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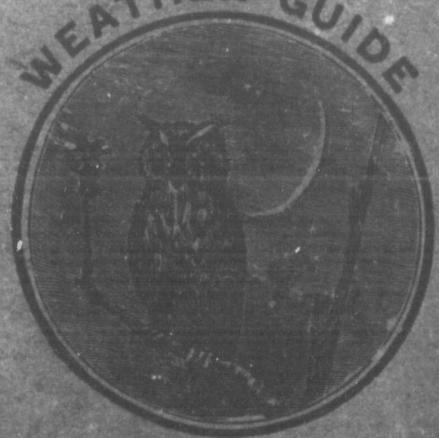
ALMANAC

1893

PLANETARY

AND

WEATHER GUIDE



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Globe Perpetual Fund.....	5,514,000
Life and Annuity Fund.....	21,392,625
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	<u>\$44,440,565</u>

THE INCOME IN 1891 WAS FOR

Fire Premiums, after deducting Re-Insurances.....	\$7,398,915
Life Premiums, do. do. do.	1,135,165
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Annual Income.....	<u>\$10,200,745</u>
Or, say average Daily Income of.....	\$27,947
Total Claims Paid by the Company since its commencement.....	<u>\$139,174,330</u>

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SMITH'S
PLANETARY ALMANAC
AND
WEATHER GUIDE.

1893



1893

CONTAINING A GENERAL FORECAST FOR THE YEAR; AN OUTLINE SKETCH
OF THE WEATHER BY MONTHS; THE

WEATHER FOR EACH WEEK;

A PLANETARY EPHEMERIS CALCULATED TO MONTREAL MEAN TIME;

THE STARS IN THEIR SEASONS;

LUNAR INFLUENCE ON VEGETATION,

WITH TABLES FOR LOOKING ACCORDING TO IT IN ALL LATITUDES; A LIST OF MOON-
LIGHT EVENINGS; MONTREAL WEATHER, WITH TEMPERATURE RECORDS

SINCE THE YEAR 1826; COPYGUG-ASTRONOMICAL AND
METEOROLOGICAL NOTES, ETC.

BY

WALTER H. SMITH.

MONTREAL:

215 PINE AVENUE.

1892.

ON

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Secretary.

ED.

Don't call for 1892

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The readers of SMITH'S PLANETARY ALMANAC—now numbering several thousands—will notice with pleasure that it reaches them in an enlarged form this year. There are no more pages, it is true, but, an improvement of about fifty dollars in the profits on the past two years receipts has permitted the discontinuance of four pages of advertising matter. This space has been filled, partly by extending the "Astronomical and other Notes," partly by what will, I think, please still better, a more elaborate and extensive "General Forecast."

So far, so good. Any additional improvement in the profits arising from the present issue, will, I may safely promise its readers and circulators, bear fruit in the next issue. I have several ideas, which, if carried out, would, I think, greatly increase the value of this work. These ideas only need the fructifying influence of a very modest "Golden shower," to blossom and bear fruit.

Perhaps some of my readers—those not personally acquainted with me—will be inclined to think that I should risk the anticipated expense, and make the proposed changes at once. I would reply by saying that hitherto I have done far more for the ALMANAC than it has done for me. The sacrifices have been all on one side. Time, snatched from a very active profession has been devoted to it without grudging. Time that ought perhaps to have been spent in relaxation and the pursuit of health has been cheerfully rendered. Astronomical observations have been made, at all hours, in all weathers, that articles of an edifying, interesting and absolutely original nature could be written and illustrated in its pages. Those "Views of Venus," for instance, published in the 1890 issue were selected from a series of drawings made with an unflinching persistence, during the coldest months, with the thermometer frequently below zero. The whole of one Summer's leisure was devoted to obtaining views for the illustrated article on "Jupiter," printed in the 1889 issue. Even these were only extraneous efforts. The continuous study of the elements had to be kept up at the same time; the newspapers watched and clipped, observations noted, and records compiled unceasingly with an unwearied hand and mind else the weather forecasts might have fallen off in their (I say it myself) sometimes almost wonderful accuracy,

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and the ALMANAC have become what I hope it will never be while I live—unreliable.

Unreliable! It is strange to look back at the change in public opinion since I first began my up-hill task. Then, the whole country was full of scoffers, ready to wield the lash at any and every moment. The idea that any one, much less I, could forecast weather changes in this country was considered the most preposterous notion. How are those mighty ones fallen since that day! The seat of the scorner is almost empty now. Due recognition is accorded my work. Its general correctness is acceded to; words of praise from quarters least expected are heard. The professional man, merchant, minister of religion, aye the people themselves now have only kindly words for my efforts to foretell the weather correctly. I wish to thank them all. Their good opinion will prove my best help.

The forecasts of last issue, my readers assert, were remarkably correct. I have tried to make those for 1893 equally correct.

Last year I announced that I was permanently located. The announcement was premature so far as the street number of my house was concerned. The Corporation of Montreal last Spring took it into his head to alter that number. It is now *No. 215 Pine Avenue*. The house is the same, but the number is changed. Please notice this alteration.

WALTER H. SMITH.

215 PINE AVENUE, MONTREAL.

ASTRONOMICAL SYMBOLS.

PLANETS.—☉ Sun, ☿ Mercury, ♀ Venus, ⊕ Earth, ☾ Moon, ♂ Mars, ♃ Jupiter, ♄ Saturn, ♅ Uranus, ♆ Neptune, ♁ Ascending Node, ♁ Descending Node.

MEASURES OF TIME.—THE YEAR.

60 Seconds =	1 Minute	28, 29, 30 or 31 Days =	1 Calendar Month
60 Minutes =	1 Hour	12 Calendar Months =	1 Year
24 Hours (24h. 56m. 4s.) =	1 Day	365 1/4 Days =	1 Common Year
7 Days =	1 Week	366 Days =	1 Leap Year
28 Days =	1 Lunar Month		

An Astronomical Day commences at Noon, and is computed from 1 to 24 hours.

In 400 years there are 97 Leap and 303 Common Years.

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GEORGE H. ROWELL.

ASTRONOMICAL AND OTHER NOTES.

FIXED AND MOVABLE FESTIVALS, 1893.

Being the first after Bissextile, or Leap Year, and the 56th-57th of Queen Victoria's Reign, as well as the latter part of the 26th, and the beginning of the 27th year of the Confederation of the Provinces composing the Dominion of Canada.

<p>New Year's Day } Jan. 1 Circumcision. } " 6 Epiphany, Russian } " 6 New Year. } " 6 Septuagesima Sunday " 29 Quinquagesima } Feb. 12 Shrove Sunday. } " 15 Ash Wednesday... .. " 15 First Sunday in Lent ... " 19 Washington's Birthday... " 22 St. David..... Mar. 1 St. Patrick " 17 Annunciation—Lady Day " 25 Palm Sunday " 26 Good Friday..... " 31 Easter Sunday..... Apr. 2 Low Sunday " 9 St. George..... " 23 Rogation Sunday May 7 Ascension Day— } " 11 Holy Thursday. } " 11 Pentecost—Whit-Sunday. " 21 Birth of Queen } " 24 Victoria, 1819. } " 24</p>	<p>Trinity Sunday. May 28 Corpus Christi June 1 Birth of Duke of } " 3 York, 1865. } " 3 Accession of Queen } " 20 Victoria, 1837. } " 20 St. John Baptist, } " 24 Midsummer Day. } " 24 Coronation of Queen } " 28 Victoria, 1838. } " 28 St. Peter and St. Paul.... " 29 Dominion Day..... July 1 Independence Day " 4 Labor Day. Sept. 4 Michaelmas 29 All Saints Day. Nov. 1 Birth of Prince of } " 9 Wales, 1841. } " 9 St. Andrew " 30 Birth of Princess of } Dec. 1 Wales, 1844. } Dec. 1 Conception B. V. M. " 8 St. Thomas " 21 Christmas Day (Monday). " 25</p>
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PRINCIPAL ARTICLES OF THE CALENDAR.

<p>Lunar Cycle or Golden Number 13 Epact..... 12 Solar Cycle..... 26</p>	<p>Dominical Letter..... A Roman Indiction..... 6 Julian Period..... 6606</p>
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CHRONOLOGICAL ERAS.

The first day of January of the year 1893 is the 2,412,465th day since the commencement of, and the 6606th year of the Julian Period.

The year 1893 is the 7401-7402 of the Byzantine Era, the year 7402 commencing on September 1st.

The year 5653-54 of the Jewish Era, the year 5654 commencing on September 11th, 1893, or more exactly, at sunset on September 10th.

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The year 2646 since the Foundation of Rome, according to VARRO.

The year 2640 since the beginning of the Era of NABONASSAR, which has been assigned to Wednesday, the 26th of February of the 3967th year of the Julian Period; corresponding, in the notation of chronologists, to the 747th; and in the notation of astronomers, to the 746th year before the birth of CHRIST.

The year 2669 of the Olympiads, or the first year of the 668th Olympiad, commencing in July, 1893, if we fix the Era of the Olympiads at $755\frac{1}{2}$ years before CHRIST, or near the beginning of July of the year 3938 of the Julian Period.

The year 2205 of the Grecian Era, or the Era of the Seleucidæ.

The year 1609 of the Era of Diocletian, and the year 2553 of the Japanese Era.

The year 1311 of the Mahommedan Era, or the Era of the Hegira, commences on July 15th, 1893.

Ramadân (Month of Abstinence observed by the Turks) commences on March 19th, 1893.

The 118th year of the Independence of the United States of America begins on July 4th, 1893.

The 27th year of the Confederation of the Provinces of the Dominion of Canada begins on July 1st, 1893.

COMMENCEMENT OF THE SEASONS.

Montreal Mean Time.

The Sun enters φ (0° Longitude) and SPRING begins March 20th, at 4h. 14m. morning.

The Sun enters ϱ (90° Longitude) and SUMMER begins June 21st, at 0h. 10m. morning.

The Sun enters \sphericalangle (180° Longitude) and AUTUMN begins September 22nd, at 3h. 01m. evening.

The Sun enters \wp (270° Longitude) and WINTER begins December 21st, at 8h. 59m. morning.

The EQUINOXES happen when Spring and Autumn begin, and the SOLSTICES at the commencement of Summer and Winter.

The Earth is in PERIHELION—nearest the Sun—at 9h. mo. on January 1st, 1893, and in APHELION—farthest from the Sun—at 10h. 54m. evening, on July 3rd, 1893.

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SIGNIS OF THE ZODIAC.

These are twelve, and given for mean noon at Montreal, in "the Moon" column of each calendar page. They are as follows: ♈ Aries (Head and Face), the Ram; ♉ Taurus (Neck), the Bull; ♊ Gemini (Arms and Shoulders), the Twins; ♋ Cancer (Breast), the Crab; ♌ Leo (Heart), the Lion; ♍ Virgo (Bowels), the Virgin; ♎ Libra (Kidneys and Back), the Balance; ♏ Scorpio (Secrets), the Scorpion; ♐ Sagittarius (Thighs), the Archer; ♑ Capricornus (Knees), the Goat; ♒ Aquarius (Legs), the Water Bearer; and ♓ Pisces, (Feet), the Fishes.

ECLIPSES.

In the year 1893 there will be two eclipses, both of the Sun (☉).

1.—A total eclipse of the Sun (☉) April 16, invisible at Montreal, but visible in Central Africa, Western Africa, the South Atlantic Ocean, Brazil, La Plata, Chili and the South Pacific. Greenwich mean time of the Conjunction, 2h. 27m. 1s.

2.—An annular eclipse of the Sun (☉) October 9, invisible at Montreal, but visible at Lima, Peru, and over the Pacific Ocean. Also visible as a partial eclipse from Texas, Colorado, Wyoming, Montana, Alberta and Arthabasca westward to the Pacific. Greenwich mean time of the Conjunction, 8h. 12m. 50s. (0h. 01m. noon, Victoria, B.C., mean time and 0h. 03m. noon San Francisco mean time).

SOME FUTURE ECLIPSES.

During the remainder of the Century the following solar eclipses will be visible in Europe and America: March 26th, 1895; August 9th, 1896; July 29th, 1897; June 8th, 1899; May 28th, 1900. The eclipse of 1900 will be large, and consequently very impressive.

MERCURY (♿) 1893.

This, "the only twinkler 'mongst the planet throng," is only visible in Northern Latitudes when at or near "Greatest Elongation" (East or West) of the Sun. At such times it may be seen as a "Morning Star" before sunrise in the East,

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when Elongated West of the Sun; as an "Evening Star" after sunset in the West, when Elongated East of the Sun. The planet on such occasions must be looked for immediately before sunrise or after sunset, low down, near the line of the horizon.

<i>"Morning Star."</i>			<i>"Evening Star."</i>		
January 1....	Elongation West	22° 17'	March 14....	Elongation East	18° 27'
April 28.....	" "	26° 56'	July 11.....	" "	26° 30'
August 25....	" "	18° 16'	November 5..	" "	23° 12'
December 14.	" "	21° 23'			

VENUS (♀) 1893.

Venus, at the opening of 1893, is a "Morning Star." She reaches Superior Conjunction with the Sun on May 2nd, when she becomes an "Evening Star" for the rest of the year, increasing in lustre as the year draws to a close.

[For descriptive illustrated article, see "Views of Venus," in SMITH'S PLANETARY ALMANAC for 1890, price 12 cents, post-paid.]

MOONLIGHT EVENINGS OF 1893.

January.—From the 1st to the 3rd. Also from the 24th to the 31st.

February.—From the 23rd to the close of the month.

March.—From the 1st to the 3rd. Again from the 24th until the end.

April.—The 1st and 2nd. Also from the 22nd to the 30th.

May.—From the 22nd to the 31st.

June.—Between the 20th and the 30th.

July.—From the 20th to the 29th inclusive.

August.—Beginning with the 19th and continuing until the 28th.

September.—The 17th to the 26th.

October.—From the 17th to the 26th.

November.—The 16th to the 24th.

December.—Beginning on the 16th and lasting until to the 23rd.

MARS (♂), 1893.

The planet Mars, which drew all eyes to it during the summer of 1892 owing to its ruddy brilliancy, retires into comparative seclusion this year. Mars is an "Evening Star"

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until Sept. 4th when he reaches conjunction with the sun becoming a "Morning Star" for the rest of the year. Not being in opposition, the satellites will not be visible. Mars, apparent brilliancy—owing to his distance—will be small, his apparent disc varying from "gibbous" to "full." In January it will be 0.875, in August 1.000, and in December 0.960. On the morning of Dec. 7th Mars will be 11' of arc N. of *Alpha Libræ* (a double star of the 2nd magnitude.)

[For descriptive illustrated article, see "Markings on Mars," in SMITH'S PLANETARY ALMANAC for 1892, price 12 cents, post-paid.]

THE ASTEROIDS, 1893.

Fifteen more of these tiny bodies have been discovered during the past year. The total is now about 330. Of these, Palisa has discovered 84.

CERES (1) was at Opposition (\ominus) brightest, on Nov. 15th, 1892. On January 1st, 1893, her Right Ascension is 3h. 4m. 1s.; Declination North, $13^{\circ} 8' 29''$. A spot in the Constellation *Aries* bordering on *Taurus*, a little N.E. of the star *Menkar* in *Cetus*.

PALLAS (2) was at Opposition Sept. 20, 1892. On Jan. 7th, 1893, its R.A. is 0h. 9m. 5s. Dec. S. $14^{\circ} 48'$. A spot in the Constellation *Cetus*.

JUNO (3) reaches Opposition—brightest, when she is overhead at midnight, and best placed for telescopic observation—on Feb. 14th, 1893. Her R.A. is then 9h. 42m. 48s. Dec. N. $4^{\circ} 16' 50''$. A spot in the Constellation *Sextans*, S.W. of *Regulus*.

VESTA (4) was at Opposition Nov. 12, 1892. On Jan. 1st, 1893, her R.A. is 2h. 50m. 15s., Dec. N. $9^{\circ} 44' 7''$. A spot in the Constellation *Aries*, N. of *Menkar* in *Cetus*.

MONTREAL MEAN TIME.

ON MERIDIAN (SOUTH).	Jan. 17th.	Feb. 14th.	Mar. 8th.	April 1st.
Ceres	7 16 ev.	5 40 ev.	4 38 ev.	3 37 ev.
Pallas	4 33 ev.	3 14 ev.	2 23 ev.	1 28 ev.
Juno	2 16 mo.	0 07 mo.	10 20 ev.	8 40 ev.
Vesta	7 04 ev.	5 31 ev.	4 32 ev.	3 31 ev.

JUPITER'S SATELLITES, 1893.

The four Jovian Moons are visible in the smallest telescopes this year from Jan. 1st to March 31st. After then Jupiter draws too near the Sun. They will become visible again about May 25th, remaining in view the rest of the year. Best seen in October, November and December, 1893. Their mean synodic periods, or times of revolution around Jupiter:—

Satellite.	Time of Revolution.
Io (I).....	1d. 18h. 28m. 36s.
EUROPA (II).....	3d. 13h. 17m. 53s.
GANYMEDE (III).....	7d. 3h. 59m. 36s.
CALISTO (IV).....	16d. 18h. 5m. 7s.

Prof. Barnard is reported to have discovered, on Sept. 9th, 1892, a fifth satellite of Jupiter with the Lick telescope. Time of Revolution of the new body, 11h. 59m.; probable size 100 miles in diameter, visible in the very largest telescopes only. This satellite is perhaps an asteroid, perhaps a comet, which, venturing too near the giant planet has been captured and held fast by him.

[For descriptive illustrated article, see "Glimpses of Jupiter," in SMITH'S PLANETARY ALMANAC for 1889, price 12 cents, post-paid.]

SATURN'S SATELLITES, 1893.

May be observed from January 1st to about July 15th, and again from about December 25th to the end of the year. Their mean synodic periods are:

Satellite.	Time of Revolution.
MIMAS (I).....	0d. 22.6h.
ENCELADUS (II).....	1d. 8.9h.
TETHYS (III).....	1d. 21.3h.
DIONE (IV).....	2d. 17.7h.
RHEA (V).....	4d. 12.5h.
TITAN (VI).....	15d. 23.3h.
HYPERION (VII).....	21d. 7.8h.
JAPETUS (VIII).....	79d. 22.0h.

URANUS' SATELLITES, 1893.

Uranus is at Opposition April 28th. The Satellites may be looked for during March, April and May with most pros-

pect of success. The apparent distances from the Planet on April 28th are: Ariel 15".0; Umbriel 21"; Titania 34".4 and Oberon 46".

<i>Satellite.</i>	<i>Time of Revolution.</i>
ARIEL (I).....	2d. 12.48h.
UMBRIEL (II).....	4d. 3.46h.
TITANIA (III).....	8d. 16.94h.
OBERON (IV).....	13d. 11.11h.

NEPTUNE'S SATELLITE, 1893.

Neptune is at Opposition December 3rd, and the Satellite may be looked for about that date. Its period is 5d. 21.04h. Its apparent distance from the Planet, 16".9.

EASTER SUNDAY.

This is the Movable Feast by which all the rest are determined. It cannot happen earlier than March 22nd, or later than April 25th. Up to the year 1900 inclusive, Easter Day will occur as follows:—1893, April 2nd; 1894, March 25th; 1895, April 14th; 1896, April 5th; 1897, April 18th; 1898, April 10th; 1899, April 2nd and 1900, April 15th.

