

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

Coloured covers/  
Couverture de couleur

Covers damaged/  
Couverture endommagée

Covers restored and/or laminated/  
Couverture restaurée et/ou pelliculée

Cover title missing/  
Le titre de couverture manque

Coloured maps/  
Cartes géographiques en couleur

Coloured ink (i.e. other than blue or black)/  
Encre de couleur (i.e. autre que bleue ou noire)

Coloured plates and/or illustrations/  
Planches et/ou illustrations en couleur

Bound with other material/  
Relié avec d'autres documents

Tight binding may cause shadows or distortion along interior margin/  
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure

Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/  
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

Additional comments:/  
Commentaires supplémentaires:

Coloured pages/  
Pages de couleur

Pages damaged/  
Pages endommagées

Pages restored and/or laminated/  
Pages restaurées et/ou pelliculées

Pages discoloured, stained or foxed/  
Pages décolorées, tachetées ou piquées

Pages detached/  
Pages détachées

Showthrough/  
Transparence

Quality of print varies/  
Qualité inégale de l'impression

Continuous pagination/  
Pagination continue

Includes index(es)/  
Comprend un (des) index

Title on header taken from:/  
Le titre de l'en-tête provient:

Title page of issue/  
Page de titre de la livraison

Caption of issue/  
Titre de départ de la livraison

Masthead/  
Générique (périodiques) de la livraison

This item is filmed at the reduction ratio checked below/  
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X
						✓					

No. 6.

Nova Scotia  
Institute of Science  
~~THE~~  
LIBRARY,  
HALIFAX, N. S.

June.

# ACADIAN SCIENTIST.

Devoted to the Interests of Acadian Science Club, Teachers and Naturalists.

A. J. PINEO, EDITOR.

DELOUSIE  
UNIVERSITY  
LIBRARY

SUBSCRIPTION 35 CENTS PER ANNUM.

## The Acadian Science Club.

### OFFICERS:

*President*—A. E. Coldwell, A.M., Instructor in Natural Science, Acadia College, Wolfville, N.S.

*Directors*—*Physiology*—C. W. Roscoe, A.M., Inspector of Schools, Wolfville, N.S.  
*Geology*—Alexander McKay, Esq., Mathematical Master in Halifax High School, Dartmouth, N.S.

*Botany*—A. H. McKay, A.B., B.Sc., Principal Pictou Academy, Pictou, N.S.

*Astronomy*—Prof. A. E. Coldwell, A.M., Wolfville, N.S.

*Chemistry*—J. F. Godfrey, Esq., Principal Windsor Academy, Windsor, N.S.

*Zoology*—A. J. Pineo, A.B., Principal Wolfville High School, Wolfville, N.S.

*Mineralogy*—S. K. Hitchings, F.Sc., State Assayer and Principal High School, Biddeford, Maine.

*Natural Philosophy*—Prof. F. H. Eaton, Provincial Normal School, Truro, N.S.

A. J. Denton, A.B.; W. P. Shaffner, A.B.; F. H. Schofill, A.B.;  
W. W. Saunders, Esq.

*Secretary and Treasurer*—A. J. Pineo, A.B., Wolfville, N.S.

This Society aims to awaken and foster a more general interest in Scientific knowledge, to induce young men and young women to engage in systematic study at home, and to afford its members the means for mutual assistance in the pleasing and ennobling study of Nature's works. All efforts used to make the connection of students with the Club pleasant and profitable.

A Course of Study has been arranged extending over three years and including the following subjects: Physiology, Geology, Botany, Natural Philosophy, Astronomy, Chemistry, Zoology and Mineralogy.

The members report quarterly. Yearly examinations are held at the Students' homes and at the end of the course certificates are given showing standing, etc. Course of Study and full information sent upon application to the Secretary.

# Humboldt Library of Science.

Price 15 Cents Each Number.

