THE DAILY EXAMINER.

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ALMANAC FOR DECEMBER, 1886.

MOON'S CHANGES.

First Quarter 3rd day, 10h. 12.5m., a. m., N. E. (below horizon.)
Full Moon 10th day, 5h., 17.7m., a. m., W.
Last Quarter 18th day, 2h., 26.6m., a.m., S.E.
New Moon 25th day, 5h, 42.1m., a. m., N. E. (below horizon.)

D. M.	DAY OF WEEK	Sun rises	Sun sets	Moon rises	High water	Day's len'h
		h m	h m	morn	aft'n	h m
1	Wednesday	7 28	4 8	11 44	1 51	8 41
2	Thursday	30	9	aft 16	2 34	39
3	Friday	31	9	0 43	3 24	38
4	Saturday	32	9	1 9	4 23	37
5	Sunday	33	9	1 34	5 29	36
6	Monday	34	8	1 59	6 53	34
a 7	Tuesday	35	8	2 26	7 35	33
8	Wednesday	36	8	2 57	8 23	32
9	Thursday	37	8	3 31	9 10	31
h 0	Friday	38	8	4 11	9 52	30
s 1	Saturday	39	8	4 58	10 33	29
r 2	Sunday	40	8	5 54	11 14	28
13	Monday	41	8	6 56	11 57	27
14	Tuesday	42	8	8 4	aft 39	26
15	Wednesday	43	9	9 10	1 23	26
16	Thursday	44	9	10 27	2 2	25
17	Friday	44	9	11 39	3 5	25
18	Saturday	45	10	morn	4 13	25
19	Sunday	45	10	0 51	5 31	24
20	Monday	46	10	2 02	6 50	24
21	Tuesday	47	11	3 12	7 75	25
22	Wednesday	47	12	4 22	8 48	25
23	Thursday	48	13	5 28	9 34	25
24	Friday	48	13	6 31	10 16	25
25	Saturday	48	14	7 29	10 55	26
26	Sunday	49	15	8 20	11 34	26
27	Monday	49	15	9 5	morn	26
28	Tuesday	49	16	7 47	0 10	27
29	Wednesday	49	16	10 16	0 45	27
30	Thursday	49	17	10 50	1 21	28
31	Friday	7 49	17	11 12	2 0	8 28

PRINCE EDWARD ISLAND RAILWAY.

1886-7. Winter Arrangement. 1886-7

ON AND AFTER WEDNESDAY, DECEMBER, 1st, 1886, Trains will run as follows (Sundays excepted):—

TRAINS DEPART—FOR THE WEST.

STATIONS.	No. 1.	No. 3.
	A. M.	P. M.
Charlottetown	7 15	1 50
Royalty Junction	7 34	2 12
North Wiltshire	8 47	3 05
Hunter River	8 30	3 20
Bradalbane	9 00	3 57
County Line	9 09	4 07
Freetown	9 23	4 22
Kensington	9 40	4 45
Summerside ar	10 10	5 20
Summerside dp	P. M. 12 40	P. M.
Miscouche	1 00	
Wellington	1 27	
Port Hill	2 08	
O'Leary	3 22	
Bloomfield	3 45	
Alberton	4 20	
Tignish ar	5 15	
	P. M.	

TRAINS ARRIVE—FROM THE WEST.

STATIONS.	No. 2.	No. 4.
	P. M.	A. M.
Charlottetown	2 30	10 00
Royalty Junction	2 12	9 37
North Wiltshire	1 29	8 45
Hunter River	1 15	8 30
Bradalbane	12 45	7 53
County Line	12 36	7 43
Freetown	12 23	7 28
Kensington	12 05	7 05
Summerside dp	A. M. 11 35	6 30
Summerside ar	10 35	A. M.
Miscouche	10 15	
Wellington	9 49	
Port Hill	9 07	
O'Leary	7 54	
Bloomfield	7 30	
Alberton	6 55	
Tignish dp	6 00	
	A. M.	

TRAINS DEPART—FOR THE EAST.

STATIONS.	No. 5.	No. 7.
	P. M.	
Charlottetown	2 30	
Royalty Junction	2 50	
Bedford	3 23	
Mount Stewart ar	3 55	
Mount Stewart dp	4 10	
Cardigan	5 22	
Georgetown ar	5 45	P. M.
	P. M.	
Mount Stewart		4 05
Morell		4 43
St Peters		5 12
Bear River		5 57
Souris ar		6 40
		P. M.

TRAINS ARRIVE—FROM THE EAST.

STATIONS.	No. 6.	No. 8.
	A. M.	
Charlottetown	10 24	
Royalty Junction	10 05	
Bedford	9 32	
Mount Stewart dp	9 00	
Mount Stewart ar	8 50	
Cardigan	7 33	
Georgetown dp	7 15	A. M.
	A. M.	
Mount Stewart dp		9 00
Morell		8 17
St. Peters		7 48
Bear River		7 03
Souris dp		6 20
		A. M.