ANGULAR MEASURE.

60 Seconds (")=.....	1 Minute	90 Degrees (□)= ...	1 Quadrant
60 Minutes (')=.....	1 Degree	120 Degrees (△)= ...	1 Trine
30 Degrees (°)=.....	1 Sign	4 Quadrants 360° (⊘)=1	Circumference
60 Degrees (*)=.....	1 Sextile		or Great Circle (Opposition)

THE YEAR.

The Romans under the Cæsars began the year on January 1st, which custom the nations of modern civilized countries now follow; the Ancient Mexicans on February 23rd; the Chinese begin it still in February: the Ancient Romans in March; the Ancient Athenians in June; the Mahommedans still begin the year in July; the Persians on August 11th; and the Ancient Macedonians began it in September, the same month as the Jews.

The Mohammedan and Chinese years have 12 months of 20 and 30 days alternately; in every cycle of 19 years they have 7 years with 13 months. To make up for the remaining error the Chinese have a cycle of 60 years, in which they interpolate 22 intercalary months.

EXTREMES OF TEMPERATURE, 1891.

During the year 1891—the latest for which full details are at hand—the following extremes of temperature were registered in Canada:

DOMINION.—Highest temperature of the year 1891 for the whole Dominion: 99° at Buda, Ont., and Cottam, Ont., on August 5th and 9th.

Lowest temperature of the year 1891 for the whole Dominion: $55^{\circ}.4$ below zero at Prince Albert, Saskatchewan Terr., on February 1st.

Absolute range for the Dominion: $154^{\circ}.4$.

NOVA SCOTIA.—Highest temperature of the year 1891: 90° at Truro on August 24th; Lowest do.: 14° below zero on February 3rd. Absolute range for Nova Scotia: 104° .

NEW BRUNSWICK.—Highest temperature, 1891: $94^{\circ}.5$ at Chatham on June 21st; Lowest do.: 28° below zero at Parker's Ridge on February 14th. Absolute range for New Brunswick, $122^{\circ}.5$.

PRINCE EDWARD ISLAND.—Highest temperature, 1891: $88^{\circ}.5$ at Georgetown on August 25th; Lowest do.: $19^{\circ}.4$ below zero at Kilmahumaig on February 3rd. Absolute range for Prince Edward Island, $107^{\circ}.9$.

QUEBEC.—Highest temperature, 1891: 92° at Chicoutimi on June 23rd; Lowest do.: 43° below zero at Chicoutimi on January 14th. Absolute range for Quebec, 135° .

ONTARIO.—Highest temperature, 1891: 99° at Buda and Cottam on August 5th and 9th respectively; Lowest do.: $50^{\circ}.3$ below zero at White River on February 4th. Absolute range for Ontario, $149^{\circ}.3$.

MANITOBA.—Highest temperature, 1891: $99^{\circ}.1$ at Gladstone on May 7th; Lowest do.: $49^{\circ}.5$ below zero at Russell on February 2nd. Absolute range for Manitoba, $148^{\circ}.6$.

NORTH-WEST TERRITORIES.—Highest temperature, 1891: 94° at Medicine Hat on September 9th; Lowest do.: $55^{\circ}.4$ below zero at Prince Albert on February 1st. Absolute range for North-West Territories, $149^{\circ}.4$.

BRITISH COLUMBIA.—Highest temperature, 1891: 96° at Quamichan on July 23rd; Lowest do.: $11^{\circ}.5$ below zero at Kamloops on February 22nd. Absolute range for British Columbia, $107^{\circ}.5$.

[A shade temperature of 100° or over, "three figure weather," was not recorded in Canada during 1891.]



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GENERAL FORECAST, 1893.



Once more I am met on all hands by the anxious enquiry, "What sort of a Winter are we going to have?" A momentous question, no matter how Nature answers it—pregnant with the lives and deaths of millions. The enquiries that reach me this Fall,—it seems to me—are more numerous than usual. Why? Are more persons interested in the weather problem? Surely not. Is it not rather—I say this in all modesty—because my forecasts have been more correct than ever during the season of 1892? The dry Winter in Northern Sections with its scarcity of snow,—the latter not so noticeable at Montreal, perhaps, as in many other places,—the long, dry, cool Spring; the excessive heats, tornadoes, deluges of rain and frequent thunderstorms of the Summer, together with the magnificent and far-reaching displays of the Aurora during the Winter and Spring,—much of this remarkable weather happening as I anticipated; served to emphasize the fact that it may be possible to understand something beforehand of our weather changes. There have been some mistakes, of course. I frankly admit them. But is it not a fact that these mistakes become of less and less importance from year to year?

Those grand auroral displays, emphasizing gigantic outbursts on the Sun, came as a revelation to those who attempt to connect celestial with terrestrial happenings. With these pointing unerringly as ever angelic fingers could, it were hard to go astray. They have been followed by their usual concomitants in these latitudes, viz:—Violent storms, abnormal electrical discharges, excessive precipitation—intermixed with terms of drought and great heat.

Given the cause, admitting the effects, the great question with which I set out: "What sort of a Winter are we going to have?" remains unanswered. Perhaps cause and effect have reached the point of equilibrium where one neutralizes the other. Is another, and totally different cycle of weather about to unfold itself? I think not. Many reasons might be adduced for this decision, reasons too, all more or less

scientific, ranging from the condition of the Sun, through the positions of the various planets, the lunar aspects, all the known phenomena of storms, their tracks and general behavior under existing conditions down to the most ephemeral things—let us not too carelessly pass these by, for all, I believe, have their relative bearing on our weather cycles, provided only that we can understand them and apply their teachings. “Straws show how the wind blows,” and Fate, stealing along with silent tread, is “found oft’nest in what least we dread,” even so may matters considered of minor import, have a serious influence upon our atmosphere. Perhaps one reason why there are so few successful “long-range” weather foretellers is owing to their confining their observations to the perfecting of a single theory or system, ignoring everything else. Nature, as I understand her, is not to be thus cavalierly treated. She asks to be studied in all her phases, even as the skilled physician, to diagnose one disease at sight must first have studied the symptoms of all other diseases.

Last year, I diagnosed the weather conditions from the direction then being taken by our continental wind areas. To the casual reader, it appeared as if there was nothing else on which I had based my opinions. In reality, there were many things—the near approach of the planet Mars to Earth during the Summer season of the Northern hemisphere was not the least by any means—together with a great number of other seasonable and unseasonable happenings, signs which went toward the formation of my opinions. It is so every year and will be so as long as I make these annual weather forecasts. But it would take too long to tell all that goes to make them up. It would take the whole of SMITH'S PLANETARY ALMANAC. The ingredients are as numerous as those of a Christmas pie. Talking of Christmas pie I fear that the residents of a considerable portion of the Pacific Coast and the Great North-West will eat their Christmas dinners after some rough experiences next year. Severe storms, blizzard breaths, and a generally sickly Fall appear to be in store for them during October, November and December, 1893. I have dealt at considerable length with this farther on.

Seeing that any special weather indication will serve “to point a moral and adorn a tale,” let us select one for that

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purpose. Which one? Solar energy? A vast and glorious theme, yet I pass it by. Planetary influence? I would rather leave that for another year. It needs a different introduction. Storm areas? They served the purpose last year. Electricity? That will perhaps do. We are all interested in its subtle force, thanks to Electric railways, electric light, telegraph and telephone.

The prevalence of electric energy in the atmosphere has been indicated—in a way that could not escape notice—this year by the violence of our thunderstorms and the brilliancy of our auroral displays. The year 1888 was a year of great electrical activity. What sort of a Winter followed? A tropical one. The Lachine Rapids were run on New Year's day. There were tornadoes at Reading and Pittsburgh, Pa., on Jan. 9th, with a tropical hurricane over Eastern Canada and New England. The mean Winter temperature in Northern sections was many degrees above normal.

But the Summer of 1892—you will tell me—has not been entirely wet and stormy. I am coming to that. July was a hot month, with terrible spells of drought and "three figure weather," especially South of the Boundary Line. At Detroit and St. Louis it was 102° on July 25th; while at New York it was 94° and at Montreal 86° . Other records of a similar nature were not infrequent. The Summer of 1887 gave us a somewhat similar experience to part of that of 1892. That of 1887, however, had this marked difference. It was a year of heat and drought, not as 1892 of heat, storms and great rains. The coldest January on record occurred at Montreal in 1888, with 20 days having temperatures below zero; February had 13 days below zero, while March at New York had its great snowstorms and three days blizzard.

The past Summer therefore, has been characterized by its great electrical disturbances, its violent tornadoes, thunder and lightning, its heavy and deluging rains; its hail storms, its brilliant auroral displays, as well as by its periods of intense heat, drought, sunstrokes and the movement of cholera into Northern Latitudes. From the former list I should deduce warm, open periods with slush, heavy rain, (even thunderstorms) sleet and deep snows during parts of the Winter and Spring of 1892-3 (as in 1888-9), the Spring itself to be cool

and backward, and the summer hot and dry. From the latter (heat and drought) I should deduce extreme cold, and slight precipitation, a dry Spring and a wet, cool Summer.

Are we to remain at a dead-lock in consequence of these conflicting testimonies? By no means. Mix and mingle the two and you have my idea of the weather of 1893. A year of "chop-waves," ups and downs of the barometer and thermometer. Mild and rainy to-day in one section, heavy snows or blinding sleet storms in another, humidity abounding to almost saturation everywhere; to-morrow dry and cold, crisp and brilliant. A trying year to the aged, the feeble, the young. A bad year for invalids. Not a very good year for the farmer, although August will be a favorable month. Great storms will continue to occur with frequency. Torhadoes will again make their appearance in districts where their occurrence is unusual, and consequently unlooked for, carrying death and destruction before them. The Autumn of 1893 especially, promises to be stormy, and sickness will, in consequence abound—more noticeable in the West, than in the East of Canada and the United States.

My forecast by months follows:—

JANUARY.

A stormy month. Mean temperature above the average. Many changes during its progress, and trying fluctuations of temperature ("chop waves"). Some very severe cold "dips" and some very mild, rainy, sleety periods. Entering with stormy weather, cold winds, snows and drifts, I would locate its additional storm periods during the second and fourth weeks, and at the closing days of the month.

FEBRUARY.

A low temperature month, with considerable precipitation and severe winter storms. The most wintry-like of the three—January, February and March—to my thinking. Snow blockades will be in order on the Railways. While the "chop-wave" feature of the Winter will not be absent during February it will be less noticeable. Precipitation mainly in the form of snow. Winds, boisterous and piercing. Zero record severe. A wild month for Atlantic passages, and many disasters along the Coast. Floods in sections during the thaws.

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MARCH.

A month in which the meteorological lion will have much to say. More to say in fact than he has said in March for some years past. Rapid changes of temperature and high winds, will be a feature, as in January. Heavy rains and thick fogs along the Atlantic Coast Provinces and States especially during the first part of the month. Severe cold weather and heavy gales generally during the closing week, the month growing colder towards the end. In sections where Spring usually puts in an appearance about the end of March, people are not likely to behold that always welcome and beautiful visitant before April.

APRIL.

The month of sunshine and showers will be even more fickle than usual this year. The "chop-wave" fever will have entered her blood, only to produce a disastrous effect. Wind and rain, bleak cold air, rapid changes and sharp night frosts will mix and mingle themselves with some of the most lovely weather, beautiful halcyon days; days when the birds will sing, the grass and trees attempt to put on their brightest emerald garb. Sweet days "the bridal of the earth and sky;" how ruthlessly will the morrow seek to destroy every trace of you!

MAY.

A rather rainy month. At its entry May will be cool and rainy, with severe fogs along the coast and heavy mists inland. It will then open out into some beautifully advanced summer weather—the "chop wave" feature again. Heat, advanced vegetation, sultry spells and storms will end in more cool, cloudy, misty and rainy weather, vegetation advancing rather slowly in Northern Sections. A marked cool spell toward the close.

JUNE.

As for this month, I do not like its looks. It smacks of cool (positively cold) weather and heavy precipitation. Above all the terrible tornado stands out in full relief, backed by its allies the destructive thunder and hail storm. Between the wretchedly cool and stormy periods intervals of

smiling summer sky will occur, running up into heated spells, but followed—as indicated—by wild storms. The first ten days and the last week have an especially wicked appearance.

JULY.

A rainy month, temperature below the average. Anything but a favorable July. A great contrast to the hot summer month that bore its name in 1892. The dreaded tornado, the scarcely less dreaded hail-storm and summer frost will most likely be heard from.

AUGUST.

A hot, dry summer-like month. Droughts in some districts. Grand harvest weather in Northern, Western and Eastern Sections, except for the probability of frosts in the North-West. Because "smudges" were not needed to any extent last August (contrary to my expectations) is no reason why they should not be necessary to keep off frost in August, 1893. The old "chop wave" trouble will make attempts to assert itself even during this month. It will however be promptly sat upon by the predominant feature of the month—dry, hot weather. Some scattered storms of a rather severe nature accompanied by violent thunder, will likely be recorded, but August, I anticipate, will make amends for the bad behavior of her elder sisters. The greater part of the "hay" made by the keepers of summer hotels and sellers of tourist tickets will be made in August this year. The ice dealers, despite the anticipated "ruin" of the earlier part of the summer, will be noticed to "pick up" wonderfully during August. "World's fair" visitors will likely wish that they had waited until September or October to visit the heated oven by Lake Michigan.

SEPTEMBER.

The ninth month of 1893 promises a considerable amount of rainy and windy weather, intermixed with some dry, hot spells. Not a favorable month on the whole.

OCTOBER.

An unfavorable month. Cold weather, heavy rains and generally stormy, unsettled weather will prevail. During

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October, November and December, the Canadian and American North-West, the Western States and the Pacific Coast from Alaska southward may look for some severe wind storms. The North-Western States and Territories are likely to experience severe blizzards quite early in the season. The Fall in those portions of the continent will be sickly.

NOVEMBER.

A stormy month, with considerable precipitation. Rainy, snowy, windy, cold weather will predominate. A marked spell of "Indian Summer" during the last half of the month will be succeeded by severe storms, piercing cold winds and zero weather.

DECEMBER.

A month of alternate cold "dips," storms, and open weather. Two or three very mild periods, with rain and fog East, intermingled with as many severe spells of stormy, cold weather.

But what about cholera, I have been asked. Well, perhaps Planetary Meteorology will eventually have something to say even on that. It may be that cholera and other plagues depend for their existence in epidemic form upon a highly—or rather a peculiarly—electrified condition of the atmosphere. In Asia it is claimed that the cholera sometimes follows—in very virulent form—the appearance of a certain vapor, red in color. If so, it is not the air itself that is contagious, but the substances held in suspension. From whence come these? What are they? Perhaps their origin is beyond our control. If the conditions favorable to life lie—as we know they do—within narrow limits, and are caused by the influences of the Sun and other bodies acting on the original elements, may not conditions favorable to death be as easily established? May not life be as a "positive," and death as a "negative" condition, continually produced and re-produced by the changes occurring, not amongst the Sun, Earth, Moon and Planets alone, but amongst the whole of the Stars and systems which go to make up that mysterious whole, the visible and invisible Universe?

MONTREAL, Oct. 5th, 1892.

WALTER H. SMITH.

1st Month, 1893.
31 Days.

JANUARY.

☉ enters ♍
17d. 1h. ev.

Moon's Phases	Day	BOSTON.	MONTREAL.	WASHINGTON	CHICAGO.	WINNIPEG.
☽ F.M.	2	9.00 mo.	8.46 mo.	8.33 mo.	7.51 mo.	7.13 mo.
☾ L.Q.	9	5.47 ev.	5.33 ev.	5.20 ev.	4.38 ev.	4.60 ev.
● N.M.	17	8.47 ev.	8.33 ev.	8.20 ev.	7.38 ev.	7.00 ev.
☽ F.Q.	24-25	1.45 mo.	1.31 mo.	1.18 mo.	0.36 mo.	11.58 ev.
☽ F.M.	31	9.30 ev.	9.16 ev.	9.03 ev.	8.21 ev.	7.43 ev.

DAYS.	WEATHER FORECAST.	MONTREAL.	
		THE SUN	THE MOON
M. W.		Slow. Rises. Sets.	Zod. Souths.

(1) Sunday after Christmas.

Mercury in Ophiuchus.

		M.	H.	M.	H.	M.	H.	M.
1 Su.	NEW YEAR'S DAY.	4	7	41	4	27	II	11 43
2 Mo.	Enters with snows and rains, changing	4		41		28	☽	Morn
3 Tu.	to high winds and drifts (a general storm	5		41		29	♋	0 48
4 We.	period)—Cold to very cold, a "dip," with	5		41		30	♋	1 47
5 Th.	zero readings in Canada, the Northern and	6		40		31	♌	2 42
6 Fri.	EPIPHANY. Eastern States—	6		40		32	♌	3 31
7 Sat.	Mild and windy, with snow or rain.	7		40		33	♌	4 15

(2) 1st Sunday after Epiphany.

Venus in Ophiuchus.

		M.	H.	M.	H.	M.	H.	M.
8 Su.	Cloudy, unsettled, windy and snowy—	7	7	40	4	34	♌	4 58
9 Mo.		8		39		35	♌	5 38
10 Tu.	A fine period, with some very cold weather,	8		39		36	♌	6 19
11 We.	especially about 11th-12th—Moderating to	9		39		37	♍	7 00
12 Th.	snow (Heavy snow-storms in the West	9		38		38	♍	7 43
13 Fri.	and North-West).	9		37		40	♎	8 28
14 Sat.		10		37		41	♎	9 17

(3) 2nd Sunday after Epiphany.

Mars in Pisces.

		M.	H.	M.	H.	M.	H.	M.
15 Su.	Blustery and drifty, windy weather,	10	7	36	4	42	♎	10 09
16 Mo.		10		36		43	♏	11 02
17 Tu.	with snow blockades—Very stormy and	11		35		44	♏	11 57
18 We.	unsettled—Fine winter weather—Mild at	11		35		46	♏	Eve.
19 Th.	end of week, with rain or sleet.	11		34		48	♏	1 41
20 Fri.		11		33		49	♏	2 30
21 Sat.		12		32		51	♏	3 17

(4) 3rd Sunday after Epiphany.

Jupiter in Pisces.

		M.	H.	M.	H.	M.	H.	M.
22 Su.	Stormy and cold, with snow—(Sleet in	12	7	31	4	52	♏	4 03
23 Mo.	Southern sections)—Fine—A cold "dip,"	12		30		54	♏	4 50
24 Tu.	with zero readings—Snow in East—	12		29		55	♏	5 38
25 We.	Conversion of St. Paul.	13		28		56	♏	6 30
26 Th.	Milder, very mild for season, a general	13		27		57	♏	7 25
27 Fri.	thaw and break-up, with sleet and rain.	13		26		58	♏	8 24
28 Sat.		13		25		59	♏	9 27

(5) Septuagesima Sunday.

Saturn in Virgo.

		M.	H.	M.	H.	M.	H.	M.
29 Su.	Mild, with snows and rains—Changing	13	7	24	5	01	♏	10 30
30 Mo.	to cold, with high winds and drifts—Gales	14		23		03	♏	11 31
31 Tu.	on Atlantic Coast—Fine and very cold.	14		22		04	♏	Morn

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PLANETS IN JANUARY, 1893.