1. Light Science for Leisure Hours. A Series of familiar essays on astronomical and other natural phenomena By Rich. A. Proctor, F.R.A.S.
2. The Forms of Water in Clouds and Rivers, Ice and Glaciers. (19 illustrations) By John Tyndall, F.R.S.
3. Physics and Politics. An application of the principles of Natural Science to political Society. By Walter Bagehot, Author of "The English Constitution."
4. Man's Place in Nature. (with numerous illustrations) By Thomas H. Huxley, F.R.S.
5. Education, Intellectual, Moral and Physical. By Herbert Spencer.
6. Town Geology. With Appendix on Coral and Coral Reefs. By Rev. Chas Kingsley.
7. The Conservation of Energy. (with numerous illustrations) By Balfour Stewart, L.L.B.
8. The Study of Languages brought back to its true principles. By C. Marcel.
9. The Data of Ethics. By Herbert Spencer.
10. The Theory of Sound in its Relation to Music. (with numerous illustrations.) By Prof. Pietro Bionna.
11. The Naturalist on the River.
12. Amazon, a record of 11 years of travel. By Henry Walter Bates, F.R.S.
13. Mind and Body: the theories of their relations. By Alex. Bain, L.L.D.
14. The Wonders of the Heavens. (with 22 illustrations) By Camille Flammarion.
15. Longevity. The means of prolonging life after middle age. By John Gardner, M.D.
16. The Origin of Species. By Thos. H. Huxley, F.R.S.
17. Progress: Its Law and Cause. (with other disquisitions.) By Herbert Spencer.
18. Lessons in Electricity. (60 illustrations.) By John Tyndall, F.R.S.
19. Familiar Essays on Scientific Subjects. By Richard A. Proctor.
20. The Romance of Astronomy. By R. Kallie Miller, M.A.
21. The Physical Basis of Life, with

other essays. By Thomas H. Huxley, F.R.S.

22. Seeing and Thinking. By Win. Kingdon Clifford, F.R.S.

23. Scientific Sophisms. A review of current theories concerning Atoms, Apes and Men. By Samuel Wainwright, D.D.

24. Popular Scientific Lectures. (Illustrated.) By Prof. H. Helmholtz.

NOTE.—The preceding numbers are 4 to form—like Harper's "Franklyn Square Library." The numbers which follow are 8vo., the size of Harper's "Monthly."

25. The Origin of Nations. By Prof. George Rawlinson, Oxford Unity.

26. The Evolutionist at Large. By Grant Allen.

27. The History of Landholding in England. By Joseph Fisher, F.R.H.S.

28. Fashion in Deformity, as illustrated in the customs of barbarous and civilised races. (Numerous illustrations.) By William Henry Flower, F.R.S.

29. Facts and Fictions of Zoology. (numerous illustrations.) By Andrew Wilson, Ph. D.

30. The Study of Words. By Rich.

31. Chenevix Trench.

32. Hereditary Traits, and other essays. By Richard A. Proctor.

33. Vignettes from Nature. By Grant Allen.

34. The Philosophy of Style. By Herbert Spencer.

35. Oriental Religions. By John Caird, Pres. Univ., Glasgow, and others.

36. Lectures on Evolution. (illustrated.) By Prof. T. H. Huxley.

37. Six Lectures on Light. (illustrated.) By Prof. John Tyndall.

38. Geological Sketches by Archibald Geikie, F.R.S.

39. Scientific Evidence of Organic Evolution. By George J. Romanes, F.R.S.

40. Discussions in Current Science. By W. Matthew Williams, F.R.A.S., F.C.S.

41. History of the Science of Politics. By Frederic Pollock.

42. Darwin and Humboldt. By Prof. Huxley, Prof. Agassiz, and others.

The above works sent postpaid to any address on receipt of the price.

Address—

The Acadian Scientist,

Wolverton, N. S.

# The Acadian Scientist.

Published in the Interest of the Acadian Science Club.

VOL. I.

WOLFVILLE, N. S., JUNE, 1883.

No. VI.

Subscribers finding a blue mark before this notice will please understand that their subscription expires with the present number, and renew.

The subscription price is only thirty-five cents a year, Canadian or United States stamps taken; denominations of 1 cent or 3 cents preferred.

WE trust that the public school Teacher will recognise the fact that the SCIENTIST is devoted to *his* interest also, and give us his support. We aim to give each month such notes and articles as will be of value to him in the discharge of his professional duties. We intend to double the size of the SCIENTIST as soon as circumstances will allow—probably in a few months. It will then be a sixteen-paged journal. Should it be found necessary to increase the subscription price, those subscribing now will receive the SCIENTIST a full year.