Trains are run by Eastern Standard Time.

Trains on Cape Traverse Branch leave County Line Junction at 4.10 p. m., on Tuesday, Thursday and Saturday, arriving at Cape Traverse at 5.00 p. m., and leave Cape Traverse at 6.45 a. m., on Monday, Wednesday and Friday, arriving at County Line Junction at 7.35 a. m. All other trains run daily, Sundays excepted.

JAMES COLEMAN,
Superintendent.

Railway Office, Charlottetown, Nov. 27, 1886.—all prs 6t

The Literary and Scientific Institute.

REPORT OF THE PRESIDENT ON THE SCIENTIFIC AND LITERARY WORK OF THE YEAR.

According to Article III, Sec. 3, of the Constitution of this Institute, the President, at the annual meeting of the Institute shall give a written report of the year's transactions of the Society, which shall be entered on the minutes and such parts published as may be in the interests of the Society, and the President-elect shall give an inaugural address on assuming office. As the former was overlooked at our late annual meeting, and as the latter was arranged for this evening, I propose now to endeavour to attend to both subjects. The year's operations of the Institute have been very encouraging, and its members have reason to be proud of the high position it has already (though yet in its infancy) attained. It was on the 12th May, 1885, that we met, according to notice, formed and passed the articles of our constitution, elected our officers and fairly got to work; and, although the small-pox epidemic threatened to interfere with our operations, providentially the way was cleared for us and, on 3rd December following, Dr. Leeming, in a brief, practical, inaugural address, defined and outlined the aims and scope of the Institute, emphasizing the fact that it should educate public taste in literary and scientific matters, and where such a taste does not exist, should endeavor to create and develop it. On the 10th December following, the Doctor gave an interesting address on the game of chess, claiming for it many advantages over games of chance, and as being most free from gambling associations of any game in general use amongst us. Both these evenings were occupied in profitable and animated discussion on the papers read. On the following week, viz. 17th Dec., Rev. James Carruthers read a very instructive paper on Elocution as an Art, dwelling largely on oral delivering, contending that the essence of language lies in living utterances. A good discussion followed. At the next meeting, 24th Dec., the subject of continuous communication with the mainland, under the Confederation Treaty, was openly and largely discussed; and on the 31st Dec., by arrangement previously made with the committee, Senator Howlan, under the auspices of this Institute, lectured in the Market Hall before a very large audience on the Subway Scheme across the Northumberland Straits. The result was a strong resolution unanimously passed by the meeting regarding the duty of the Dominion Government. On the following week, 7th January, 1886, the Subway was still the subject of discussion before the Institute, when eleven members took part in the debate. At the next meeting, Jan. 14th, Geo. E. Full, Esq., read his paper on Federation of the Empire, and it is due to him to say that his arguments for Confederation were very able, and that the statistics and facts set forth by him were very carefully prepared, and displayed great research, and that his paper was a credit both to the Institute and to the writer. On the 28th January the Rev. J. C. Mitchell read a paper on the Relation of Christianity to Science, which deserved and obtained for him a cordial vote of thanks from the members present. At the next meeting, on 4th Feb., papers were read by Messrs. Geo. E. Full and S. M. Bent, late Secretary of this Society, on Confederation. The former treated on Imperial Federation in relation to the interests of Canada in contrast with annexation, the latter was Imperial Federation, not the Future of Canda. The papers were both able and interesting to a large audience, and were profitably discussed. Then on 11th Feb. following, John McSwain, Esq., favored the Institute with a very useful and clever paper on Industrial Education, wherein he displayed a practical knowledge of the subject, which interested all the hearers and gave rise to a lively discussion. Again on the 25th Feb., the subject before the Institute was Dickens and his Works, on which James Reddin, Esq., read a paper well prepared and very creditable to him, which was fully discussed. On 4th March we had selreadings from classical authors, by Mes Reddin, Rattenbury and other members; on the 11th March the subject of Mechar was treated on by Mr. W. R. Smallwo in a most interesting and attracti manner. Evidently Mr. Smallwood was his element. On the 25th March, Mr. Walt Doull took up the subject of Electricity e perimentally, and very successfully show that he understood the subject which treated, and that to the satisfaction of all t audience present. Then on the 1st April, F. Bain, Esq., read a very learned and interesting paper on "The Ice Age in P. E. Island." This, it is needless to say, was like all his other works—a great intellectual treat—and was received as such. The evening of the 8th April was occupied in further discussing Mr. Doull's lecture, and the 15th April was a red-letter meeting, when Mr. J. Newson lectured on "The Analogy of Electricity and Magnetism to Gravitation," illustrated by very elaborate and ingenious diagrams and mechanisms of his own construction. It is impossible to speak too highly of the ability and industry displayed on this occasion by the lecturer, and which we may rest assured was duly appreciated.