MONTREAL MEAN TIME.

*ON MERIDIAN SOUTH.	Jan. 1st.	Jan. 8th.	Jan. 16th.	Jan. 24th.
Mercury ♀	10 26 mo.	10 34 mo.	10 49 mo.	11 10 mo.
Venus ♀	9 57 mo.	10 07 mo.	10 18 mo.	10 30 mo.
Mars ♂	5 25 ev.	5 14 ev.	5 02 ev.	4 50 ev.
Jupiter ♃	6 13 ev.	5 48 ev.	5 19 ev.	4 52 ev.
Saturn ♄	6 04 mo.	5 37 mo.	5 06 mo.	4 35 mo.
Uranus ♅	7 46 mo.	7 16 mo.	6 48 mo.	6 17 mo.
Neptune ♆	9 43 ev.	9 14 ev.	8 42 ev.	8 10 ev.

[* Planets "Southing" between noon and midnight are "Evening stars"; planets "Southing" between midnight and noon are "Morning stars." The time of "Southing" is the time at which a heavenly body passes the meridian, and is so called because it is then due South. It is then also at its greatest altitude above the horizon.]

THE PLANETS.—MERCURY is at Greatest Elongation West of 22° 17' on the 1st at 3 mo., when he is visible before Sunrise in the East, and in Aphelion (farthest from the Sun in his orbital revolution) on the 24th at 4h. 25m. mo. MARS and JUPITER are in Conjunction (Mars 1° 36' N.) on the 25th at 11.05 ev. JUPITER is in Quadrature (90° from the Sun) and overhead at 6 ev. on the 6th. SATURN is in Quadrature (and overhead at 6 mo.) on the 2nd at 9.27 mo.; Stationary on the 22nd at 2.54 mo. URANUS is in Quadrature (and overhead at 6 mo.) on the 30th at 1.03 mo.

THE MOON.—Is near Saturn on the 9th at 3.29 mo.; 1° S. of Uranus at 11.34 mo. on the 11th; in Apogee the same day at 8 ev.; near Venus on the 16th at 5 mo.; passes 1° 43' S. of Mars on the 23rd at 5.43 ev.; is exceedingly close to Jupiter (only 6' S.) on the 23rd at 7.49 ev.; in Conjunction with Neptune on the 27th at 10.42 mo.; and in Perigee at 3 ev. on the same day.

THE STARS.—[Commenced in 1891 issue. Under this head, it is my intention to continue each year, until the whole visible star sphere has been briefly described. In no case will a Constellation, Group, Cluster or Star be twice dealt with. Students should, therefore, preserve back numbers.]

Lepus, "the Hare," is a little constellation south of *Orion*, coming to the meridian at the same time. It is near the horizon, and only well seen when on or near the meridian. With 19 visible Stars, *Zeta* is of the 3rd or 4th magnitude, situate 5° S. of *Saiph* in *Orion*. Just below *Zeta* are the four leading Stars in *Lepus*, forming an irregular square.

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2nd Month, 1893.
28 Days.

FEBRUARY.

☉ enters ♋
16d. 0h. mo.

Moon's Phases	Day.	BOSTON.	MONTREAL.	WASHINGTON	CHICAGO.	WINNIPEG.
☾ L. Q.	8	3.30 ev.	3.16 ev.	3.03 ev.	2.21 ev.	1.43 ev.
● N. M.	16	11.35 mo.	11.21 mo.	11.08 mo.	10.26 mo.	9.48 mo.
☽ F. Q.	23	9.32 mo.	9.18 mo.	9.05 mo.	8.23 mo.	7.45 mo.

DAYS.	WEATHER FORECAST.	MONTREAL.					
		THE SUN—			THE MOON		
M.	W.	Slow.	Rises.	Sets.	Zod.	Souths.	
1 We.	Opens with cold, wintry weather—A	14	7 21	5 06	♈	Morn	
2 Th.	CANDLEMAS. brief storm	14	20	08	♉	1 19	
3 Fri.	period (Stormy in Maritime Provinces)—	14	19	09	♊	2 06	
4 Sat.	Moderating to mild.	14	18	11	♋	2 50	

(6) Sexagesima Sunday.

Uranus in Virgo.

5 Su.	Cloudy and snowy, mild weather—	14	7 17	5 12	♈	3 32
6 Mo.		14	16	14	♈	4 13
7 Tu.	Colder, a cold "dip," with zero readings,	14	14	15	♉	4 54
8 We.	extreme temperatures in N.W., and cold	14	13	17	♉	5 36
9 Th.	weather East—Cloudy and squally, some	14	12	18	♊	6 21
10 Fri.	high winds and drifts.	14	10	19	♋	7 09
11 Sat.		14	09	21	♋	7 59

(7) Quinquagesima (Shrove) Sunday. Neptune in Taurus.

12 Su.	Milder, heavy wet snow and high winds	14	7 07	5 22	♈	8 52
13 Mo.	in Northern and Western sections—Fine	14	06	24	♈	9 46
14 Tu.	St. Valentine. Shrove Tuesday.	14	04	25	♉	10 40
15 We.	ASH WEDNESDAY.	14	02	27	♉	11 33
16 Th.	weather—A general storm period, windy	14	01	28	♋	Eve.
17 Fri.	and unsettled, dark, cold weather—A	14	6 59	30	♋	1 12
18 Sat.	"dip," zero readings, very cold weather.	14	58	31	♋	2 00

(8) Quadragesima Sunday.

Mercury in Aquarius.

19 Su.	Fine winter weather—Milder, variable,	14	6 56	5 33	♊	2 47
20 Mo.		14	54	34	♊	3 35
21 Tu.	a thaw—Quite warm for season, with	14	53	36	♋	4 26
22 We.	Washington born, 1731.	14	51	37	♋	5 20
23 Th.	floods in places—Rain and sleet falls—	13	50	39	♈	6 18
24 Fri.		13	48	40	♈	7 19
25 Sat.	Colder at end of week.	13	47	41	♈	8 20

(9) 2nd Sunday in Lent.

Venus in Capricornus.

26 Su.	Stormy, unsettled, heavy snows and	13	6 45	5 43	♈	9 20
27 Mo.		13	44	45	♈	10 17
28 Tu.	rains, with gales on Atlantic Coast—Fine.	13	43	46	♈	11 09

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PLANETS IN FEBRUARY, 1893.

MONTREAL MEAN TIME.

ON MERIDIAN (SOUTH).	Feb. 1st.	Feb. 8th.	Feb. 16th.	Feb. 24th.
Mercury.....♿	11 32 mo.	11 53 mo.	0 16 ev.	0 41 ev.
Venus.....♀	10 42 mo.	10 51 mo.	11 01 mo.	11 10 mo.
Mars.....♂	4 38 ev.	4 28 ev.	4 17 ev.	4 06 ev.
Jupiter.....♃	4 25 ev.	4 01 ev.	3 35 ev.	3 10 ev.
Saturn.....♄	4 03 mo.	3 35 mo.	3 03 mo.	2 30 mo.
Uranus.....♅	5 46 mo.	5 19 mo.	4 47 mo.	4 16 mo.
Neptune.....♆	7 38 ev.	7 11 ev.	6 39 ev.	6 08 ev.

THE PLANETS.—MERCURY reaches Superior Conjunction with the Sun, becoming an "Evening Star" on the 16th at 3.01 ev. URANUS is Stationary on the 13th at 6.37 mo. NEPTUNE is Stationary at 6.22 mo. on the 17th, and at Quadrature (overhead at 6 mo.) at 3.47 ev. on the 26th.

THE MOON.—Is 1° 2' S. of Saturn on the 5th at 0.22 ev.; in Apogee at 5 ev. on the 8th; passes Uranus 1° 22' S. on the 9th at 8.35 ev.; is 4° 31' S. of Venus at 7.48 ev. on the 14th; reaches the place of Mercury at 9.09 mo. on the 16th; almost touches the lordly Jupiter, passing 29' N. on the 20th at 9.54 mo. (best seen the same evening); is closer still (5' S.) to Mars on the 21st at 8.58 mo. (to be looked for the same evening in the West); in Perigee at 10 mo. on the 21st; and 4° 50' N. of Neptune's place on the 23rd at 3.48 ev.

THE STARS.—*Canis Minor*, "the Little Dog," is favorably placed in February. It is situate midway between *Canis Major* and *Gemini*. Its leading Star is *Procyon*, of the 1st magnitude, a fine pale yellow brilliant, with a light passage estimated at over 26 years. It has several minute attendants. One, of 5½ magnitude, is double. The vicinity is very rich in double and triple Stars. One pair (No. 1126, Otto Struve) has its discs in contact, only separated with high powers, and is a binary system. *Procyon*, according to Vogel, is receding from us at a rate of 63 miles per second. From irregularities in its proper motion, Bessel believes that it is a member of a binary system, its companion star being dark and consequently invisible.

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0h. mo.

MINNEPEG.

1.43 ev.

0.48 mo.

45 mo.

A.L.

THE MOON

od. Souths.

H. M.

Morn

1 19

2 06

2 50

Virgo.

3 32

4 13

4 54

5 36

6 21

7 09

7 59

Taurus.

8 52

9 46

10 40

11 33

✕ Eve.

✕ 1 12

✕ 2 00

quarius.

♄ 2 47

♄ 3 35

♄ 4 26

♄ 5 20

♄ 6 18

♄ 7 19

♄ 8 20

icornus.

♄ 9 20

♄ 10 17

♄ 11 09

3rd Month, 1898.
31 Days.

MARCH.

☉ enters ♀
20d. 4h. mo.

Moon's Phases	Day.	BOSTON.	MONTREAL.	WASHINGTON	CHICAGO.	WINNIPEG.
☉ F. M.	2	11. 22 mo.	11. 08 mo.	10. 55 mo.	10. 13 mo.	9. 35 mo.
☾ L. Q.	10	0. 32 ev.	0. 18 ev.	0. 05 ev.	11. 23 mo.	10. 45 mo.
● N. M.	17	11. 52 ev.	11. 38 ev.	11. 25 ev.	10. 43 ev.	10. 05 ev.
☽ F. Q.	24	4. 52 ev.	4. 38 ev.	4. 25 ev.	3. 43 ev.	3. 05 ev.

DAYS.	WEATHER FORECAST.	MONTREAL.	
		THE SUN	THE MOON
M. W.		Slow. Rises.	Sets. Zol. Souths.
1 We.	ST. DAVID.	M. 12	H. M. 6 41
2 Th.	March opens fine, with but little bluster	12	39 49
3 Fri.	—Cloudy and snowy generally.	12	37 50
4 Sat.		12	35 51

(10) 3rd Sunday in Lent.

Mars in Aries.

5 Su.	A general storm period, with rain S.,	11	6 33	5 53	☽	2 07
6 Mo.	snow N. and W., and considerable rain	11	31	54	♈	2 48
7 Tu.	and fog on Atlantic seaboard—Colder,	11	29	55	♈	3 30
8 We.	with drifts—A March "dip," zero weather	11	27	57	♈	4 14
9 Th.	in Northern sections—Violent storms else-	11	25	58	♈	5 01
10 Fri.	where, with extreme temperatures.	10	23	6 00	♈	5 50
11 Sat.		10	21	01	♈	6 41

(11) 4th Sunday in Lent (Mid-Lent). Jupiter in Pisces.

12 Su.	Cold and winter-like generally—Windy	10	6 19	6 02	♃	7 34
13 Mo.	and rainy South, snowy and stormy N.,	9	17	03	♃	8 27
14 Tu.	W. and E., very dark, cold weather—	9	15	04	♃	9 20
15 We.	Stormy, snowy and unsettled, with gales	9	13	06	♃	10 12
16 Th.	on Atlantic Coast.	9	11	07	♃	11 02
17 Fri.	ST. PATRICK.	8	09	08	♃	11 50
18 Sat.	Fine at close of week.	8	07	10	♃	Eve.

(12) 5th Sunday in Lent.

Saturn in Virgo.

19 Su.	Fine, with strong winds—Moderating—	8	6 06	6 11	♄	1 28
20 Mo.	Warm for the season, with spring rains,	7	04	13	♄	2 19
21 Tu.	especially in West and Maritime Provinces	7	02	14	♄	3 13
22 We.	—Colder, with high winds, rains and snows,	7	00	15	♄	4 12
23 Th.	dark weather, with hail in sections—	6	5 58	16	♄	5 13
24 Fri.		6	56	18	♄	6 15
25 Sat.	ANNUNCIATION. Milder.	6	54	19	♄	7 15

(13) Palm Sunday.

Uranus in Virgo.

26 Su.	Mild and rainy weather, especially over	6	5 52	6 20	♅	8 12
27 Mo.	the Lake Region, St. Lawrence Valley and	6	50	21	♅	9 05
28 Tu.	New England—Colder, with rain, sleet	5	48	23	♅	9 54
29 We.	or snow—Heavy gales, a general storm	5	47	24	♅	10 39
30 Th.	period—Very cold, wet weather at end of	5	45	26	♅	11 22
31 Fri.	GOOD FRIDAY. month.	4	43	27	♅	Morn

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PLANETS IN MARCH, 1893.

MONTREAL MEAN TIME.

ON MERIDIAN (SOUTH).	Mar. 1st.	Mar. 8th.	Mar. 16th.	Mar. 24th.
Mercury.....♿	0 55 ev.	1 10 ev.	1 11 ev.	0 44 ev.
Venus.....♀	11 15 mo.	11 21 mo.	11 27 mo.	11 32 mo.
Mars.....♂	3 59 ev.	3 50 ev.	3 39 ev.	3 29 ev.
Jupiter.....♃	2 54 ev.	2 31 ev.	2 06 ev.	1 42 ev.
Saturn.....♄	2 09 mo.	1 40 mo.	1 07 mo.	0 33 mo.
Uranus.....♅	3 56 mo.	3 28 mo.	2 56 mo.	2 23 mo.
Neptune.....♆	5 48 ev.	5 22 ev.	4 51 ev.	4 20 ev.

THE PLANETS.—Roving MERCURY plays a leading part this month. On the 9th at 3.47 mo. he is in Perihelion; on the 14th at 4 ev. at Greatest Elongation E. of 18° 27', when he may be noticed for a few evenings twinkling low down on the Western horizon after Sunset; on the 21st at 7.24 ev. he is Stationary; and on the last day of the month at 9.30 ev. reaches Inferior Conjunction, passing behind the Sun to become a "Morning Star." VENUS is in Aphelion on the 5th at 10.18 mo. SATURN, his rings slowly opening, is at Opposition (overhead at midnight, and most favorably placed for observation) on the 29th at 5.18 ev.

THE MOON.—Luna is 1° 12' S. of Saturn at 6.42 ev. on the 4th; 1° 35' S. of Uranus on the 7th at 4.34 mo.; in Apogee on the 9th at 2 mo.; 2° 28' S. of Venus at 0.18 mo. on the 17th; 4° 39' S. of Mercury at 2.47 mo. on the 19th; 1° 7' N. of Jupiter on the 20th at 3.33 mo.; in Perigee at 9 ev. on the 20th; 1° 31' N. of Mars on the 21st at 11.56 ev.; 5° 11' N. of Neptune on the 22nd at 10.45 ev.; and 1° 5' S. of Saturn on the 31st at 10.30 ev.

THE STARS.—*Argo Navis*, "the Ship Argo," is favorably placed in March. It is a large Constellation, but only a small portion can be seen in these latitudes. A line joining *Betelgeuse* and *Sirius* continued 18° S.E. points out *Naos*, a 2nd magnitude Star in the rowlock of *Argo Navis*. It is near the meridian early in March, about half-an-hour later than *Procyon*. The Constellation, as we see it, is not remarkable, but is situate in a crowded part of the Galaxy, rich in Clusters and Nebulae.

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Aries.
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Pisces.
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Eve.
Virgo.
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Virgo.
8 12
9 05
9 54
10 39
11 22
Morn

4th Month, 1893.
30 Days.

APRIL.

☉ enters ♈
21d. 10h. ev.

Moon's Phases	Day.	BOSTON.	MONTREAL.	WASHINGTON	CHICAGO.	WINNIPEG.
☉ F.M.	1	2.36 mo.	2.22 mo.	2.09 mo.	1.27 mo.	0.49 mo.
☾ L.Q.	9	6.54 mo.	6.40 mo.	6.27 mo.	5.45 mo.	5.07 mo.
● N.M.	16	9.53 mo.	9.39 mo.	9.26 mo.	8.44 mo.	8.06 mo.
☽ F.Q.	22-23	0.44 mo.	0.30 mo.	0.17 mo.	11.35 ev.	10.57 ev.
☉ F.M.	30	6.42 ev.	6.28 ev.	6.15 ev.	5.33 ev.	4.55 ev.

DAYS.	WEATHER FORECAST.	MONTREAL.					
		—THE SUN—			THE MOON		
M. W.		Slow.	Rises.	Sets.	Zod.	Souths.	
1 Sat.	Blustery and cold, "Borrowed days."	4	5 41	6 28	♈	♁	

(14) Easter Sunday.

Mercury in Pisces.

2 Su.		3	5 40	6 29	♈	0 44
3 Mo.	Fine, but cool weather—Snow flurries	3	38	31	♁	1 26
4 Tu.	and high winds especially in N. and N.W.	3	36	32	♁	2 09
5 We.	sections—A cold, fine period, frosty and	3	34	33	♁	2 55
6 Th.	winter-like—Warmer weather.	2	32	34	♁	3 43
7 Fri.		2	30	35	♁	4 33
8 Sat.		2	28	37	♁	5 25

(15) Low Sunday.

Venus in Pisces.

9 Su.		1	5 26	6 38	♁	6 17
10 Mo.	Warm and spring-like—A brief cold	1	24	39	♁	7 09
11 Tu.	period—Warm again, decidedly spring-	1	22	40	♁	8 00
12 We.	like, days quite hot—A change to rainy	1	20	42	♁	8 49
13 Th.	and windy, dark, threatening weather—	0	19	43	♁	9 38
14 Fri.	Cool and showery.	fast	17	45	♁	10 23
15 Sat.		0	15	46	♁	11 15

(16) 2nd Sunday after Easter.

Mars in Taurus.

16 Su.		0	5 13	6 47	♁	Eve.
17 Mo.	Showery and warm—Sultry, quite hot,	1	11	48	♁	1 00
18 Tu.	an April "Indian Summer" spell, with	1	10	50	♁	1 58
19 We.	bush fires and thunder showers—Hail	1	08	51	♁	3 01
20 Th.	storms, cooler, with high winds and rains.	1	07	52	♁	4 05
21 Fri.		1	07	52	♁	5 08
22 Sat.		2	03	54	♁	6 08

(17) 3rd Sunday after Easter.

Jupiter in Aries.

23 Su.	ST. GEORGE.	2	5 02	6 56	♁	7 03
24 Mo.	Very cool for April, sharp night frosts—Cool and	2	00	57	♁	7 53
25 Tu.	showery—Warm,	2	4 59	58	♁	8 38
26 We.	favorable weather, with growing showers	2	57	59	♁	9 21
27 Th.	—Colder, with some severe storms, frosts	3	56	7 01	♁	10 02
28 Fri.	and possibly snow flurries in Northern	3	54	02	♁	10 42
29 Sat.	sections.	3	52	04	♁	11 23

(18) 4th Sunday after Easter.

Saturn in Virgo.