## THE SCIENTIST'S DEVOTION.

There is something in the mind of man that delights in the search for truth and rejoices in its discovery. In this fact lies the secret motive that impels the scientist to devote the laborious days of a busy life to the duties of his chosen profession. The mineralogist will travel weary miles around rocky shores and over mountain sides, apparently only for the purpose of adding a few specimens to his cabinet. The geologist will rend asunder the rocks of the earth's strata in search for

hidden fossils, while days and weeks will be spent in classifying them according to their distinguishing characteristics. The entomologist will spend precious time in the study of some minute insect, and in writing whole pages of description utterly void of interest to the general reader. But no one has a greater love for his work, as such, than these same men; and when, after years of patient study, some new truth is discovered, adding to the world's knowledge, or some beneficial fact made available to the use of man, the scientific worker experiences a more tangible reward.

Through the labors of the scientist the hidden treasures of the earth are spread at the seeker's feet; the farmer and manufacturer helped to better methods and saved from much costly experimenting; and men in all departments of active life led to see more excellent ways and assisted to a more efficient expenditure of labor and capital. As the result of his keen research the subtle forces of nature are made more subservient to the use of man—so that thereby whole streets may be lighted up in an instant, as if by magic, and friend converse with friend though separated by half a continent.

It is not difficult to account for the

scientist's enthusiasm when we remember the double nature of his reward, for while he is searching more and more deeply into the divine mysteries of nature, and giving the results of his study to the world the knowledge that he thus communicates is emphatically that which is power—of practical value—ministering to the comfort, well-being, and happiness of mankind,

[For the SCIENTIST.]

### AN EXCURSION TO BLOMIDON.

(Concluding part.)

It was early in the forenoon when we were forced by the tide to abandon our work, and the time till next ebb was spent in cleaning the specimens secured.

Stretching away from the base of the sandstone cliffs for nearly half a mile is a gently sloping extent of mud-flats, the home of a very interesting mollusk known as the *mya arenaria* or more popularly the clam. We had observed the holes indicating their presence in the morning while working along the edge of "the flats," and a more extended examination showed that they existed in myriads. Clams prepared according to any of the elaborate methods known to culinary art or even roasted on the coals of a camp-fire form an appetizing article of diet, sufficient to tempt even the enthusiastic naturalist from his legitimate work. Besides we wanted some specimens to complete our collection from that locality. Sitting before our cheerful camp-fire in the gloaming we devoured the savory *myas* with a keen relish that would have moved to envy any pampered easy-chair dyspeptic that could have seen us, and wished for more. The

day following we spent in moving our camp.

By observing this locality on a good map it will be noticed that here the ridge bends round in a curve at Blomidon and nearly doubles upon itself. To illustrate, bend a finger, the knuckle will represent Blomidon, the tip, Cape Split, and the curve within, Scotts Bay.

Scotts Bay is a pretty little village stretching in a crescent form along the foot of the ridge, and thriving under the combined industries of fishing, lumbering and ship-building.

Our next camping ground was to be nearer "the Split" and to search it we must drive across the ridge into Scotts Bay. So the forenoon was spent in moving our camp accoutrements and specimens to Whitewaters and in getting underway. The sun was just sinking near the western horizon, when, having left our team at the village, we ascended the ridge on the opposite side, and reached the path by which we were to descend. There, on the edge of the cliff which descends abruptly with many breaks and ledges to the sea, we built our camp, and, somewhat wearied with our day's tramp retired early to our improvised couches.

The first beams of the rising sun were just gilding the tops of the Cumberland hills when, next morning, after a hasty breakfast, we descended to the beach. Setting off to the eastward we travelled till a point was reached nearly to where we had come on a previous day. We were successful in procuring good specimens of *amethyst*, *analcite*, a beautiful mineral occurring in trapezohedrons of a white color or slightly tinted with red, *acadiolite*, a red variety of chabazite peculiar to N. S., *chalcodony*, *agate*, and a fine variety of *jasper*. After carrying our specimens

to the village we returned to our camp.

Next day our course lay to the westward and Cape Split was our goal and next camping ground. We soon found that we were getting into a more productive region. Now our hammers and chisels rang merrily upon a rich seam of amethyst. Farther on we found good specimens of *stilbite*, a beautiful showy mineral occurring in sheaf-like crystals of a white, yellow, or brown color, here principally the latter. Coming to a large landslide that, loosened by the frosts, had fallen from the cliffs, we found excellent specimens of *analcite* and *natolite*, which occurs in tufts of needle-like prisms, sometimes so slender as almost to be blown away by the breath.