On the next meeting, 23rd April, Dr. Leeming treated on "Matter and Motion" with his usual ability; and on the 29th April, "Tides and Their Causes" was the subject of a very well prepared paper by W. S. Stewart, Esq., which displayed great research and study on the subject, and called for much discussion. This ended the last season. Our present season was opened by F. Bain, Esq., who, by special request, favored us with an excellent paper on "Darwinism" on the 25th November, which paper was published in extenso in one of the daily papers, and deserves to be read and studied by all persons, as containing, perhaps, the ablest arguments against the evolution principle which are to be met with in any language. Mr. Bain was elected an honorary member of the Institute by an unanimous vote. Thus, then, so far we have every reason to be satisfied with our past progress. But let us all remember, especially our junior members, that to keep abreast of the times requires diligent study and hard work. It was Gibbon who said: "Every person has two educations—one he receives from others, and one more important which he gives to himself." What he most requires is well directed labor and sustained application. Sir Joshua Reynolds, a man who, by sheer industry, made his name famous, was so earnest a believer in the force of industry, that he held that all might achieve excellence if they would but but exercise the power of assiduous and patient working. He held that drudgery lay on the road to genius and that there was no limit to proficiency, except the limit of painstaking. He would not believe in what is called inspiration, but in study and labor only. "Excellence, he said, "is never granted to men but as the reward of labor. If you have great talents, industry will improve them, if you have but moderate abilities, industry will supply their deficiency. Nothing is denied to well directed labor; it conquers all things." But it has been well remarked that whatever study tends, neither directly or indirectly, to make us better men and citizens, is at least but a specious sort of idleness, and the knowledge acquired by it is only a creditable kind of ignorance—nothing more.

The chief object of culture being not merely to fill the mind with other men's thoughts and to be the passive recipient of their impressions, but to enlarge our own individual intelligence and render us more useful and efficient workers in the sphere of life, to which we may be called.

He who works with head and hands, too, will see his business with a clear eye, and become conscious of increasing power (perhaps the most cheering consciousness the human mind can cherish) this man will never prostitute his education by employing it as a means of intellectual dissipation and amusement, like many do in our time, for there is a mania for frivolity and excitement, which exhibits itself in many forms in our popular literature. In fact, to meet the public taste, observe how our books and periodicals must now be highly spiced, amusing, comic, not disdaining slang, and illustrative of breaches of all laws, human and divine. Speaking of this, I think it was Douglas Jerrold who said he was sure the world got tired of the Eternal *guffaw* about *all* things, for after all, life has something serious about it. It is not all comic history of humanity, yet some men would write a comic "Sermon on the Mount." Again, we must remember it is not ease, but effort, not facility, but difficulty, that makes men. These difficulties are our best instructors, as our mistakes often form our best experience. Charles J. Fox was accustomed to say that he hoped more from a man who failed, and yet went on in spite of his failure, than from the buoyant career of the successful. "It is all very well," said he, "to tell me that a young man has distinguished himself by a brilliant first speech, he may go on or he may be satisfied with his first triumph, but show me a young man who has not succeeded at first and yet has gone on, and I will back that young man to do better than most of those who have succeeded at the first trial." It was Watt, the engineer, who said, "Of all things most wanted in mechanical engineering was a history of failures, a book of blots;" and an eminent judge has laid it down that there is a qualification which is almost the first "requisite for distinction in commencing business, and that is, *not to be worth a shilling.*"

Now, in cursorily reviewing the past year, we find that it has been more memorable in political annals, than in anything else, if we except earthquakes. It witnessed, for the first time in English history, a measure brought forward by a great British minister involving almost the disruption of the Empire, and it also witnessed his condemnation by the people. It saw a great chasm suddenly opened in the Liberal ranks, and the re-instalment in power of Conservative administration, and that chiefly by the votes of the working classes. But I now must refer to the meeting of the British Association at Birmingham, at all times a prominent event in the year, which does not seem this year to have realized the public expectations. The address of the President, Sir William Dawson, was of more interest to a general audience than is usual on these occasions. He gave to his subject the attractive title of "The Original History and Future of the Atlantic Ocean," confining himself mainly to the grander process of cosmogony (or earth making) and physical geography. The subject compelled an opening reference to the earth, and the more astronomical stages of our earth's history, taking his audience back to the time when our planet was still in a molten and fluid state, and dry land had not yet appeared, he showed that science had moved away from the old egg shell theo[illegible]