30 Su.	Month ends cold.	3	4 50	7 05	♁	Morn
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PLANETS IN APRIL, 1893.

MONTREAL MEAN TIME.

ON MERIDIAN (SOUTH).	April 1st.	April 8th.	April 16th.	April 24th.
Mercury ♀	11 55 mo.	11 12 mo.	10 39 mo.	10 27 mo.
Venus ♀	11 37 mo.	11 41 mo.	11 46 mo.	11 52 mo.
Mars ♂	3 20 ev.	3 12 ev.	3 03 ev.	2 53 ev.
Jupiter ♃	1 18 ev.	0 56 ev.	0 32 ev.	0 08 ev.
Saturn ♄	11 55 ev.	11 25 ev.	10 52 ev.	10 18 ev.
Uranus ♅	1 51 mo.	1 22 mo.	0 49 mo.	0 17 mo.
Neptune ♆	3 49 ev.	3 22 ev.	2 52 ev.	2 21 ev.

THE PLANETS.—MERCURY is Stationary on the 13th at 6.54 mo.; in Aphelion (farthest from the Sun) on the 22nd at 3.28 mo.; and at Greatest Elongation W. of 26° 56' on the 28th at 9 ev., when he can be seen rising before the Sun in the early morning sky. VENUS and JUPITER are in very close Conjunction on the 28th at 11.45 ev. (Venus 3' N.), but the approach is unfortunately invisible, both Planets being too near the Sun. JUPITER is in Conjunction with the Sun on the 27th at 7.14 ev. URANUS reaches Opposition (when he is overhead at midnight and favorably placed for observation) on the 28th at 7.34 ev.

THE MOON.—Is 1° 36' S. of Uranus on the 3rd at 10.40 mo.; in Apogee at 8 mo. on the 5th; 1° 39' S. of Mercury at 8.06 ev. on the 14th; only 42' N. of Venus on the 16th at 2.50 mo.; 1° 44' N. of Jupiter at 0.19 mo. on the 17th; in Perigee at 11 mo. on the 17th, when the Sun is eclipsed [see page 11]; 5° 4' N. of Neptune on the 19th at 7.27 mo.; 2° 45' N. of Mars on the same day at 2.37 ev.; 50' S. of Saturn on the 28th at 0.37 mo.; and 1° 30' S. of Uranus on the 30th at 3.06 ev.

THE STARS.—*Sextans*, "the Sextant," is favorably placed for observation in April. It is near the Equinoctial, about 13° S. of *Regulus*, coming to the meridian at the same time as that Star. The largest Star in *Sextans* is of the 4th magnitude, the Constellation being a modern one, formed by Hevelius out of the unformed Stars of the Ancients scattered in that neighborhood. Small as this Constellation is, it abounds in double Stars and Nebulæ.

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NNIPEG.
49 mo.
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57 ev.
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THE MOON
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Pisces.
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n Aries.
Ω 7 03
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♃ 8 38
♃ 9 21
♄ 10 02
♄ 10 42
♄ 11 23
n Virgo.
Morn

5th Month, 1893.
31 Days.

MAY.

☉ enters ♀
22d. 8h. ev.

Moon's Phases	Day.	BOSTON.	MONTREAL.	WASHINGTON	CHICAGO.	WINNIPEG.
☾ L. Q.	8	9.43 ev.	9.29 ev.	9.16 ev.	8.34 ev.	7.56 ev.
● N. M.	15	6.05 ev.	5.51 ev.	5.38 ev.	4.56 ev.	4.18 ev.
☽ F. Q.	22	10.10 mo.	9.56 mo.	9.43 mo.	9.01 mo.	8.23 mo.
☼ F. M.	30	10.41 mo.	10.27 mo.	10.14 mo.	9.32 mo.	8.54 mo.

DAYS.		WEATHER FORECAST.	MONTREAL.					
M.	W.		THE SUN—			THE MOON—		
			Fast.	Rises.	Sets.	Zod.	Souths.	

1	Mo.	MAY DAY. A cool May day—	3	4	49	7	06	♄	Morn
2	Tu.	Misty and rainy, perhaps sleet flurries—	3	3	47	07	01	♄	0 51
3	We.	Misty and foggy on Atlantic Coast and in	3	3	46	09	1	♄	1 38
4	Th.	Gulf of St. Lawrence—Warmer weather,	3	3	44	10	1	♄	2 27
5	Fri.	vegetation advancing.	3	3	43	11	13	♄	3 19
6	Sat.		4	4	42	12	13	♄	4 11

(19) Rogation Sunday.

Uranus in Virgo.

7	Su.		4	4	40	7	13	♄	5 02
8	Mo.	Summer like, advanced weather, fine	4	4	39	14	14	♄	5 52
9	Tu.	and warm, with bush fires—Cooler at end	4	4	37	16	16	♄	6 41
10	We.		4	4	36	17	16	♄	7 28
11	Th.	ASCENSION DAY.	4	4	35	18	16	♄	8 14
12	Fri.		4	4	34	19	15	♄	9 02
13	Sat.	of week, with rains.	4	4	33	21	15	♄	9 50

(20) Sunday after Ascension.

Mercury in Aries.

14	Su.		4	4	31	7	22	♄	10 43
15	Mo.	Cool, with rains—Warm weather gener-	4	4	30	23	18	♄	11 40
16	Tu.	ally, with bush fires—Showery and warm,	4	4	29	24	18	♄	Eve.
17	We.		4	4	28	25	18	♄	1 47
18	Th.	thunder and hail storms—Much cooler,	4	4	27	26	18	♄	2 53
19	Fri.	with some strong winds and local frosts.	4	4	26	27	18	♄	3 57
20	Sat.		4	4	25	28	18	♄	4 55

(21) Whit Sunday (Pentecost).

Venus in Taurus.

21	Su.	Cool, and generally unsettled—Cloudy,	4	4	24	7	29	♄	5 48
22	Mo.	misty and rainy—Cool to cold evenings	3	3	23	30	29	♄	6 36
23	Tu.		3	3	22	31	29	♄	7 20
24	We.	Queen Victoria born, 1819.	3	3	21	32	29	♄	8 02
25	Th.	and nights, with some sudden squalls of	3	3	20	33	29	♄	8 42
26	Fri.	wind and dashing rain—Fine at close.	3	3	19	34	29	♄	9 23
27	Sat.		3	3	19	35	29	♄	10 04

(22) Trinity Sunday.

Mars in Gemini.

28	Su.	Generally favorable weather—Cool to	3	4	18	7	36	♄	10 48
29	Mo.	cold again.	3	3	18	37	36	♄	11 34
30	Tu.	DECORATION DAY.	3	3	17	38	36	♄	Morn
31	We.	Probably local frosts.	3	3	16	39	36	♄	0 23

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PLANETS IN MAY, 1893.

MONTREAL MEAN TIME.

ON MERIDIAN SOUTH.	May 1st.	May 8th.	May 16th.	May 24th.
Mercury ☿	10 20 mo.	10 25 mo.	10 39 mo.	11 03 mo.
Venus ♀	11 57 mo.	0 04 ev.	0 12 ev.	0 22 ev.
Mars ♂	2 46 ev.	2 38 ev.	2 29 ev.	2 20 ev.
Jupiter ♃	11 47 mo.	11 26 mo.	11 02 mo.	10 38 mo.
Saturn ♄	9 49 ev.	9 20 ev.	8 48 ev.	8 15 ev.
Uranus ♅	11 44 ev.	11 15 ev.	10 43 ev.	10 10 ev.
Neptune ♆	1 55 ev.	1 29 ev.	0 58 ev.	0 28 ev.

THE PLANETS.—MERCURY and JUPITER are in Conjunction (Jupiter 56' N.) on the 20th at 2.10 ev. VENUS reaches Superior Conjunction with the Sun on the 2nd at 4.21 mo., when she becomes an "Evening Star." She is 1° 36' N. of NEPTUNE on the 25th at 1.41 ev.

THE MOON.—Is in Apogee at 7 ev. on the 2nd; is 3° 12' N. of Mercury at 7.02 mo. on the 14th; 2° 20' N. of Jupiter the same day at 9.58 ev.; in Perigee at 8 ev. on the 15th; 3° 4' N. of Venus on the 16th at 1.12 mo.; passes 5° 5' N. of Neptune at 6.56 the same evening; is 3° 32' N. of Mars at 5.21 mo. on the 18th; passes 43' S. of Saturn on the 25th at 3.54 mo.; overtakes Uranus (passing 1° 24' S.) on the 27th at 6.50 ev., reaching Apogee again at 9 ev. on the 29th.

THE STARS.—*Coma Berenices*, "Berenice's Hair," is a cluster of small Stars between *Ursa Major* and *Virgo*, which only require a greater distance from us to become a Nebula to the naked eye. The whole number of visible Stars is said to be 43; they can rarely be distinguished in the presence of the Moon, hence it is necessary to wait for a moonless evening in order to pick them out. The Constellation is rich in Nebulæ. One in R.A. 13h. 7m., Dec. N. 18° 47' is a brilliant mass of minute Stars, blazing in the centre, with curved appendages. Another in R.A. 12h. 30m., Dec. N. 25° 39' is like a long streak, with a parallel patch, and a nucleus projecting into a dark lane. In R.A. 12h. 51m., Dec. N. 22° 20' is a magnificent, large, bright, nebula, blazing to a nucleus.

enters □
l. Sh. ev.
WINNIPEG.
7.56 ev.
4.18 ev.
8.23 mo.
8.54 mo.
E.A.L.
THE MOON:
Zod. Souths.
H. M.
Morn
0 51
1 38
2 27
3 19
4 11
Virgo.
5 02
5 52
6 41
7 28
8 14
9 02
9 50
in Aries.
8 10 43
8 11 40
Eve.
1 47
2 53
3 57
4 55
Taurus.
5 48
6 36
7 20
8 02
8 42
9 23
10 04
Gemini.
10 48
11 34
Morn
0 23

6th Month, 1893.
30 Days.

JUNE.

☉ enters ♋
21d. 0h. mo.

Moon's Phases	Day.	BOSTON.	MONTREAL.	WASHINGTON	CHICAGO.	WINNIPEG.
☾ L.Q.	7	9.02 mo.	8.48 mo.	8.35 mo.	7.53 mo.	7.15 mo.
● N.M.	13-14	1.10 mo.	0.56 mo.	0.43 mo.	0.01 mo.	11.23 ev.
☽ F.Q.	20	9.56 ev.	9.42 ev.	9.29 ev.	8.47 ev.	8.09 ev.
☽ F.M.	28 29	1.44 mo.	1.30 mo.	1.17 mo.	0.35 mo.	11.57 ev.

DAYS.		WEATHER FORECAST.		MONTREAL.			
M.	W.			THE SUN			
				Fast.	Rises.	Sets.	THE MOON
							Zod. Souths.
1	Th.	CORPUS CHRISTI. Cool and		M.	H.	M.	H.
2	Fri.	windy, with local showers—Generally un-		2	4 16	7 40	☽ Morn
3	Sat.	settled and warmer, with thunder storms.		2	15	41	☽ 2 06
				2	14	42	☽ 2 58

(23) 1st Sunday after Trinity. Jupiter in Aries.

4	Su.	Frequent thunder storms, with extreme	2	4 14	7 43	☽	3 48
5	Mo.	heat (Tornadoes probable), changing to a	2	13	44	☽	4 36
6	Tu.	cool to cold reactionary period, with hail	2	13	45	☾	5 23
7	We.		1	12	45	☾	6 08
8	Th.	Henry G. Vennor died, 1884.	1	12	46	☽	6 53
9	Fri.	and rain showers, and cool winds.	1	12	46	☽	7 39
10	Sat.		1	11	47	☽	8 29

(24) 2nd Sunday after Trinity. Saturn in Virgo.

11	Su.	ST. BARNABAS.	1	4 11	7 47	♄	9 22
12	Mo.		0	11	48	♄	10 20
13	Tu.	Fine summer weather—A hot spell.	0	11	48	♄	11 24
14	We.		slow	11	49	♄	Eve.
15	Th.	with thunder storms—Cooler, with showers	0	11	49	♄	1 38
16	Fri.	—Generally fine summer weather.	1	11	50	♄	2 41
17	Sat.		1	11	50	♄	3 38

(25) 3rd Sunday after Trinity. Uranus in Virgo.

18	Su.	Fine and favorable summer weather—	1	4 11	7 51	♅	4 30
19	Mo.	Cooler, with rains—Cloudy and windy,	1	11	51	♅	5 16
20	Tu.	Accession Queen Victoria.	1	11	51	♅	5 59
21	We.	with showers—Fine and warm at end of	2	11	51	♅	6 41
22	Th.	week. [SUMMER DAY.]	2	12	52	♅	7 22
23	Fri.		2	12	52	♅	8 03
24	Sat.	ST. JOHN BAPTIST. —MID-	2	12	52	♅	8 46

(26) 4th Sunday after Trinity. Neptune in Taurus.

25	Su.	Hot, sultry weather, with severe thunder	2	4 13	7 52	♆	9 31
26	Mo.	storms (Tornadoes probable)—Wind and	3	13	52	♆	10 19
27	Tu.	hail storms—Cool for the season, with	3	14	52	♆	11 10
28	We.	frosts at night.	3	14	52	☽	Morn
29	Th.	ST. PETER and ST. PAUL.	3	15	52	☽	0 02
30	Fri.	Month ends fine, but cool.	3	15	51	☽	0 54

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PLANETS IN JUNE, 1893.

MONTREAL MEAN TIME.

ON MERIDIAN (SOUTH).	June 1st.	June 8th.	June 16th.	June 24th.
Mercury..... ♀	11 39 mo.	0 18 ev.	0 59 ev.	1 31 ev.
Venus..... ♀	0 33 ev.	0 42 ev.	0 54 ev.	1 05 ev.
Mars..... ♂	2 10 ev.	2 02 ev.	1 53 ev.	1 43 ev.
Jupiter..... ♃	10 14 mo.	9 49 mo.	9 28 mo.	9 03 mo.
Saturn..... ♄	7 43 ev.	7 16 ev.	6 44 ev.	6 14 ev.
Uranus..... ♅	9 37 ev.	9 09 ev.	8 37 ev.	8 05 ev.
Neptune..... ♆	11 58 mo.	11 31 mo.	11 01 mo.	10 31 mo.

THE PLANETS.—MERCURY is 2° 1' N. of Neptune on the 3rd at 11.29 mo.; in Superior Conjunction with the Sun at 11.36 ev. on the 4th; in Perihelion at 3.02 mo. on the 5th; 59' N. of Venus at 9.45 ev. on the 14th, and 25' N. of MARS at 11.24 mo. on the 27th. VENUS is in Perihelion on the 26th at 1.07 mo. SATURN is Stationary on the 9th at 7.24 mo., and at Quadrature, 90° from the Sun (when he is overhead at 6 ev.), at 3.08 ev. on the 27th. NEPTUNE is in Conjunction with the Sun on the 1st at 8.32 mo.

THE MOON.—Is in Conjunction with Jupiter (2° 57' N.) on the 11th at 6.47 ev.; in Perigee on the 13th at 6 mo.; 5° 7' N. of Neptune at 7.15 mo. the same day; 2° 53' N. of Mercury at 8.22 ev. on the 14th, as well as 3° 52' N. of Venus (at 8.27 ev.) that day; 3° 54' N. of Mars on the 15th at 8.03 ev.; 48' S. of Saturn on the 21st at 10.22 mo.; 1° 40' N. of Uranus at 11.28 ev. on the 23rd, and in Apogee on the 26th at 0h. mo.

THE STARS.—*Bootes*, "the Bear Driver," is a fine Constellation West of *Coma Berenices*, readily distinguished by its great yellow star *Arcturus* (R.A. 14h. 10m., Dec. N. 19° 49'). Morin, as far back as 1635, saw *Arcturus* in daytime. It has a proper annual motion of more than 1 second in R.A. and 2 seconds in Dec., and has moved more than 2½ times the Moon's diameter since the days of Hipparchus. Yet its parallax is almost nil, and its light must take over 25 years to reach us. It is approaching us at a rate of 55 miles per second. It has a companion star. *Arcturus*, on Oct. 5th, 1858, was enveloped in the tail of Donati's comet, and only 20' from the nucleus.

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15 mo.

23 ev.

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Aries.

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Virgo.

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Eve.

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Virgo.

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Taurus.

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Morn

0 02

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7th Month, 1893.
31 Days.

JULY.

☉ enters ♍
20d. 7h. mo.

Moon's Phases	Day.	BOSTON.	MONTREAL.	WASHINGTON	CHICAGO.	WINNIPEG.
☾ L. Q.	6	5.24 ev.	5.10 ev.	4.57 ev.	4.15 ev.	3.37 ev.
● N. M.	13	8.06 mo.	7.52 mo.	7.39 mo.	6.57 mo.	6.19 mo.
☽ F. Q.	20	0.21 ev.	0.07 ev.	11.54 mo.	11.12 mo.	10.34 mo.
☽ F. M.	28	3.28 ev.	3.14 ev.	3.01 ev.	2.19 ev.	1.41 ev.

DAYS.	WEATHER FORECAST.	MONTREAL.						
		THE SUN— Slow. Rises. Sets.			THE MOON Zod. Souths.			
M.	W.	M.	H.	M.	H.	M.	H.	
1 Sat.	DOMINION DAY. Fine weather.	4	4	16	7	51	☾	Morn
(27) 5th Sunday after Trinity.		Mercury in Cancer.						
2 Su.	Fine, hot to sultry summer weather,	4	4	16	7	51	☾	2 34
3 Mo.		4		17		51	☾	3 21
4 Tu.	INDEPENDENCE DAY.	4		17		50	☾	4 06
5 We.	with thunder storms—A summer week, with a cooler change at the end, and	4		18		50	☾	4 51
6 Th.		5		19		49	☾	5 35
7 Fri.	local rains.	5		20		49	☾	6 22
8 Sat.		5		21		48	☾	7 11
(28) 6th Sunday after Trinity.		Venus in Cancer.						
9 Su.	Cloudy, with local rains—Fine and hot—	5	4	22	7	48	☾	8 05
10 Mo.		5		23		47	☾	9 05
11 Tu.	Very sultry weather, a heated term, with thunder storms—Cooler, strong winds,	5		23		47	☾	10 09
12 We.		5		24		46	☾	11 16
13 Th.	showers and probably frosts in some sections—Hot weather, with showers.	6		24		45	☾	Even.
14 Fri.		6		25		44	☾	1 22
15 Sat.	ST. SWITHIN.	6		26		44	☾	2 17
(29) 7th Sunday after Trinity.		Mars in Cancer.						
16 Su.	Hot, summer weather, a torrid spell,	6	4	27	7	43	☾	3 07
17 Mo.		6		28		42	☾	3 53
18 Tu.	with thunder storms (Tornadoes probable)	6		29		41	☾	4 36
19 We.		6		30		40	☾	5 18
20 Th.	—Cooler. with high winds—Fine weather.	6		31		39	☾	6 00
21 Fri.		6		32		38	☾	6 42
22 Sat.		6		33		37	☾	7 27
(30) 8th Sunday after Trinity.		Jupiter in Taurus.						
23 Su.	Fine weather, but cool for the season, Canada visited by Cartier, 1534.	6	4	34	7	36	♃	8 14
24 Mo.		6		35		35	♃	9 04
25 Tu.	ST. JAMES. nights quite cool—	6		36		34	♃	9 56
26 We.		6		37		33	♃	10 48
27 Th.	Rainy and unsettled—Fine and hot, with thunder showers.	6		38		32	♃	11 40
28 Fri.		6		39		31	☾	Morn
29 Sat.		6		40		30	☾	0 31
(31) 9th Sunday after Trinity.		Saturn in Virgo. ●						
30 Su.	Unsettled, some rapid changes—Month ends fine.	6	4	41	7	29	♄	1 19
31 Mo.		6		42		28	♄	2 05

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PLANETS IN JULY, 1893.