The collecting of minerals at the base of a perpendicular or beetling cliff is necessarily attended by some danger, and the collector cannot exercise too much caution. A number of instances are on record of persons being crushed by falling rocks while thus occupied. On one occasion after we had worked a seam of *stilbite* around the edges of a small cave, and retired, a large mass of rock fell from the roof, filling the place where we had been. Had we remained a half-hour longer this sketch would never have been written.

We were now but a quarter of a mile from "the Split" and had reached a point where the tide never leaves the base of the cliff. So with our load we ascended with difficulty the only accessible spot near and made our way towards the cape. At the very point is a smooth grassy spot a few rods in area. On the edge of this under a spreading tree we erected our last camp of the trip.

The natural beauty of our situation was enchanting. Before us stretched Fundy Bay with its embracing shores

and back ground of low green hills reaching away to the westward till they met the horizon, and on either side of our narrow promontory it swept by with its swift rushing tide through Minas Channel on the one hand, and into Scotts Bay on the other; while behind us lay a long stretch of sombre forest. Reclining on the green-sward in front of our camp we enjoyed the beauty of our surroundings and watched the setting sun. Slowly he descended, bathed in a sea of glory, and lighting up across the waters a golden-paved pathway which grew dimmer and dimmer till it faded away into twilight, and night spread her sable robe over the scene. Then the stars came out one by one; and presently our old friend the moon, showed "the silver boss of her own halo's dusky shield" above the tree tops. Soon the water near the point began to toss and seethe—the outward current from Scotts Bay was contending with the incoming tide—and ere long the vortex, large enough to swamp a boat of considerable size, could be seen foaming in the moonlight, while mingled with its roar came the sound of the dashing of the waves against the rocks, and the shrieking through the forest and round the cliffs, of the wind which, from a gentle breeze at night-fall had risen to nearly a gale. The previous evenings had been calm and beautiful; this was grand and sublime. Sitting alone on the edge of the cliff, the sea beneath tossing and foaming, lashed to fury by the winds, we enjoyed the companionship of Nature.

There are no discords in Nature's music. Whether it be the thunder of the tempest-tossed ocean, the murmur of the silver waves that ripple o'er the pebbled beach, or the diviner harmonies that thrill with unspeakable eloquence through the raptured soul, it is yet a chord in the sublime organ music of

the universe that rises in ceaseless symphonies of praise to the Throne of the Most High whose foundation is Eternal Truth and Universal Law.

For the SCIENTIST.)

### COLLECTING PLANTS.

Ferns and delectate plants should be placed between sheets of paper in some convenient form of portfolio, as soon as collected. This is nearly necessary to prevent the breaking or crumpling of the easily injured fronds. But a botanist who means business should provide himself with a tin *vasculum*. We use one twenty inches high, cross-section oval, eight inches by four, lid 17 in. by 5 in. Five inches of the upper part is shelved with a tin slide, which serves for carrying lunch on long expeditions. To accommodate a specimen 20 in. long the slide can be slipped out. The *vasculum* has a handle on the top for the hand and attachments at the top and bottom for a strap passing around the right shoulder, to carry the box diagonally across the back in a long march. A botanical spud or "dagger spade" for digging plants up by the roots, might be attached to the strap at the left side. This *vasculum* is larger than the more common one, the size of which would be about 15 inches by 6 inches by 3 inches in its three dimensions. The advantage of a box of this kind consists in its keeping the specimens placed in it quite fresh for many hours. For labelling cut twenty or thirty pieces of writing paper say of the size three inches by one. Near one end make a slit of at least half an inch in length. Run a cord with a large knot on one end through your bunch of labels up to the knot; tie the other end in a convenient button-hole. The labels are now always at hand. When you select a plant, slip a label over the knot, write on it the date, locality and name, if you know it. The date and the locality are, however, essential. Slip the stem of the plant through the slit in the label and place in the *vasculum*. When you return home you may feel weary and disgusted. But your tin box will keep the specimens fresh until you return to sound mind, which at the very latest will be only next morning.