tion, too much is, he contends, attributed to the latter; he says, "Suppose a 5-inch globe of well burned clay, dipped in a muddy ditch, it comes out with a film of water adhering to its surface, filled with animalcule adhering, but quickly evaporating, it will, on this scale, represent all the water contained in all the oceans and lakes and the small quantity which the slightly porous earth globe has absorbed, will represent a greater quantity of water than all that is contained or ever has been contained in the depths and caverns and fissures of the earth itself." The microscopic bacilli and animalculi swimming in the adherent film, will be greatly magnified representations of the huge monsters in the slime of morasses, and that swam in the oceans of primeval chaos when the earth first took form and ceased to be void. This film of water will represent, he says, all the water that ever constituted a part of the earth, for science tells us that no violence has ever been able to project a stone beyond the sphere of the earth's attraction. He asks "What part then of the matter forming the depths of the earth can this very small proportion of waters sedimentary deposit play in the general construction of the globe? As seen from Mars what are our surrounding rocks compared with the whole mass of the earth? A skin, an envelope?" He says fire has much more to do in moulding the earth, than water and its sediments.

This leads us to notice the subject of earthquakes and volcanic eruptions. Probably never with recorded human experience has there been more terrestrial disturbance than during the past year, in the same space of time, not only as to frequency, but to the wide region over which they have spread. Some philosophers say our earth is not only growing old, but becoming senile and they contrast her feebleness with the titanic vigor of her early youth and her earth throes in primeval ages; but if we may judge of the displays of subterranean activity by the amount of volcanic material ejected to the surface, and from the crumblings and fractures of the solid crust involved in mountain structure, we may doubt if her later disturbances have not exceeded the older in magnitude. Is the outer crust increasing in thickness and offering greater resistence to the movements of the hot interior, thus causing less constant but more violent eruptions than in olden times. A pot of porridge well boiled and taken off the fire to cool, a crust or skin is formed on the surface and the steam which cannot so readily escape as when boiling, sends out intermittant puffs, the scum thickens, increasing resistance and the puffs become fewer but larger. Three years ago were the great eruptions in the Sunda Strait, the most gigantic in human experience, then Ætna and Vesuvius became restive and lastly comes the news of the sudden calamity in New Zealand. Those who have studied the latter say it bears striking resemblance to what history records of the famous outburst of Vesuvius in A. D. 79, when Pompeii and Heraclea were destroyed, a thick mud in both cases being formed by the condensation of the dense clouds of vapor and the fine volcanic ashes which ran down into the houses enveloping human victims. In both cases the outbreak was instantaneous, with little or no warning. I had just finished reading Froude's vivid description in "*Oceana*" of the great ridge of Taravera, 3,600 feet high, whose terraces, so exquisite and unrivalled in their variety of form and covering, and whose summit had for ages been sacred ground to the Maoris, who carried up their dead to that lovely spot for burial, and where the hot springs seemed to geologists to mark the closing manifestation of volcanic activity, when news came of the calamity. It seems that at first the most northerly peak was in eruption, that soon after the middle peak burst out more violently, and, travelling southward, found vent in a tremendous explosion, whereby the south side of Mount Taravera was blown into air; then followed other appalling phenomena. The reverberations were perceptible at Christ Church, distant 300 miles. The finer particles remained suspended in the air several days. Some heavy blocks of lava were projected 15 and 20 miles and came out at a red heat, burning[illegible] The mad, extending for 40 miles has on analysis been found[illegible] tilizer, and[illegible]

Regardi[illegible] same latit[illegible] it can be ac[illegible] causes. Eve[illegible] so far from th[illegible] circle, produce[illegible] polar inclinatio[illegible] growth of profus[illegible] fossilated there, [illegible] to vegetation co[illegible] months continuous[illegible]

Professor G. H.[illegible] naturalist, reviewed[illegible] argument very critic[illegible] ual cooling process.[illegible] margin in assessing th[illegible] existing state of things[illegible] continuity of life must[illegible] hundred millions of years[illegible] great earthquake in North[illegible] ceived during the sitting of[illegible] ciation. Major Powell, dire[illegible] logical Survey of the United[illegible] ca, gave the main facts of[illegible] Sir William Dawson reme[illegible] "Phenomena of the present[illegible] turbances in America are ext[illegible] and completely upset some of[illegible] set forth in the address I read[illegible] The rapid movement of the mai[illegible] wave, which travelled over[illegible] miles, gave a velocity, in the case[illegible] rocks, of 140 miles a minute; the[illegible] ed being equal to one third of the w[illegible] of the United States. Regarding[illegible] Dawson's address, M. C. Meigs,[illegible] scientist, has an article published in[illegible] wherein he challenges the President's c[illegible] ions in many respects as regards the ge[illegible] of the Atlantic and the constitution of[illegible] earth; and to the action of sedentary depo[illegible]