MONTREAL MEAN TIME.

ON MERIDIAN SOUTH.	July 1st.	July 8th.	July 16th.	July 24th.
Mercury ♀	1 48 ev.	1 54 ev.	1 49 ev.	1 27 ev.
Venus ♀	1 14 ev.	1 23 ev.	1 31 ev.	1 38 ev.
Mars ♂	1 34 ev.	1 25 ev.	1 14 ev.	1 03 ev.
Jupiter ♃	8 38 mo.	8 19 mo.	7 54 mo.	7 24 mo.
Saturn ♄	5 47 ev.	5 20 ev.	4 43 ev.	4 20 ev.
Uranus ♅	7 37 ev.	7 09 ev.	6 38 ev.	4 08 ev.
Neptune ♆	10 04 mo.	9 37 mo.	9 07 mo.	8 37 mo.

THE PLANETS.—MERCURY is at Greatest Elongation E. of 26° 30' on the 11th at 8 mo., when he is favorably placed for observation in the early evening sky, not far from the Sunset point; he is in Aphelion on the 19th at 2.44 mo., and Stationary on the 24th at 10.51 mo. VENUS is in Conjunction (18' N.) with MARS on the 9th at 9.08 mo. URANUS is Stationary on the 14th at 10.58 ev., reaching Quadrature with the Sun, when he is overhead at 6 ev., at 11.55 mo. on the 29th.

THE MOON.—Is 3° 35' N. of Jupiter on the 9th at 1 ev.; 5° 16' N. of Neptune on the 10th at 6.40 ev.; in Perigee at 1 ev. on the 11th; 3° 49' N. of Mars at 11.25 mo. on the 14th; in Conjunction with Venus 3° 24' N. on the same day at 4.48 ev.; passes 6° 10' N. of Mercury at 2.21 mo. on the 15th; is 1° 5' S. of Saturn at 8.42 ev. on the 18th; 1° 12' N. of Uranus on the 21st at 6.12 mo.; and in Apogee on the 23rd at 4 ev.

THE STARS.—*Ophiuchus*, "the Serpent Bearer," occupies a considerable space in the heavens south of *Hercules*; its central portion is on the meridian during the latter part of July. Barren of noticeable objects to the eye, it is attractive in the telescope, containing many Double Stars and several Clusters. The Double Star 2272 Struve is in this Constellation. Its R.A. is 17h. 59m. Dec. 2° 32' N. Its components are topaz blue and purple, the latter varying in color. It is a binary system, the pair revolving about each other in a period variously estimated at 80, 88, 94 and 74 years, with a light passage of 20 years.

enters Ω
7h. mo.

WINNIPEG.

3.37 ev.
6.19 mo.
0.34 mo.
1.41 ev.

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THE MOON
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H. M.
Morn

Cancer.

2 34
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Cancer.

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Cancer.

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Taurus.

8 14
9 04
9 56
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11 40
Morn
0 31

n Virgo. ●

1 19
2 05

8th Month, 1893.
31 Days.

AUGUST.

☉ enters ♍
20d. 0h. ev.

Moon's Phases	Day.	BOSTON.	MONTREAL.	WASHINGTON	CHICAGO.	WINNIFEG.
☾ L.Q.	4	11.42 ev.	11.28 ev.	11.15 ev.	10.33 ev.	9.55 ev.
● N.M.	11	4.06 ev.	3.52 ev.	3.39 ev.	2.57 ev.	2.19 ev.
☽ F.Q.	19	5.10 mo.	4.56 mo.	4.43 mo.	4.01 mo.	3.23 mo.
☽ F.M.	27	4.01 mo.	3.47 mo.	3.34 mo.	2.52 mo.	2.14 mo.

DAYS.	WEATHER FORECAST.	MONTREAL.						
		THE SUN			THE MOON			
M.	W.	Slow.	Rises.	Sets.	Zod.	Souths.	H.	M.
1 Tu.	LAMMAS DAY.	6	4 43	7 27	♋	Morn		
2 We.	Fine, hot, sultry, summer weather, with occasional thunder storms.	6	45	26	♌	3 34		
3 Th.		6	46	25	♌	4 19		
4 Fri.		6	47	24	♍	5 07		
5 Sat.		6	48	23	♍	5 58		

(32) 10th Sunday after Trinity.

Uranus in Virgo.

6 Su.	Fine, very hot weather—Strong winds and rains—Cooler, some rapid changes of temperature—Hot, with thunder storms	6	4 50	7 21	♍	6 54
7 Mo.		5	51	19	♍	7 55
8 Tu.		5	52	18	♍	8 59
9 We.		5	53	16	♍	10 03
10 Th.		ST. LAWRENCE.	5	54	14	♍
11 Fri.	at end of week.	5	56	13	♍	Eve.
12 Sat.		5	57	11	♍	0 55

(33) 11th Sunday after Trinity.

Mercury in Cancer.

13 Su.	Heat and thunder continues, with strong winds—A cooler term—Very hot again, sultry, with severe and damaging thunder and hail storms—Cooler, perhaps local frosts.	5	4 58	7 09	♋	1 43	
14 Mo.		4	59	08	♋	2 28	
15 Tu.		ASSUMPTION B.V.M.	4	5 00	07	♋	3 11
16 We.		4	02	06	♋	3 54	
17 Th.		4	03	04	♋	4 37	
18 Fri.		4	04	02	♋	5 21	
19 Sat.		3	05	00	♋	6 08	

(34) 12th Sunday after Trinity.

Venus in Virgo.

20 Su.	Quite cold for season, local frosts reported—An anxious time in the N.W.—Fine and hot again—Some thunder and rain—Windy and cool at end of week.	3	5 06	6 58	♋	6 57
21 Mo.		3	08	56	♋	7 48
22 Tu.		3	09	54	♋	8 40
23 We.		2	10	52	♋	9 32
24 Th.		ST. BARTHOLOMEW.	2	11	51	♋
25 Fri.		2	12	49	♋	11 13
26 Sat.		2	14	48	♋	Morn

(35) 13th Sunday after Trinity.

Mars in Leo.

27 Su.	Fine and hot weather—End of month sultry and stormy, with electrical disturbances.	1	5 15	6 40	♋	0 00
28 Mo.		1	16	44	♋	0 46
29 Tu.		1	17	42	♋	1 31
30 We.		0	18	41	♋	2 17
31 Th.		0	20	40	♋	3 05

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PLANETS IN AUGUST, 1893.

MONTREAL MEAN TIME.

ON MERIDIAN (SOUTH).	Aug. 1st.	Aug. 8th.	Aug. 16th.	Aug. 24th.
Mercury.....♿	0 45 ev.	11 58 mo.	11 10 mo.	10 50 mo.
Venus.....♀	1 44 ev.	1 48 ev.	1 52 ev.	1 56 ev.
Mars.....♂	0 51 ev.	0 41 ev.	0 29 ev.	0 17 ev.
Jupiter.....♃	7 01 mo.	6 37 mo.	6 10 mo.	5 42 mo.
Saturn.....♄	3 51 ev.	3 26 ev.	2 57 ev.	2 29 ev.
Uranus.....♅	5 36 ev.	5 09 ev.	4 38 ev.	4 08 ev.
Neptune.....♆	8 05 mo.	7 39 mo.	7 08 mo.	6 37 mo.

THE PLANETS.—MERCURY passes between the Earth and Sun (Inferior Conjunction) on the 8th at 5.09 mo., when he becomes a Morning Star. He is Stationary on the 17th at 2.33 ev., and at Greatest Elongation W. of 18° 16' at 9 ev. on the 25th. He is then visible before Sunrise in the E. MARS is in Aphelion on the 16th at 11.06 ev. JUPITER reaches Quadrature on the 22nd at 11.09 ev.

THE MOON.—Luna is in Conjunction with Jupiter, passing 4° 10' N. on the 6th at 3.19 mo.; near Neptune on the 7th at 3.37 mo.; in Perigee on the 8th at 11 mo.; is 9° 32' N. of Mercury on the 11th at 2.11 mo.; passes 3° 14' N. of Mars on the 12th at 3.37 mo.; is 1° 41' N. of Venus on the 13th at 6.06 ev.; is 1° 26' S. of Saturn on the 15th at 10.05 mo.; passes 1° 59' S. of Uranus on the 17th at 3.17 ev.; and is in Apogee on the 20th at 8 mo.

THE STARS.—*Lyra*, "the Harp," is on the meridian in August, almost directly overhead. It cannot be mistaken, owing to the presence of its leading Star, *Vega*, which blazes imperial in the first order of star sun's. The brightness of *Vega* has called forth the admiration of astronomers in every age. Inferior only to *Sirius*, it leads the summer hosts as the Dog-Star does those of the winter. Its color is a lovely sapphire, with a small blue (11th magnitude) attendant Star. Its distance is thought to be 400,000 times as remote as our Sun, its bulk enormous, its light passage requiring 18 years. It is believed to be approaching us at a rate of about 50 miles per second.

enters ♀
Oh. ev.

WINNIPEG.

9.55 ev.
2.19 ev.
3.23 mo.
2.14 mo.

E.A.T.

THE MOON
Zod. Souths.

	H.	M.
♌	Morn	
♍	3 34	
♎	4 19	
♏	5 07	
♐	5 58	

Virgo.

♍	6 54
♎	7 55
♏	8 59
♐	10 03
♑	11 06
♒	Eve.
♓	0 55

Cancer.

♋	1 43
♌	2 28
♍	3 11
♎	3 54
♏	4 37
♐	5 21
♑	6 08

Virgo.

♌	6 57
♍	7 48
♎	8 40
♏	9 32
♐	10 23
♑	11 13
♒	Morn

Leo.

♌	0 00
♍	0 46
♎	1 31
♏	2 17
♐	3 05

9th Month, 1893.
30 Days.

SEPTEMBER.

☉ enters ♌
22d. 3h. ev.

Moon's Phases	Day.	BOSTON.	MONTREAL.	WASHINGTON	CHICAGO.	WINNIPEG.
☾ L.Q.	3	5.00 mo.	4.46 mo.	4.33 mo.	3.51 mo.	3.13 mo.
● N.M.	10	2.23 mo.	2.09 mo.	1.56 mo.	1.14 mo.	0.36 mo.
☽ F.Q.	17	11.37 ev.	11.23 ev.	11.10 ev.	10.28 ev.	9.50 ev.
☼ F.M.	25	3.42 ev.	3.28 ev.	3.15 ev.	2.33 ev.	1.55 ev.

DAYS.		WEATHER FORECAST.		MONTREAL.					
M.	W.			THE SUN			THE MOON		
				Fast.	Rises.	Sets.	Zod.		Souths.
1	Fri.	ST. GILES.	Opens sultry and	0	5 21	6 39	♌	♌	Morn
2	Sat.	stormy (Tornadoes probable).		1	22	37	♌	♌	4 49

(36) 14th Sunday after Trinity.

Jupiter in Taurus.

3	Su.	Heat and thunder, with hail and wind		1	5 23	6 35	♌	♌	5 48
4	Mo.	LABOR DAY. storms—A change		1	24	33	♌	♌	6 50
5	Tu.	to cool weather, with high winds (Frosts		2	26	31	♌	♌	7 53
6	We.			2	27	29	♌	♌	8 54
7	Th.	probable)—Fine weather, with occasional		2	28	27	♌	♌	9 52
8	Fri.	showers.		3	29	25	♌	♌	10 45
9	Sat.			3	30	23	♌	♌	11 34

(37) 15th Sunday after Trinity.

Saturn in Virgo.

10	Su.			3	5 32	6 22	♍	♍	Eve.
11	Mo.	Warm, with occasional showers—Cooler,		4	33	20	♍	♍	1 04
12	Tu.	cloudy, squally and unsettled—Fine		4	34	18	♍	♍	1 47
13	We.			4	35	16	♍	♍	2 30
14	Th.	weather—Showery and windy at end of		5	36	14	♍	♍	3 14
15	Fri.	week.		5	38	12	♍	♍	4 00
16	Sat.			5	39	10	♍	♍	4 49

(38) 16th Sunday after Trinity.

Mercury in Virgo.

17	Su.	A cool to cold period, with damaging		6	5 40	6 08	♍	♍	5 39
18	Mo.	frosts—Warmer, a summer-like spell,		6	41	06	♍	♍	6 31
19	Tu.			6	42	04	♍	♍	7 23
20	We.	with thunder showers—Cool, windy and		7	44	02	♍	♍	8 14
21	Th.	ST. MATTHEW. unsettled at		7	45	00	♍	♍	9 04
22	Fri.	end of week (Auroral displays probable).		8	46	5 58	♍	♍	9 52
23	Sat.			8	47	56	♍	♍	10 38

(39) 17th Sunday after Trinity.

Venus in Virgo.

24	Su.	Windy and rainy, gales on Atlantic sea-		8	5 48	5 54	♍	♍	11 24
25	Mo.	board and Gulf of St. Lawrence—A warm		9	50	53	♍	♍	Morn
26	Tu.			9	51	51	♍	♍	0 11
27	We.	to hot period, very fine September weather		9	52	49	♍	♍	0 58
28	Th.			10	53	47	♍	♍	1 49
29	Fri.	MICHAELMAS.		10	55	45	♍	♍	2 43
30	Sat.	—Rainy and stormy at end of month.		10	56	43	♍	♍	3 42

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PLANETS IN SEPTEMBER, 1893.

MONTREAL MEAN TIME.

ON MERIDIAN SOUTH.	Sept. 1st.	Sept. 8th.	Sept. 16th.	Sept. 24th.
Mercury . . . ♀	10 59 mo.	11 21 mo.	11 46 mo.	0 07 ev.
Venus ♀	2 00 ev.	2 03 ev.	2 07 ev.	2 12 ev.
Mars ♂	0 05 ev.	11 54 mo.	11 41 mo.	11 28 mo.
Jupiter ♃	5 13 mo.	4 47 mo.	4 16 mo.	3 44 mo.
Saturn ♄	2 00 ev.	1 36 ev.	1 08 ev.	0 40 ev.
Uranus ♅	3 38 ev.	3 10 ev.	2 40 ev.	2 11 ev.
Neptune . . . ♆	6 06 mo.	5 38 mo.	5 07 mo.	4 35 mo.

THE PLANETS.—MERCURY is in Perihelion on the 1st at 2.18 mo.; in Conjunction with the Sun (Superior) on the 20th at 3.22 mo.; and 1° 53' S. of Saturn on the 30th at 10.38 mo. VENUS is 1° 11' S. of the place of Uranus on the 24th at 8.24 mo. MARS reaches Conjunction with the Sun on the 4th at 4.19 mo., when he becomes a Morning Star. JUPITER is Stationary on the 19th at 6.46 ev. NEPTUNE is 90° from the Sun (Quadrature) on the 5th at 5.35 ev. He is Stationary on the 16th at 3.33 mo.

THE MOON.—Is in Conjunction with Venus (1° 56 N.) on the 1st at 10.28 ev.; 3° 56' N. of Jupiter on the 2nd at 1.16 ev.; 5° 45' N. of Neptune on the 3rd at 10.06 mo.; in Perigee at 11 ev. on the 3rd; in Conjunction with Mercury on the 9th at 6.04 mo.; 2° 7' N. of Mars the same day at 8.56 ev.; in Conjunction with Saturn (1° 48' S.) on the 12th at 0.53 mo.; very close to Venus (30' S.) on the 13th at 0.25 mo.; 2° 14' S. of Uranus at 2.01 mo. on the 14th; in Apogee on the 17th at 4 mo.; in Perigee on the 28th at 8 ev.; in Conjunction with Jupiter (4° 47' N.) on the 29th at 7.37 ev.; and close to Neptune (5° 53' N.) on the 30th at 3.37 ev.

THE STARS.—Alpha and Beta Delphini (in the Constellation Dolphin, described last year) are the leading Stars in their Constellation. The first is a bright Star, with a distant telescopic companion; the second, a delicate triple Star 1½° S.W. Herschel has described a beautiful, bright, large, resolvable nebula, in R.A. 20h. 28m., Dec. N. 6° 59'.

enters 2d. 3h. ev.

WINNIPEG.

3.13 mo.
0.36 mo.
9.50 ev.
1.55 ev.

H.A.L.

THE MOON

Zod. Souths.

	H.	M.
♃	Morn	
♄	4	49

Taurus.

♃	5	48
♄	6	50
♅	7	53
♆	8	54
♇	9	52
♈	10	45
♉	11	34

in Virgo.

♊	Eve.	
♋	1	04
♌	1	47
♍	2	30
♎	3	14
♏	4	00
♐	4	49

in Virgo.

♑	5	39
♒	6	31
♓	7	23
♈	8	14
♉	9	04
♊	9	52
♋	10	38

in Virgo.

♌	11	24
♍	Morn	
♎	0	11
♏	0	58
♐	1	49
♑	2	43
♒	3	42

10th Month, 1893.
31 Days.

OCTOBER.

☉ enters ♍
25d. 4h. mo.

Moon's Phases	Day.	BOSTON.	MONTREAL.	WASHINGTON	CHICAGO.	WINNIPEG.
☾ L.Q.	2	10.38 mo.	10.24 mo.	10.11 mo.	9.29 mo.	8.51 mo.
● N.M.	9	3.46 ev.	3.32 ev.	3.19 ev.	2.37 ev.	1.59 ev.
☽ F.Q.	17	6.38 ev.	6.24 ev.	6.11 ev.	5.29 ev.	4.51 ev.
☼ F.M.	25	2.47 mo.	2.33 mo.	2.20 mo.	1.38 mo.	1.00 mo.
☾ L.Q.	31	6.01 ev.	5.47 ev.	5.34 ev.	4.52 ev.	4.14 ev.

DAYS.	WEATHER FORECAST.	MONTREAL.	
		THE SUN	THE MOON
N.	W.	Fast. Rises.	Sets. Zod. Souths.

(40) 18th Sunday after Trinity. Mars in Virgo.

		M.	H.	M.	H.	M.	H.	M.
1 Su.		11	5	57	5	41	Π	Morn
2 Mo.	Mild weather, fine for season—	11		59		39	♄	5 46
3 Tu.		11	6	00		37	♄	6 48
4 We.	Generally favorable weather—	11		01		35	♄	7 46
5 Th.	A fine week.	12		03		34	♄	8 40
6 Fri.		12		04		32	♄	9 29
7 Sat.		12		05		30	♄	10 15

(41) 19th Sunday after Trinity. Jupiter in Taurus.

8 Su.	Cold and rainy generally, a storm period,	13	6	06	5	28	♃	10 59
9 Mo.	ST. DENIS. with sleet and snow	13		08		26	♃	11 41
10 Tu.	flurries N. and rains S.—Fine and pleasant	13		09		25	♃	Eve.
11 We.	October weather.	13		11		23	♃	1 08
12 Th.	Columbus discov'd America, 1492.	14		12		21	♃	1 53
13 Fri.	Cold and cloudy at end of week.	14		13		19	♃	2 41
14 Sat.		14		15		17	♃	3 31

(42) 20th Sunday after Trinity. Saturn in Virgo.