As soon as possible, however, the specimens should be put into the press, which may be extemporized as follows. Take two smooth boards, at least 20 inches by twelve. Place first one or more papers on the lower board, evenly spread. Take next a specimen, label and all, dispose its parts as advantageously as possible. Then place the top board on and weight it—a hundred pounds is not too much—with bricks, stones, or a heavy trunk. Some of these plants will require to be put between fresh dry papers within nine or ten hours. To do this, take off the weights, then the upper board, which you now make the lower board placing on it dry paper with the partially dried specimens. The damp paper from the original pile should be placed aside to dry for the next change. No absolute rule can be given for the exact number of times the drying paper should be changed in the course of the day or the week. Plants with much moisture in them must be changed at first nearly twice a day, to prevent them from losing their color. As a general rule for the first three or four days the average plant should be changed daily.

A botanical press can be made cheaply by having two stout hardwood pins with a stout screw turned upon them fixed near the ends of the lower board, and passing through corresponding holes in the upper board. Two large nuts on each would then enable any pressure required to be brought on the material between the two boards. Blotting paper is a better drier than newspaper by far, but not so cheap. Blotting botanical paper can be had from dealers in Natural History specialties, as well as everything else which may be required. When the specimens are quite dry they can be kept loose between single sheets of paper until they are mounted. Indeed, some prefer an herbarium of loose specimens to one of mounted specimens, in which the plants are fixed to the sheet of paper. The specimens are now in a condition to last for ages, proper precautions being taken with the date of collection, locality, and if possible the name, associated with each. We can therefore leave hints as their mounting for a future occasion.

A. H. MCKAY.

[For the SCIENTIST.]

## NATURAL HISTORY LESSONS.

## II.—COAL.

[In presenting oral lessons on this subject, the italicised statements may be omitted, being such as the pupils should be able to discover for themselves by means of the specimens.]

Coal owes its origin to the partial decay of vegetable matter. In the case of charcoal the change takes place before our eyes and in a short time, while in the case of mineral coal the alteration has gone on in the interior of the earth, and occupied thousands, probably millions, of years with the process. The exact change is as yet imperfectly understood. The proportions of oxygen and hydrogen are slightly diminished, particularly of the former, and, as if by some mysterious alchemic process, what was once vegetable matter flourishing in green luxuriance has become a hard black mineral. The essential part of coal is carbon, of which element as high as 95 per cent. is sometimes present in anthracite or "hard coal."

ANTHRACITE is found massive and in beds from three to twenty-nine feet thick. These beds are frequently overlaid by thin layers of slate, containing the most beautiful impressions of the exterior of ancient trees, related to the ground pine; also ferns and calamites, or reeds of gigantic size. *The color of anthracite is black. It is opaque and brittle, and difficult to ignite. It has a high lustre and is often iridescent, having a beautiful play of colors.* Besides the carbon, it contains a little water and more or less earthy impurities. It has been found in large quantities in Pennsylvania and Rhode Island, and forms quite an indispensable article in daily life, being used very largely in furnaces and also in private dwellings.

BITUMINOUS COAL *is similar in appearance and color to the anthracite,*

*but is more granular, crumbles more readily, and is duller in lustre. It also is sometimes possessed of iridescence. It burns with a yellow smoky flame, and is used in steam engines, forges and private dwellings. It is composed chiefly of carbon, with some hydrogen and oxygen. It is found extensively in Nova Scotia, England, and many parts of the United States.*

CANNEL COAL is a variety of bituminous coal *It is very compact and even in texture, has a dull lustre, and breaks with a conchoidal fracture. It burns readily without melting, with a clear yellow flame,* on account of which it has been used as candles and received its name. It is found in England. Besides being valuable as fuel it is used for making boxes, ink-stands, etc.

JET, another variety, *resembles the preceding but is harder, has a high lustre, and receives a brilliant polish.* On account of its beauty it is used in jewelry.

LIGNITE *differs from the common bituminous coal in being imperfectly formed and in retaining to some extent its woody structure.* It is more recent in its origin than the great coal beds, and is not of much value as a fuel.

ALBERTITE *is a light mineral of a deep black color and resinous, shining lustre. It breaks with a conchoidal fracture and is quite brittle.* It is not a true coal, but is a bituminous substance found in veins into which it is supposed to have distilled from an underlying coal bed or from carbonaceous strata. It is found at Hillsboro, N. B., and is valuable as a gas-making substance.

GRAPHITE *is an iron black mineral having a metallic lustre, and a greasy feel.* It is sometimes though improperly called black lead, and is used in the manufacture of lead pencils, stove



polishes, and in lessening friction in machinery. It is essentially pure carbon, and is more ancient in its origin than coal. It is found in New York and other parts of the U S.

