1.54	3.10	3.79	6.03	1.19	3.46	2.60	.....	4.05	18.50	44.20	49.75
1880.....	5.28	6.50	3.79	13.75	3.20	24.	3.41	.50	1.79	3.10	3.79	4.18	2.02	3.31	2.60	.....	5.05	18.	46.50	49.75
1881.....	5.79	34.25	5.43	8.23	6.10	15.25	2.40	.....	4.10	4.62	3.06	1.78	3.	1.87	3.95	.....	6.04	4.50	18.14	74.25

PROF. HENRY G. VENNOR,

WORCESTER, Mass., May 20, 1882.

Dear Sir:—I hand you herewith a table giving the amount of rain and snow fall by months for the past forty-one years. The column which is designated "inches rain," includes the melted snow. You will notice there is a break in 1872, as far as I can learn, no record was kept during that part of the year not given. You can make whatever use you desire with the table.

Yours respectfully,

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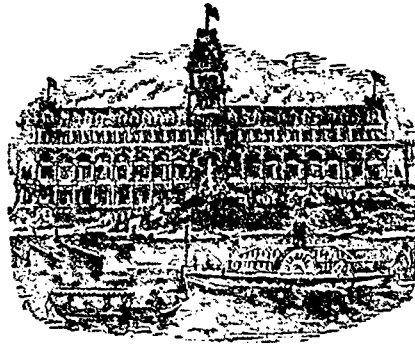
where they can always meet leading public men. The entire Hotel is supplied with escapes, and in case of fire there would not be any confusion or danger. Every attention paid to guests.

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Proprietor.

OTTAWA, February 13, 1882.

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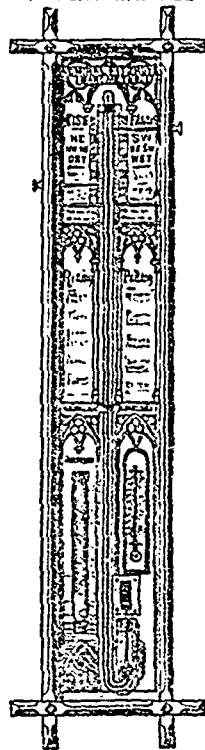
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