15 Su.	Cold for the season, with severe storms	14	6	16	5	16	♄	4 21
16 Mo.		14		18		14	♄	5 13
17 Tu.	and high winds, rain, hail, sleet and snow,	15		19		12	♄	6 04
18 We.	ST. LUKE. according	15		20		10	♄	6 54
19 Th.	to latitude—Severe frosts for October—	15		21		08	♄	7 42
20 Fri.	Fine and warm at end of week.	15		23		07	♄	8 28
21 Sat.		15		24		05	♄	9 14

(43) 21st Sunday after Trinity. Uranus in Virgo.

22 Su.	Fine October weather—A warm to hot	16	6	25	5	03	♅	10 00
23 Mo.		16		26		01	♅	10 47
24 Tu.		16		28		00	♅	11 37
25 We.	"Indian Summer" spell, with generally	16		29	4	58	♅	Morn
26 Th.	fair to fine, mild weather.	16		31		57	♅	0 31
27 Fri.		16		32		55	♅	1 30
28 Sat.		16		33		53	♅	2 32

(44) 22nd Sunday after Trinity. Neptune in Taurus.

29 Su.	Fine weather continues—Close of month	16	6	35	4	52	♆	3 37
30 Mo.	windy, rainy (snowy) and unsettled.	16		36		50	♆	4 41
31 Tu.	All Hallow's Eve.	16		38		49	♆	5 42

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PLANETS IN OCTOBER, 1893.

MONTREAL MEAN TIME.

ON MERIDIAN SOUTH.	Oct. 1st.	Oct. 8th.	Oct. 16th.	Oct. 24th.
Mercury ♀	0 22 ev.	0 35 ev.	0 49 ev.	1 03 ev.
Venus ♀	2 17 ev.	2 22 ev.	2 30 ev.	2 39 ev.
Mars ♂	11 17 mo.	11 06 mo.	10 54 mo.	10 41 mo.
Jupiter ♃	3 16 mo.	2 47 mo.	2 13 mo.	1 39 mo.
Saturn ♄	0 15 ev.	11 51 mo.	11 23 mo.	10 55 mo.
Uranus ♅	1 45 ev.	1 19 ev.	0 50 ev.	0 20 ev.
Neptune ♆	4 08 mo.	3 40 mo.	3 08 mo.	2 36 mo.

THE PLANETS.—MERCURY is in Aphelion on the 15th at 1.58 mo., and in Conjunction with Uranus (1° 49' S.) on the 16th at 10.51 mo. VENUS is in Conjunction with the Star *Delta Scorpis* on the 12th at 9.45 ev., when she passes 13' N. of it. She is in Aphelion on the 16th at 3 mo. MARS is in Conjunction with Saturn (1° 36' S.) on the 31st at 4.54 ev. SATURN is in Conjunction with the Sun on the 8th at 4.15 ev.

THE MOON.—Passes very close to Mars (34' N.) on the 8th at 3.29 ev.; is 3° 31' S. of Saturn on the 9th at 3.30 ev.; Conjuncts the Sun, eclipsing it on the 9th [see page 11]; is 37' S. of Mercury on the 10th at 10.04 ev.; passes the place of Uranus at 1.09 ev. on the 11th; is 1° 49' S. of Venus on the 13th at 7.46 mo.; in Apogee on the 14th at 11 ev.; in Perigee on the 26th at 8 ev.; in Conjunction with Jupiter on the 27th at 0.18 mo.; and 5° 53' N. of Neptune at 10.18 ev. on the 27th.

THE STARS.—*Equuleus*, "the Little Horse," is on the meridian about 8 o'clock on Oct. 10th. It is easily recognized by the clustering of its Stars and its position from *Pegasus*. It has ten Stars, four only of which reach the 4th magnitude. These may be distinguished by the irregular square which they form. *Delta*, in this Constellation, is an exceedingly close double Star, with a most rapid period. Its R.A. is 21h. 9m. Dec. N. 9° 31'. The pair are "followed" by 3 little Stars, arranged in a straight line. *Gamma* (R.A. 21h. 5m., Dec. N. 9° 39') is a double star, according to Knott, who describes its components as pale yellow and blue.

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MINNEPEG.
3.51 mo.
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THE MOON
Ecl. Souths.
Virgo.
H. M.
Morn
5 46
6 48
7 46
8 40
9 29
10 15
Taurus.
10 59
11 41
Eve.
1 08
1 53
2 41
3 31
Virgo.
4 21
5 13
6 04
6 54
7 42
8 28
9 14
Virgo.
10 00
10 47
11 37
Morn
0 31
1 30
2 32
Taurus.
3 37
4 41
5 42

11th Month, 1893.
30 Days.

NOVEMBER.

☉ enters ♄
23d. 9h. ev.

Moon's Phases	Day.	BOSTON.	MONTREAL.	WASHINGTON	CHICAGO.	WINNIPEG.
● N.M.	8	8.16 mo.	8.02 mo.	7.49 mo.	7.07 mo.	6.29 mo.
☽ F.Q.	16	1.03 ev.	0.49 ev.	0.36 ev.	11.54 mo.	11.16 mo.
☾ F.M.	23	1.27 ev.	1.13 ev.	1.00 ev.	0.18 ev.	11.40 mo.
☾ L.Q.	30	4.27 mo.	4.13 mo.	4.00 mo.	3.18 mo.	2.40 mo.

DAYS.	WEATHER FORECAST.	MONTREAL.					
		THE SUN			THE MOON		
M.	W.	Fast.	Rises.	Sets.	Zod.	Souths.	
1 We.	ALL SAINTS. Enters unsettled,	16	6 39	4 47	♋	Morn	
2 Th.	stormy and cold, with snow flurries in	16	41	46	♌	7 27	
3 Fri.	Northern sections—Fine weather.	16	42	44	♌	8 13	
4 Sat.		16	44	43	♍	8 57	

(45) 23rd Sunday after Trinity. Mercury in Scorpio.

5 Su.	Windy and rainy (or snowy), dark, cold,	16	6 45	4 41	♏	9 39
6 Mo.	cloudy weather, with sudden squalls of	16	47	40	♏	10 21
7 Tu.	wind—(Storms on Atlantic, Gulf of St.	16	48	39	♏	11 04
8 We.	Lawrence and Lakes)—A brief fine period.	16	50	38	♏	11 48
9 Th.	Prince of Wales born, 1841.	16	51	37	♏	Eve.
10 Fri.	Cloudy, windy, snowy and very cold for	16	53	35	♏	1 24
11 Sat.	MARTINMAS. season.	16	54	34	♏	2 15

(46) 24th Sunday after Trinity. Venus in Sagittarius.

12 Su.		16	6 55	4 33	♐	3 06
13 Mo.	Cold for season, with severe frosts—	15	57	31	♐	3 57
14 Tu.	Windy and cloudy, with snows and rains	15	58	30	♐	4 47
15 We.		15	7 00	29	♐	5 34
16 Th.	—Milder—More wind and rain at end of	15	01	28	♐	6 20
17 Fri.	week, but the mild weather continues.	15	02	27	♐	7 05
18 Sat.		15	03	26	♐	7 49

(47) 25th Sunday after Trinity. Mars in Virgo.

19 Su.		14	7 04	4 25	♍	8 34
20 Mo.	A generally fine period, getting warmer,	14	06	24	♍	9 22
21 Tu.	quite an "Indian Summer" like spell—	14	08	23	♍	10 13
22 We.		14	09	22	♍	11 10
23 Th.	Unsettled at end of week.	13	10	22	♍	Morn
24 Fri.		13	12	21	♍	0 12
25 Sat.	ST. CATHERINE.	13	13	21	♍	1 19

(48) 26th Sunday after Trinity. Jupiter in Taurus.

26 Su.	High winds and rains S., snows N.,	12	7 14	4 20	♉	2 26
27 Mo.	stormy and unsettled—A very cold period,	12	15	20	♉	3 31
28 Tu.	below zero in N.W. and W.—Month ends	12	16	19	♉	4 30
29 We.	cold.	11	18	19	♉	5 23
30 Th.	ST. ANDREW.	11	19	18	♉	6 12

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PLANETS IN NOVEMBER, 1893.

MONTREAL MEAN TIME.

ON MERIDIAN SOUTH.	Nov. 1st.	Nov. 8th.	Nov. 16th	Nov. 24th.
Mercury ♀	1 13 ev.	1 16 ev.	1 01 ev.	0 05 ev.
Venus ♀	2 48 ev.	2 56 ev.	3 04 ev.	3 11 ev.
Mars ♂	10 31 mo.	10 19 mo.	10 07 mo.	9 56 mo.
Jupiter ♃	1 03 mo.	0 32 mo.	11 52 ev.	11 16 ev.
Saturn ♄	10 27 mo.	10 03 mo.	9 35 mo.	9 06 mo.
Uranus ♅	11 51 mo.	11 24 mo.	10 55 mo.	10 25 mo.
Neptune ♆	2 04 mo.	1 35 mo.	1 03 mo.	0 31 mo.

THE PLANETS.—MERCURY is at Greatest Elongation E. of 23° 12' on the 5th at 5.23 ev., when he is visible after Sunset in the western sky. He is Stationary on the 16th at 4.38 mo., reaches Inferior Conjunction on the 26th at 7.21 mo., when he becomes a Morning Star, and is in Perihelion on the 28th at 1.33 mo. JUPITER is at Opposition on the 18th at 6.05 mo., when he is overhead at midnight and very brilliant. URANUS is in Conjunction with the Sun on the 3rd at 0.50 mo.

THE MOON.—Luna is 2° 30' S. of Saturn on the 6th at 4.48 mo.; 1° 11' S. of Mars the same day at 11.03 mo.; in Conjunction with Uranus at 11.41 ev. on the 7th; 1° 27' S. of Mercury on the 10th at 9.17 mo.; in Apogee on the 11th at 5 ev.; 1° 11' S. of Venus on the 12th at 0.15 ev.; 4° 22' N. of Jupiter on the 23rd at 5.29 mo.; in Perigee at 3 mo. on the 24th; and 5° 48' S. of Neptune on the 24th at 7.17 mo.

THE STARS.—*Cassiopeia*, almost as well known as *Ursa Major*, is one of the Circumpolar Constellations that never set in Northern Latitudes. It is on our meridian during the last ten days of November. On the Celestial Map, it is represented as a lady in regal state, seated on a chair, holding in her left hand a palm branch. Her head and body are in the Milky Way, her foot upon the Arctic Circle. She is surrounded by the personages of her Royal Family—the king, her husband, on her right, *Perseus*, her son-in-law, on her left, and her daughter, *Andromeda*, above her. The principal Stars of *Cassiopeia* form a large "W."

ters 7
9h. ev.
NNIPEG.
29 mo.
.16 mo.
.40 mo.
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A.L.
THE MOON
d. Souths.
H. M.
Morn
7 27
8 13
8 57
Scorpio.
9 39
10 21
11 04
11 48
Eve.
1 24
2 15
Taurus.
3 06
3 57
4 47
5 34
6 20
7 05
7 49
Virgo.
8 34
9 22
10 13
11 10
Morn
0 12
1 19
Taurus.
2 26
3 31
4 30
5 23
6 12

12th Month, 1893.
31 Days.

DECEMBER.

☉ enters ♍
21d. 9h. mo.

Moon's Phases	Day.	BOSTON.	MONTREAL.	WASHINGTON	CHICAGO.	WINNIPEG.
● N.M.	8	2.59 mo.	2.45 mo.	2.32 mo.	1.50 mo.	1.12 mo.
☽ F.Q.	16	5.40 mo.	5.26 mo.	5.13 mo.	4.31 mo.	3.53 mo.
☾ F.M.	22	11.55 ev.	11.41 ev.	11.28 ev.	10.46 ev.	10.08 ev.
☾ L.Q.	29	6.36 ev.	6.22 ev.	6.09 ev.	5.27 ev.	4.49 ev.

DAYS.		WEATHER FORECAST.	MONTREAL.						
M.	W.		—THE SUN—		THE MOON				
				Fast.	Rises.	Sets.	Zod.	Souths.	
1	Fri.	December enters cold, with light snows.	M.	H.	M.	H.	M.	H.	
2	Sat.		11	7	20	4	18	♊	Morn
			10		21		18	♋	7 39

(49) 1st Sunday in Advent. Saturn in Virgo.

3	Su.	Windy, rainy (or snowy)—Milder, with rains, fogs and mists, especially on Atlantic Coast—Colder, stormy, snowy, unsettled, with drifts and blizzard breaths.	10	7	22	4	17	♋	8 20
4	Mo.		9		23		17	♌	9 03
5	Tu.		9		24		16	♌	9 46
6	We.		9		26		16	♌	10 32
7	Th.		8		27		15	♍	11 20
8	Fri.	CONCEPTION B.V.M.	8		28		15	♍	Eve.
9	Sat.		7		29		14	♍	1 01

(50) 2nd Sunday in Advent. Mercury in Libra.

10	Su.	A "dip," with zero readings and brilliant winter weather—High winds, milder, with snows and rains—Another cold storm period—Some very low temperatures recorded.	7	7	30	4	14	♍	1 53
11	Mo.		6		31		15	♎	2 42
12	Tu.		6		33		15	♎	3 30
13	We.		5		34		16	♎	4 16
14	Th.		5		35		16	♏	4 59
15	Fri.		4		36		17	♏	5 43
16	Sat.		4		37		17	♏	6 26

(51) 3rd Sunday in Advent. Venus in Capricornus.

17	Su.	Milder weather, a "thaw out"—Quite warm for the season, with rains—Very open weather this week.	3	7	38	4	18	♏	7 11	
18	Mo.		3		39		18	♏	7 58	
19	Tu.		2		40		19	♏	8 51	
20	We.		2		40		19	♏	9 49	
21	Th.		ST. THOMAS.	1		41		20	♐	10 53
22	Fri.			1		41		20	♐	Morn
23	Sat.			0		42		21	♐	0 01

(52) 4th Sunday in Advent. Mars in Libra.

24	Su.	Mild, with rains and fogs—Snow nearly all melted off— CHRISTMAS. Very unseasonable ST. STEPHEN. Very unseasonable ST. JOHN EVANGELIST. holiday weather—Colder and snowy at end of week. Henry G. Vennor born, 1840.	slow	7	4	4	21	♏	1 09
25	Mo.		1		42		22	♏	2 14
26	Tu.		1		43		23	♏	3 12
27	We.		2		43		24	♏	4 04
28	Th.		2		44		24	♏	4 52
29	Fri.		3		44		25	♏	5 36
30	Sat.		3		43		26	♏	6 19

(53) Sunday after Christmas. Uranus in Libra.

31	Su.	Cloudy, with snow at end of year.	4	7	42	4	26	♏	7 01
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PLANETS IN DECEMBER, 1893.

MONTREAL MEAN TIME.

ON MERIDIAN SOUTH.	Dec. 1st.	Dec. 8th.	Dec. 16th.	Dec. 24th.
Mercury . . . ♀	11 04 mo.	10 31 mo.	10 27 mo.	10 37 mo.
Venus ♀	3 15 ev.	3 18 ev.	3 17 ev.	3 14 ev.
Mars ♂	9 46 mo.	9 37 mo.	9 27 mo.	9 17 mo.
Jupiter ♃	10 45 ev.	10 14 ev.	9 39 ev.	9 05 ev.
Saturn ♄	8 41 mo.	8 16 mo.	7 47 mo.	7 18 mo.
Uranus ♅	9 59 mo.	9 34 mo.	9 04 mo.	8 34 mo.
Neptune ♆	0 02 mo.	11 30 ev.	10 58 ev.	10 25 ev.

THE PLANETS.—MERCURY is Stationary on the 5th at 7.46 ev.; at Greatest Elongation W. of $21^{\circ} 23'$ on the 14th at 1.15 ev., when he is visible as a Morning Star in the E. prior to Sunrise. VENUS, very radiant, reaches Greatest Elongation E. of $47^{\circ} 29'$ on the 6th at 4.32 ev., when she is the most noticeable object in the evening skies. MARS is in Conjunction ($8' N.$) with Uranus on the 6th at 5.15 ev., and in Conjunction ($11' N.$) with *Alpha Librae* on the 8th at 9 mo. URANUS is in Conjunction with *Alpha Librae* on the 16th at 6.38 mo. ($3' N.$) NEPTUNE is in Opposition to the Sun on the 3rd at 7.36 ev. and overhead at midnight.

THE MOON.—Has the following Conjunctions and positions during the month: with Saturn on the 3rd at 4.26 ev.; is $2^{\circ} 48' S.$ of Mars at 7.21 mo. on the 5th; passes Uranus $2^{\circ} 44' S.$ on the 6th at 9.13 mo.; is $6^{\circ} 9' N.$ of Mercury the same day at 1.44 ev.; in Apogee at 1 mo. on the 9th; $2^{\circ} 36' S.$ of Venus on the 12th at 9.18 mo.; is $4^{\circ} 9' N.$ of Jupiter on the 20th at 11.37 mo.; near Neptune on the 21st at 5.39 ev.; in Perigee at 6 ev. on the 22nd; and close to Saturn ($3^{\circ} 32' S.$) on the last day of the old year at 2.47 mo.

THE STARS.—*Musca*, "the Fly," is a small Constellation sometimes discarded entirely from Star maps. It lies directly between the back of *Aries* on the south, and *Medusa* on the north. It contains one Star of the 2nd, two of the 4th and two of the 5th magnitudes. *Alpha Muscae* is a Quadruple Star in the body. It is usually given to *Aries*. *Musca* is on the meridian with *Aries* in December.

LUNAR INFLUENCE ON VEGETATION.

This theory, which has stood the test of ten years' public experiment, has been as successful as ever the past season. At least that is the only conclusion to be arrived at after a perusal of the following testimonials respecting its practice :

MR. WALTER H. SMITH :

DEAR SIR,—Perhaps you remember my writing you last season for dates for sowing seeds in January and February in greenhouses. You very kindly sent me the same and wished me to report my success. Will say that I did as directed, and found that there was a big difference in the growth of plants. I found that seed planted by your times, came along ahead of other seed planted three weeks before. I found this noticeable, especially with tomato, cabbage, celery, lettuce, peppers, etc. Among annual flowering plants it was the same. I never saw such sweet-peas as I did last season by planting by your advice. I thank you very much for your kindness. E. O. H.

WEBSTER, MASS., Jan. 25th, 1892.

MR. WALTER H. SMITH :

DEAR SIR,—Your ALMANAC, page 55, 1892, says "Roots." Does that include "Onions." I am an Onion raiser and wish to experiment a little. T. W.

WATERBURY CENTRE, VT.

[Onions frequently fail as a crop, despite all that is done to the contrary. Something more than the ordinary positions of Earth, Sun and Moon, it would appear, are necessary to succeed with them. In an old "list of herbs under certain planets," I find that onions "belong" to Mars. If there be any special influence accordingly, Mars ought to be "well placed" when the sowing is accomplished to secure a good crop. It may be worth experimenting. Try April 22nd and 28th, at the times calculated for other things ; also May 18th and 24th., 1893.]

MR. WALTER H. SMITH :

DEAR SIR,—I have now used your PLANETARY ALMANAC for two years, and am very much pleased with its contents, especially the "Lunar Influence on Vegetation." I would like to ask a question regarding the time : Do you mean "Sun" time or "Standard" time ? NEW CAMBRIA, SALINE CO., KAN., March 19th, 1892. F. A. O.

["Sun" time, corrected to "Local" time, is what is meant, not the "Standard" or "Railway" time in present use, but the old "Local" time of the place, which obtained prior to the change to "Standard" time. For instance, Montreal

local time is six minutes ahead or "fast," of the present "Standard" time. Therefore, a clock set to "Standard" time, as all clocks now are, is six minutes slow of the "Mean" or "Local" time which used to obtain here. If at Montreal I wish to sow or plant by the PLANETARY ALMANAC, all I have to do is to begin and end six minutes before the time indicated. If my time for sowing is 10.00 morn., I may begin at 9.54 morn. by the clock; if 3.15 aft., I may begin at 3.09 aft. "Standard" time does not differ at any place more than thirty minutes. Persons using these tables should ascertain just how much their "Standard" time does differ from true "Local" time, and govern themselves accordingly. The introduction of "Standard" time, although of great convenience to railway men and travellers is a nuisance to anyone who wishes to keep in mind the exact local time of a place.]

MR. WALTER H. SMITH :

DEAR SIR,—I am much pleased with your PLANETARY ALMANAC. I have bought one for the past few years, and have tried sowing and planting according to your directions. I am satisfied that I have better crops. My neighbors are enquiring how I manage, so I have decided to order six copies for 1892, and am going to let a few farmers have one to try sowing and planting as you direct. Enclosed please find 50c.

LUDLOW, VT., Dec. 15th, 1891.

N. C.

MR. WALTER H. SMITH :

DEAR SIR,—Will you be kind enough to send one of your PLANETARY ALMANACS for the year '92. I am a firm believer in Lunar Influence on Vegetation. Send by return mail as Spring is opening. Harrowing began on the 4th. How early would you advise sowing wheat in this district?

MELITA, MAN., Mar. 7th, 1892.

J. F. McR.

[You must be guided by the season in your section. If it is "early," you may sow before March is out. If "late," with prospects of late frosts, wait until the good dates in April, or even May. Nothing is lost by waiting a little for the most favorable dates.]

MR. WALTER H. SMITH :

DEAR SIR,—In looking through your PLANETARY ALMANAC I find nothing to guide me in regard to putting out cuttings; I think there must be favorable times for them, so enclose stamp for reply.

LAWTEY, FLORIDA, Jan. 2nd, 1892.

Mrs. B. H. A.

[Nearly all the times are excellent for cuttings. These "times for sowing" are calculated to give the best success in "germinating." The striking of a cutting is essentially a germination, or a throwing out of a root for sustenance.]

MR. WALTER H. SMITH :

DEAR SIR,—Enclosed please find stamps for a copy of your PLANETARY ALMANAC. As it is coming on planting time we must have it.

SKEAD'S MILLS, ONT., *April 20th*, 1892.

L. F.

* SEED SOWING—1893.

LATITUDE 35°.

Favorable times for sowing and transplanting in Virginia, West Virginia, North and South Carolina, Georgia, Kentucky, Tennessee, Arkansas, Southern Missouri, Northern Texas, Arizona, Indian Territory, New Mexico, California, and all places in North America at or near Latitude 35° N.

JANUARY.—The 2nd has ☾ in ☽, with ♀ rising, between 10.50 morn. and 12.05 noon; ♂ rising, from 1.15 to 2.50 aft., both good for things whose fruit is below ground. The ☾ is in ♀ rising, on the 20th and 21st from 9.00 to 10.15 morn., good for roots. For all things of top growth, 11.30 morn. to 1.00 aft., when ♂ rises; also from 3.00 to 5.00 aft., when ☽ rises, for grain, vines and things of similar growth. On 25th and 26th ☾ is in ♂ with ♀ rising, from 8.20 to 9.35 morn., when roots, potatoes, etc., should be sown or planted; from 10.55 morn to 12.20 noon, ♂ rises, good for roots; and 2.20 to 4.30 aft., when ☽ rises, good for vines, grain and things of top growth. The 29th and 30th see ☾ in ☽, when roots may be sown from 8.05 to 9.20 morn. (♀ rising); also from 10.45 to 12.05 noon (♂ rising); grain, vines, etc., from 2.00 to 4.10 aft., when ☽ rises.

FEBRUARY.—The 17th and 18th (☾ in ♀ rising), from 7.10 to 8.25 morn.; ♂ rising, 9.45 to 11.10 morn., and 12.30 noon to 2.40 aft., all good for grain, vines, spring salads and other things of top growth. The 21st and 22nd have ☾ in ♂, good for roots, when ♀ rises, from 6.25 to 7.40 morn. From 9.00 to 10.45 morn. is good for other things, when ♂

* The local time at the place mentioned is meant in every case.

rises; also from 12.25 noon to 2.35 aft., when ☽ rises. The 25th and 26th have ☾ in ☽, with ♃ rising, from 6.15 to 7.30 morn., and (♃ rising) from 8.50 to 10.35 morn., both excellent times for sowing root crops. From 12.15 noon to 2.25 aft. is good for other things, when ☽ rises.

MARCH.—The 20th and 21st are the first good dates. They have ☾ in ♃. From 5.00 to 6.10 morn. ♃ rises, good for roots. From 7.30 to 9.00 morn. ♃ rises, and from 11.15 morn. to 1.20 aft. ☽ rises, both of which times are good for vines, grain and things which fruit above ground. The 24th and 25th see ☾ in ☽. The following times are good: for roots, 6.55 to 8.30 (♃ rising); other things, 10.35 morn. to 1.00 aft. (☽ rising); and 5.45 aft. to 8.10 ev., ♁ rising. The 31st has ☾ in ♁ and ♃ rising, from 6.50 to 8.25 morn.; (☽ rising) 10.40 morn. to 12.55 noon, both good for roots, and ♁ rising with ☾ therein, 5.20 to 7.46 ev., good for grain, vines and other similar things.

APRIL.—As March 31st on 1st and 2nd. The 17th and 18th have ☾ in ♃ rising, from 5.45 to 7.10 morn. (☽ rising), 9.20 to 11.20 morn., and (♁ rising) 4.25 to 6.50 aft. All these times are good for vines, tomatoes, grain and things of upward growth. The 21st and 22nd see ☾ in ☽ and ☽ rising, good for things which fruit above ground, from 8.45 to 10.55 morn.; and spring wheat, squash, etc., 4.05 to 6.25 aft., when ♁ rises. The 27th, 28th and 29th have ☾ in ♁ and ♃ rising, from 5.00 to 6.25 morn.; and (☽ rising) 8.30 to 10.40 morn., good for sowing of all kinds of root crops. From 3.40 to 6.05 ev. is good for all kinds of grain, vines, squash, etc., when ♁ rises.

MAY.—The first good dates are the 18th and 19th, when the ☾ is in ☽ rising from 7.05 to 9.15 morn., and (♁ rising) from 2.05 to 4.25 aft.; these are especially good times for grain, vines, flower seeds, etc. The 24th, 25th and 26th have ☾ in ♁, when ☽ rises, from 6.45 to 8.55 morn. (good for roots), and ♁ rising (good for all other things), from 1.50 to 4.20 aft.

JUNE.—The 15th, when ☾ is in ☽, with ♁ rising, from 12.15 noon to 2.20 aft., good for things requiring top growth. The 21st, 22nd and 23rd (☾ in ♁ and ☽ rising) (good for roots), from 4.45 to 6.55 morn., and other things when ♁ rises from 12.00 noon to 2.25 aft.

JULY.—The 18th, 19th and 20th, when ☾ is in ♌ rising, are good, from 10.00 morn. to 12.25 noon.

AUGUST.—The 15th and 16th have ☾ in ♌ rising, from 8.25 to 10.45 morn. Good dates for sowing Fall grain are the 27th and 28th, from 7.35 to 9.55 morn., when ☾ is in ♋ and ♌ rising.

SEPTEMBER.—The 11th, 12th and 13th, from 6.50 to 9.15 morn., when ☾ is in ♌ rising; also (same dates) from 5.30 to 6.45 aft., when ♋ rises. The latter is excellent for grain sowing. The 23rd and 24th have ☾ in ♋ and ♌ rising, from 5.55 to 8.15 morn., and 4.55 to 6.10 aft. (♋ rising). The afternoons are best for grain.

OCTOBER.—The 10th, when ☾ is in ♌ with ♋ rising, from 3.35 to 4.50 aft. The 20th, 21st and 22nd have ☾ in ♋ rising, from 2.50 to 3.55 aft. The 25th and 26th, when ☾ is in ♌ with ♋ rising, from 2.40 to 3.50 aft., are also good for grain.

NOVEMBER.—The 17th and 18th, when ☾ is in ♋ rising, from 1.00 to 2.10 aft. The 22nd and 23rd are also good dates, when ☾ is in ♌ and ♋ rises, from 12.55 noon to 2.10 aft.

DECEMBER.—The best dates are the 14th, 15th and 16th, from 11.05 morn. to 12.25 noon, with ☾ in ♋ rising. Also the 19th and 20th, when ☾ is in ♌ and ♋ rises, from 11.00 morn. to 12.15 noon.

LATITUDE 40°.

Favorable times for sowing in Maryland, District of Columbia, Pennsylvania, Delaware, New Jersey, Southern New York, Rhode Island, Connecticut, Ohio, Indiana, Southern Illinois, Northern Missouri, Iowa, Kansas, Nebraska, Utah Territory, Nevada, Colorado, and all places at or near Latitude 40° North. (For Moon's place in Zodiac at these times see Calendar pages or table for Latitude 35° N.)

MARCH.—The 20th and 21st, from 5.00 to 6.00 morn., are good for roots; from 7.40 to 9.00 morn. and 11.20 morn. to 1.20 aft., good for all other things. The 24th and 25th, for roots, 4.55 to 6.00 morn. and 7.20 to 8.45 morn.; all other things, 11.00 morn. to 1.05 aft. The 31st, from 6.30 to 8.00 morn. and 10.00 morn. to 12.05 noon, both good for roots; all other things: 5.20 aft. to 7.50 ev.

APRIL.—As March 31st on 1st and 2nd. The 17th and

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18th are good for vines, grain, etc., for 5.30 to 6.50 morn., and 9.10 to 11.10 morn. and 4.25 to 7.00 eve. The 21st and 22nd are good for roots from 5.20 to 6.35 morn.; other things from 8.40 to 10.55 morn., and 4.10 to 6.30 aft., very good for vines, grapes, melons, tomatoes, etc. The 27th, 28th and 29th are good for roots, potatoes, etc., from 5.00 to 6.20 morn., and 8.25 to 10.40 morn.; for grain, vines, beans, squash, etc., 3.45 to 6.15 aft.

MAY.—The 18th and 19th from 6.55 to 8.55 morn., and 2.15 to 4.45 aft. are especially good for grain, vines, squash, peas, beans, etc. The 24th, 25th and 26th are good for roots from 6.25 to 8.45 morn., all other things 1.50 to 4.20 aft.

JUNE.—The 15th is good for grain, vines, etc., requiring top growth from 12.20 noon to 2.55 aft. The 21st, 22nd and 23rd from 4.30 to 6.50 morn., good for roots; other things, 12.00 noon to 2.30 aft.

JULY.—The 18th, 19th and 20th, from 10.10 morn. to 12.40 noon.

AUGUST.—The 15th and 16th from 8.25 to 10.55 morn. For Fall grain sowing, choose the 27th and 28th from 7.35 to 10.05 morn.

SEPTEMBER.—The 11th, 12th and 13th from 6.50 to 9.20 morn., and 5.35 to 6.45 aft. The latter especially for Fall grain. The 23rd and 24th from 6.00 to 8.25 morn., and 5.05 to 6.10 aft. The afternoons are best for grain.

OCTOBER.—The 10th from 3.30 to 4.40 aft. The 20th, 21st and 22nd from 3.00 to 4.00 aft. The 25th and 26th from 2.50 to 4.00 aft. All these times are good for sowing Fall grain.

LATITUDE 45°.

Favorable times for sowing in Massachusetts, New Hampshire, Vermont, Maine, Nova Scotia, New Brunswick, Prince Edward Island, Quebec, Ontario, Northern New York, Michigan, Northern Illinois, Wisconsin, Southern Minnesota, South Dakota, Southern Idaho, Wyoming, Southern Montana, Oregon, Southern Washington Territory, and all places in North America at or near Lat. 45° N. (For Moon's place in Zodiac at these times, see Calendar pages, or table for Lat. 35° N.)

MARCH.—(Calculated especially for greenhouse and framework.)—The 20th and 21st from 7.30 to 8.50 morn., and

11.10 morn. to 1.10 aft. The 24th and 25th 10.50 morn. to 1.00 aft. The 31st from 6.20 to 7.50 morn. ; 9.55 morn. to 12.00 noon, and 5.10 aft. to 7.40 ev.

APRIL.—As March 31st, on 1st and 2nd. The 17th and 18th good for vines, grain, etc., from 5.35 to 6.45 morn., and 8.55 to 11.00 morn. ; also, 4.25 to 7.10 aft. same dates. The 21st and 22nd for roots from 5.10 to 6.20 morn., other things from 8.20 to 10.40 morn., and 4.05 to 6.35 aft. (very good for grain, vines, early tomatoes, etc.) The 27th, 28th and 29th are good (for roots, potatoes, etc.) from 4.55 to 6.05 morn., and 8.10 to 10.30 morn. (for grain, vines, squash, peas, beans, etc.), 3.40 to 6.15 aft.

MAY.—The 18th and 19th are the first good dates, from 6.40 to 8.45 morn. ; and 2.15 to 4.50 aft. (for grain, vines, squash, peas, beans, etc.) The 24th, 25th and 26th for roots from 6.10 to 8.30 morn., and all other things (grain, vines, squash, tomatoes, etc.), 2.00 to 4.30 aft.

JUNE.—The 15th (good for grain, vines, etc.), from 12.10 noon to 2.45 aft. The 21st, 22nd and 23rd from 4.20 to 6.40 morn., for roots and (other things) 12.00 noon, to 2.35 aft.

JULY.—The 18th, 19th and 20th, from 10.10 morn. to 12.45 noon.

AUGUST.—The 15th and 16th, from 8.25 to 11.00 morn. The 27th and 28th for Fall grain, from 7.35 to 10.10 morn.

SEPTEMBER.—The 11th, 12th and 13th, from 6.50 to 9.30 morn., and 5.45 to 6.45 aft. The latter especially for Fall grain. The 23rd and 24th, from 6.00 to 8.35 morn., and 5.00 to 6.10 aft. The afternoons are best.

OCTOBER.—The 10th from 3.50 to 4.50 aft. The 20th, 21st and 22nd from 3.05 to 4.00 aft. The 25th and 26th from 2.55 to 3.55 aft. All of these are excellent for Fall grain.

LATITUDE 50°.

Favorable times for sowing in Newfoundland, Manitoba, and the North-West Territories, North Dakota, Northern Montana, Northern Minnesota, Northern Washington Territory, Northern Idaho, British Columbia, and all places in North America, at or near Latitude 50° North. (For Moon's place in Zodiac at these times, see Calendar pages, or table for Lat. 35° N.)

APRIL.—The 1st and 2nd, from 6.10 to 7.30 morn., 9.45 to 11.50 morn., and 5.00 to 7.20 aft. The 17th and 18th good for vines, grain, etc., 5.15 to 6.25 morn., and 8.40 to 10.45 morn. Also, 4.10 to 6.55 aft. same days. The 21st and 22nd for roots, from 5.00 to 6.05 morn.; other things from 8.05 to 10.20 morn., and 3.50 to 6.15 aft. (good for grain, vines, etc.) The 27th, 28th and 29th are good (for roots, potatoes, etc.), from 4.45 to 5.55 morn., and 8.00 to 10.15 morn., (for grain, vines, etc.), 3.25 to 6.05 aft.

MAY.—The 18th and 19th, from 6.10 to 8.25 morn., and 2.15 to 5.05 aft., for grain, vines, squash, peas, beans, etc. The 24th, 25th and 26th are good for roots from 5.40 to 8.10 morn., and all other things 1.55 to 4.40 aft.

JUNE.—The 15th is good for grain from 12.10 noon to 3.00 aft. The 21st, 22nd and 23rd from 3.50 to 6.20 morn. (for roots), and 12.00 noon to 2.50 aft. (other things).

JULY.—The 18th, 19th and 20th from 10.05 morn. to 12.55 noon.

AUGUST.—The 15th and 16th from 8.30 to 11.20 morn. For Fall grain the 27th and 28th from 7.35 to 10.25 morn.

SEPTEMBER.—The 11th, 12th and 13th from 6.50 to 9.40 morn., and 5.55 to 6.45 aft. The latter is best for grain. The 23rd and 24th from 6.00 to 8.50 morn., and 5.00 to 6.20 aft. The afternoons are best.

OCTOBER.—The 10th from 3.50 to 4.55 aft. The 20th, 21st and 22nd from 3.05 to 4.05 aft. The 25th and 26th from 2.50 to 3.55 aft. All good for grain.

MONTREAL WEATHER.

I.—TEMPERATURE.

The City of Montreal, the Metropolis of the Dominion of Canada, is situate in 45° 30' 17" North Latitude, corresponding nearly to the position of Bordeaux, Grenoble, Padua, Venice, Fuime, and Belgrade, in Europe. Compared with places on the continent of America, Montreal is not remarkable for an extreme range of temperature. Its climate is equable to a degree unknown in the North-West, in portions of the Mississippi and Missouri Valleys, and parts of Texas. To its favored residents the dreadful blizzard, the death-dealing tornado, the destroying cloud-burst, as well as the extremes of tropical heat and arctic cold experienced by less fortunate places on this continent, are unknown.

Some of the climatic advantages enjoyed by Montreal may be credited to its position. Placed in a comparatively sheltered spot, in

the Valley of the St. Lawrence, built upon a succession of slight ridges, which graduate—at a height of about 200 feet where the houses cease—into a hill 800 feet high; Montreal is shielded by this hill, or mountain—Mount Royal, the Royal Mount, from which the city derives its name—from the prevailing Westerly winds that usually accompany high barometric areas or “cold dips” in winter. Shielded to the North by the Laurentian Hills—which extend from Labrador to beyond Lake Superior—and their consequent “height of land,” residents of the commercial metropolis of Canada are not exposed to the extreme temperatures experienced by those of Montana, Wyoming, Manitoba, Dakota, and Minnesota. Eastward, distant a few hundred miles, is the vapor-laden Atlantic; Westward are the great lakes, potent factors in the equalization of the annual temperature of Montreal.

The mean annual temperature is $42^{\circ}.2$. This fact alone, however, conveys very little, if any, idea as to the climate of Montreal. Places in the same latitude have varying climatic conditions. For instance, Werchojansk, Siberia, the coldest inhabited spot on the globe, with a mean temperature of zero, is in 67° North Latitude, the same as part of the coast of Norway, where the mean temperature is 41° . In meteorology, as in many other things, circumstances alter cases. The annual temperature of Montreal may be considered as about the same as that of Portland, Me. (43°); Warwick, Mass. ($41^{\circ}.4$); Utica, N. Y. ($42^{\circ}.6$); Marquette, Mich. (41°); Milwaukee, Wis. ($43^{\circ}.3$); Minneapolis, Minn. ($40^{\circ}.3$); and Georgetown, Col. ($42^{\circ}.9$). Its annual mean of $42^{\circ}.2$ has been obtained from the average temperature of the past seventeen years ($41^{\circ}.7$) at McGill Observatory, together with that for the past eleven years ($42^{\circ}.8$) obtained by the observers at the City Hall. During the eleven years, the absolute range of Montreal's mean temperature fluctuated between a maximum of $46^{\circ}.9$ in 1880 (City Hall), and a minimum of $39^{\circ}.2$ in 1885 (McGill).

Foolish notions prevail respecting the extreme cold experienced here during the winter months. Many imagine that a temperature of -40° below zero is common. What are the facts? It is questionable if it has ever been -40° below zero at Montreal since the foundation of the city in 1642. Nothing of the kind has occurred since 1826 anyway, as continuous records go to prove. Temperatures of -10° below zero are not by any means common. Between December 1st, 1884, and November 30th, 1890, the mercury sank to -10° below zero (or lower) on 68 days only. An average of 11 times each winter. During the sixty-six years ending December 31st, 1891, the absolute range of temperature recorded at Montreal was 135° .

This result is obtained from the absolute maximum of 99° on July 8th, 1847, and the absolute minimum of -36° below zero, on January 11th, 1859. But this does not equal the annual range at many places in the Canadian and American North-West, where yearly fluctuations of 150° and 160° are common. Part of Montana has an annual range of 170° , or 35° more in twelve months than Montreal in sixty-six years. Nor Montana alone. Montreal's absolute range of 135° in sixty-six years, was exceeded during a single year (1888) at such well-known places in the United States as St. Paul, Minn.; Bismark, Dak.; Moorhead, Minn.; St. Vincent, Minn.; Minneapolis, Minn.; Helena, Mont.; and North Platte, Neb.

This extreme range of 135° , it should be remembered, is obtained by including observations which ended over thirty years since. All who are acquainted with practical meteorology, will understand that extreme

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readings recorded by amateurs, with more or less unsatisfactory instruments, are apt to be unreliable. Admitting this (an unquestionable fact), when we come to take the more reliable records of the past twenty-five years, we find Montreal's absolute range reduced to 124°. This is less than the annual range, not only at the cities just mentioned, but at Omaha, Neb.; Dubuque, Iowa; Escanaba, Mich.; and Duluth, Minn. Taking the still more perfect records of the past nine years, the absolute range is reduced to 116°; less than the annual range at the cities already mentioned, as well as at Salt Lake City, Leavenworth, Kans.; Denver, Col.; and Davenport, Iowa. Places in more Southerly latitudes, whose mean annual temperatures exceed that of Montreal, ranging, in fact, from 47° to 53°.

These comparisons of annual ranges may be pursued still farther to the manifest advantage of Montreal. The greater portion of the United States is situated South and West of it, presumably where the extremes of heat and cold are less. But presumption is not fact. Facts are entirely in Montreal's favor. During the fourteen years—1874-88 inclusive—out of forty-eight states and territories, twenty-eight gave absolute ranges of temperature greater than Montreal, whose extreme range for the period was 120°, while the extreme range in Arizona was 137°; California, 137°; Colorado, 134°; Dakota, 160°; Georgia, 129°; Idaho, 153°; Illinois, 126°; Indiana, 126°; Indian Territory, 129°; Iowa, 136°; Kansas, 137°; Kentucky (Louisville), 124°; Michigan, 134°; Minnesota, 156°; Missouri (St. Louis), 128°; Montana, 173°.9; Nebraska, 141°; Nevada, 132°; New Mexico, 133°; New York, 123°; Ohio, 131°; Oregon, 149°; Texas, 127°; Utah, 123°; Vermont, 122°; Washington Terr., 134°; Wisconsin, 143°, and Wyoming, 154°.

When we come to compare the mean annual range of the past sixty-six years, the comparison is still favorable to Montreal. In that period it was 112°, with extremes of 128° (in 1859) and 94° (in 1869). This "extraordinary range" of 128° in a single year, is, however, exceeded nearly every year at Omaha, Dubuque, Helena, Green Bay, St. Paul, Moorhead, Duluth, St. Vincent, Fredericton, Winnipeg, and many other places; while its minimum range of 94° is as small as that of an ordinary year at Memphis, Tenn.; Cairo, Ill.; Cincinnati, Ohio; Philadelphia, Pa.; New York, N. Y.; Olympia, Wash.; Newark, N. J.; and many other places south. A consideration of Montreal's mean annual temperature leads, therefore, to the conclusion that it is never colder than what is considered ordinary weather at St. Paul, Minneapolis, and Helena; that it is much more likely not to be any colder than it is at Omaha or Dubuque, and that it may possibly be as mild as at Philadelphia, New York, or Memphis.

Descending from years to months, Montreal records give the following results:—(McGill, seventeen years observations) January, mean temp. 12°.0; February, 15°.5; March, 23°.9; April, 39°.7; May, 54°.4; June, 64°.5; July, 68°.8; August, 66°.9; September, 58°.5; October, 45°.0; November, 32°.0, and December, 18°.2. The mean temperature of the six "Summer" months, May to October, is consequently 61°.3. That of the six "Winter" months, November to April, 23°.5. Dividing the year into four equal parts, "Winter" gives a mean temperature, for December, January, and February, of 15°.2; "Spring," a mean for March, April, and May, of 39°.1; "Autumn," a mean for September, October, and November, of 45°.1, and "Summer," a mean for June, July, and August, of 66°.6.

Strange, and contrary to experience, as the fact may seem, the monthly range of temperature at Montreal is greatest in January, and least in July and August. January, the supposed "steady winter month," when outsiders imagine us up to the necks in snow, with constant temperatures at or below zero, is really the most changeable. The greatest range for any one month during the five years ending December 31st, 1890, having been 73°.9 in January, 1890; the least, 29°.5, in October, 1888. This excessive range in January, 1890, was not, however, any greater than at other places in the Dominion of Canada. At Medicine Hat, Assa., the range that month was 80°; at Swift Current 77°; Banff, Alta, 77°; Oak Bank, Man., 79°; Spruce-dale, Ont., 82°; White River, Ont., 83°; Huntingdon, Que., 75°; Richmond, Que., 77°; Chicoutimi, Que., 88°; Quebec, 79°; Fredericton, N.B., 75°; and Truro, N.S., 77°.

The equable temperature of her July's, is shown by Montreal's mean range of 39° for July, 1890, which was exceeded in many places. For instance, that month, Medicine Hat had a range of 66°; Calgary, 54°; Winnipeg, 48°; Port Arthur, 47°; Brantford, 49°; Ottawa, 45°; Quebec, 41°; Fredericton, 44°; Chatham, N.B., 48°; Truro, 45°; New Westminster, 40°, etc.

The mean monthly range for the five years 1886-90 was 47°.8, January giving the greatest mean range of 64°, and July and August the least (37°); closely followed by June (38°) and October (39°). Then came September (43°); May (45°); March (50°); November (52°); April (53°); December (54°); and February (60°).

The greatest range during any one day of the six years 1886-91 was 50°.1 on January 13th, 1888; the least range 2°.1, on November 15th, 1887. The mean daily range for these years was: 1886, 16°; 1887, 16°.2; 1888, 15°.1; 1889, 14°.6; 1890, 15°.6; and 1891, 16°.8. Montreal's greatest range has been exceeded many times at other stations, notably at Florence, Ariz., on June 22nd, 1881, when a range of 65° was recorded, 50° of it in eight hours.

A synopsis of highest and lowest temperatures, by months, at Montreal, is also of interest:—

- JANUARY.**—Highest temperature in six years (1885-90), 52°; lowest, -25° below zero. Lowest in sixty-six years, January 11th, 1859, -36° below zero.
- FEBRUARY.**—Highest in six years, 45°; lowest, -24° below zero. Lowest in sixty-six years, February 4th, 1863, -32° below zero.
- MARCH.**—Highest in six years, 53°; lowest, -15° below zero. Lowest in sixty-six years, March 5th, 1872, -24° below zero.
- APRIL.**—Highest in six years, 77°; lowest, 8°.
- MAY.**—Highest in six years, 88°; lowest, 25°. Highest in sixty-six years, May 14th, 1845, 90°.
- JUNE.**—Highest in six years, 88°; lowest, 38°. Highest in sixty-six years, June 27th, 1828, 98°.
- JULY.**—Highest in six years, 90°; lowest, 47°. Highest in sixty-six years, July 8th, 1847, 99°.
- AUGUST.**—Highest in six years, 88°; lowest, 44°. Highest in sixty-six years, August 12th, 1835, 98°.
- SEPTEMBER.**—Highest in six years, 82°; lowest, 33°.
- OCTOBER.**—Highest in six years, 72°; lowest, 21°.
- NOVEMBER.**—Highest in six years, 68°; lowest, zero.
- DECEMBER.**—Highest in six years, 46°; lowest, -20° below zero. Probable lowest in sixty-six years, December 21st, 1871, -27° below zero

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MONTREAL TEMPERATURES—1826-91.

YEAR.	Max. Degree above zero.	DATE OF MAXIMUM.	Min. Degree below zero.	DATE OF MINIMUM.	RANGE. Degree.	OBSERVER.
1826	96	July 12.	-23	Feb. 1.	124	Mr. W. Skakel.
1827	86	" 8, 11.	-20	" 12.	106	
1828	98	June 27.	-20	Dec. 29.	118	
1829	94	" 6; July 11.	-23	Jan. 4.	117	
1830	93	July 17.	-20	" 31.	113	
1831	97	June 1.	-17	Dec. 22.	114	
1832	89	July 2, 5, 8; Aug. 31.	-17	Jan. 29; Feb. 25.	106	
1833	90	June 23; Aug. 21.	-25	" 19.	115	
1834	96	July 25.	-16	" 25.	112	
1835	98	Aug. 12.	-25	Dec. 17.	123	
1836	90	July 9.	-19	Feb. 2.	109	
1837	87	May 31.	-20	Jan. 5.	107	
1838	93	July 8.	-16	Dec. 21.	109	
1839	88	Aug. 22.	-21	Jan. 34.	109	Dean Bethune.
1840	96	July 16.	-18	" 16.	114	
1841	94	" 24.	-18	" 4.	112	
1842	90	" 13, 19.	-19	" 6, 13.	109	
1843	98	" 2.	-19	" 4.	112	
1844	90	Aug. 17.	-21	" 28.	111	
1845	90	May 14.	-23	Feb. 2.	113	
1846	90	Aug. 2.	-12	Jan. 18.	112	
1847	99	July 8.	-15	Dec. 21.	114	
1848	97	June 16, 18.	-15	Jan. 10.	112	
1849	98	July 11, 12.	-25	Feb. 20.	123	
1850	91	June 17.	-19	" 5, 6.	110	
1851	89	" 29.	-25	Jan. 30; Feb. 8.	114	
1852	93	" 15; July 9.	-19	" 16.	112	
1853	93	Aug. 11.	-24	" 27.	117	
1854	94	July 19, 20.	-25	" 29; Dec. 22.	119	
1855	91	June 30.	-30.5	Feb. 7.	121.5	
1856	90	Aug. 2.	-21	Dec. 18.	111	
1857	93	July 14.	-29	Jan. 23.	122	
1858	92	Aug. 11.	-21	Feb. 12.	113	
1859	92	July 12.	-36	Jan. 11.	128	
1860	89	June 28; Aug. 7.	-27	Feb. 1.	116	
1861	90	" 10; July 8.	-23	" 8.	118	
1862	91	July 6.	-18	Jan. 4, 14.	109	
1863	89	" 7.	-32	Feb. 4.	121	
1864	90	June 19; July 19.	-24	" 18.	114	
1865	90	Aug. 3.	-22	" 13.	112	
1866	91	July 16.	-18	Jan. 7.	109	
1867	90	" 24.	-10	" 30.	100	
1868	97	" 14.	-13	Feb. 11.	110	
1869	84	" 26.	-10	March 2.	94	
1870	93	" 24.	-16	Jan. 14.	109	
1871	88	May 21.	-27	Dec. 21.	115	
1872	90	July 16.	-24	March 5.	114	
1873	89	" 12.	-15	Jan. 13, 29.	104	
1874	90	June 29.	-18	" 26; Feb. 1.	108	
1875	87	Aug. 29.	-24	Feb. 8.	111	
1876	92.2	" 6.	-21.8	Dec. 3.	114	
1877	88.5	July 26.	-20.9	Jan. 17.	109.4	
1878	91.8	" 2.	-17.8	" 8.	109.6	
1879	87.1	June 25.	-25.2	Dec. 21.	112.3	
1880	86.2	July 10; Aug. 24.	-17.5	Feb. 2.	108.7	
1881	93.9	" 10.	-16.4	" 2.	110.3	
1882	91	Aug. 6.	-26	Jan. 24.	117	
1883	85.8	" 22.	-20.4	" 6.	106.2	
1884	91	" 21.	-23.5	Dec. 20.	114.5	
1885	87.1	July 17.	-21.3	Jan. 22.	108.4	
1886	87.3	" 5.	-23.6	" 12.	110.9	
1887	90.4	" 4.	-25.9	" 9.	116.3	
1888	88.1	June 22.	-24.4	Feb. 10.	112.5	
1889	88	May 18.	-22.6	" 4.	110.6	
1890	88.5	Aug. 4.	-21.6	Jan. 10.	110.4	
1891	90.2	" 11.	-15	" 17.	105.2	
Means 91			-21		112	

The mean temperature of the hottest day during the past seven years (1885-1891) was $79^{\circ}.3$, on July 4th, 1887. That of the coldest day during the same period, $-17^{\circ}.6$ below zero, on January 12th, 1886.

The average number of days giving maximum temperatures of 86° and over in each year during the six years ending 1891 was 27. There were in all 162 such days, of which the July's recorded 68; August's, 38; June's, 30; May's, 13, and September's, 12.

The average length of time during which the mean temperature remained above 50° during the six years (1886-91) was 122 days. In 1886 it extended from May 27th to September 19th, a period of 116 days; in 1887, from May 1st to September 22nd, or 145 days; in 1888, from May 21st to September 4th, or 107 days; in 1889, from May 31st to September 18th, or 111 days; in 1890, from May 22nd to September 23rd, or 124 days; and in 1891, from May 27th to October 6th, or 132 days.

The average continuance of the mercury above freezing point (32°) is 170 days. The earliest descent during the past seven years was October 1st, 1888 (31°); the latest, May 5th, 1891 (31°). The dates of the first and last descent to freezing (first and last "killing frosts") were: - 1885-6, October 8th—April 16th; 1886-7, October 2nd—April 20th; 1887-8, October 14th—May 3rd; 1888-9, October 1st—April 23rd; 1889-90, October 3rd—May 2nd; 1890-91, October 22nd—May 5th.

The mean temperature continued at 32° , (or below) in 1885-6 from November 21st to March 29th; 1886-7, November 12th to April 18th; 1887-8, November 9th to April 10th; 1888-9, November 17th to April 3rd; 1889-90, November 25th to April 3rd, and 1890-91, from November 20th to March 28th. Of course there are many days in every winter when the mean temperature ranges above freezing point.

I have probably said enough to open the eyes, not only of strangers and foreigners, but of our own people. Grave errors and wanton mistakes have been made in the past respecting the climate of this, the beautiful metropolis of a magnificent Dominion. Montreal has been credited with the eternal frosts of Siberia by citizens of places where greater extremes exist. Others have had the audacity to state that her summer heats are only exceeded by her winter frosts. Another infamous falsehood. A maximum temperature of 80° and over for a week together, even in the height of summer, is unusual.

In future issues of SMITH'S PLANETARY ALMANAC, I hope to have the pleasure of quoting facts and making other favorable comparisons concerning the rain and snowfall, prevailing winds, number of thunderstorms, and other meteorological occurrences incidental to the climate of our beloved city.

NOTES.—Mr. Skakel's records on previous page were simultaneous with those of Dean Bethune for years. The two, however, differ on several occasions. Mr. Skakel's maximum readings, even when they occur on the same day, are frequently higher than those of Dean Bethune; his minimum readings frequently lower. Skakel's max. for 1844, for instance, is 98° on July 30th. He agrees with Dean Bethune that July 8th, 1847, was the hottest day of the whole series, but he makes its max. 102° . This (1847) hot spell continued from July 6th to 10th. Dean Bethune recorded: July 6th, 93° ; 7th, 96° ; 8th, 99° ; 9th, 96° ; and 10th, 95° . The hot spells of 1848 and 1849 were also severe. June 16th to 20th, 1848, gave: 16th, 97° ; 17th, 95° ; 18th, 97° ; 19th, 95° ; and 20th, 92° . 1849, July 9th to 13th: 9th, 91° ; 10th, 97° ; 11th, 96° ; 12th, 98° ; and 13th, 96° . Skakel's maximums for the years 1853, 1854 and 1855 were respectively: July 7th, 99° ; August 11th, 101° ; and July 20th, 102° . January 10th-11th, 1859, was undoubtedly the period giving the minimum reading of the whole series. Dr. Smallwood, at St. Martin, Laval Co., recorded -43° below zero. On February 8th, 1861, a temperature of -37° below zero was recorded by him at St. Martin.

THE PRESENT SUN SPOT PERIOD.

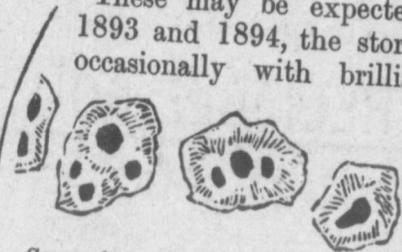
The year 1892 has been a period of great solar activity, sun-spots, or storms on the sun, having been very frequent.

These may be expected to continue during 1893 and 1894, the storms being accompanied occasionally with brilliant auroras—such as

those of February 13th and March 12th, 1892, —but more frequently with heavy weather, wild storms of wind, and rain (or snow).

These periods of solar

E.



Group of spots on Sun's Eastern limb, 1892, Feb. 14th 9h. 30m. morn.

activity, when the sun is frequently covered with spots, return at intervals of eleven or twelve years, with special accelerated displays every sixty-five years. The perihelion and aphelion passages of the larger planets, Jupiter and Saturn more especially; have been credited with causing these displays.

While they have no doubt an influence and a decided one; I also think that the sun may be affected periodically by other influences—that of the fixed stars—those other sun's many times larger than himself—communicated to him across distances well-nigh unfathomable to human thought.

The uppermost of the above sketches is the group alluded to in the following cablegram, which appeared in the *Times* of London, Eng., Feb. 19th, 1892, and was afterwards extensively copied by British newspapers:—

MONTREAL, Feb. 18.

Prof. Walter Smith believes that the Eastern group of spots on the Sun is accountable for the existing disturbances on the Earth, because it is frequently noticed that, when a great group swings into line around the Eastern edge, storms and displays of the aurora occur here. The concomitant conditions of Sun storms are great precipitation and severe cold. He looks for a damp and cool spring in England and the North of Europe. He is of opinion that, provided the solar activity continues, great storms will be frequent during 1892, 1893 and 1894.

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Grand Trunk Railway

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OLD AND RELIABLE ROUTE

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GENERAL MANAGER.**