### THE COLORADO BEETLE.

Mr. John Morrison, of Oban, Lambton Co., Ontario, writes in reference to the date of the invasion of Ontario by the Colorado beetle, given in the article of our April number, as 1872, to the following effect:

"In looking the matter up I find by my father's diary of noticeable events the following: 'July 10th, 1871, the potato bug has made its appearance the first time in this country. It has damaged the crop to some extent, but not so much as was anticipated. However there will only be a short crop.'"

"As we live only ten miles from the St. Claire we had good changes of knowing the exact time as they almost destroyed our crop, and in 1872 they were so thick and destructive we did not get as many potatoes in the fall as we planted in the spring."

The authority for the date 1872 is Mr. Bethune, at one time the President of the Entomological Society of Ontario. We take his statement as quoted in the "Report of the Ontario Agricultural Commission, 1881," chapter V. He says: "In 1871 I found it very abundant at Chicago, and on the shores of Lake Michigan; it was then unknown in Canada. I wrote some articles in the daily and weekly *Globe* and *Canada Farmer*, calling attention to the insect, and warning the people of this country of the invasion which was about to take place, and proposing that some measures should be taken by the Legislature to ward it off, if such a thing were practicable. Nothing however was done, and the following year the insect made its appearance, crossing the River St. Claire."

I have, however, no doubt whatever but that Mr. Morrison's observations are correct. In fact in Mr. Tache's pamphlet the appearance of the beetle in Western Ontario is stated on good authority to be as early as 1870. The inference from this

is that it will probably require two or three years from its first appearance in Nova Scotia to demonstrate its presence to every one in power. The average rate of progression of the van guard has been about 80 miles a year. The Bay of Fundy and Atlantic counties may therefore expect a reconnoissance this summer, while Cumberland, Colchester and Pictou will be in the front of the fight.

A. H. MCKAY.

The *American Naturalist* of June is fully up to its usual excellent standard. It contains such articles as: "Pearls and Pearl Fisheries," "Aboriginal Quarries—Soapstone Bowls and the tools used in their Manufacture," "Developmental Significance of Human Philosophy," "Emotional Expressions," and notes on such as, "The Decay of Rocks Geologically Considered," "The Tides on the Bay of Fundy," "A New Iguanodon," "Charcoal as a Precipitant for Gold," "A Norwegian Dust Shower," "Influence of Moonlight on Plants," "Remarkable Fall of Pine Pollen," "Protection of Insect Collection," "American Hero Myths."

**THE GROWTH OF CORAL.**—After a cruise of a few months in the South Pacific, a French man-of-war was recently found to have specimens of living corals growing under her hull. The interesting discovery has thrown some light on the question of the rapidity of growth of corals. The evidence tends to show that the vessel, on passing a reef of the Yambier Islands, against which she rubbed, had picked up a young fungia, which adhered to the sheathing, and grew to a diameter of nine inches and a weight of two and a half pounds in nine weeks.—*Popular Science News.*

**FORETELLING THE WEATHER BY THE WHITE PINE.**—The *Illustrirte Garten-Zeitung*, of Vienna, says it is the easiest thing in the world to foretell the weather by observing the common American white pine (*pinus strobus*.) If we are to expect rain or snow within a reasonable short space of time, the branches of the last two seasons' growth will be pendulous. If such weather be a long way off, the branches will be raised rather than drooping.

(For the SCIENTIST.)

## THE "GREAT RED PIPE STONE QUARRY."

A few miles from the east line of Dakota, and near the south-west corner of Minnesota, lies this famous place, immortalised, like the Basin of Minas, and made known all over the world, by the genius of Longfellow. The "red crags" are of Sioux quartzite, a very hard glassy rock which underlies a large extent of country. At the edge of a high prairie plateau, a creek leaps down among these crags which it has exposed by washing away the soil. On the upper surface of the red sand stone and below the superincumbent layers of stone and earth, lies one single sheet of pipestone, which never exceeds four inches in thickness. Strong, compact, and heavy, bright red, or darker with innumerable light red dottings, and occasional brown or yellow clouded spots, it was proved ages ago to be the best material for pipes that the savage could find. Although found nowhere else on the continent, still its fragments and wrought specimens were known to every North American tribe, and are dug up among the relics of the farthest scattered bands. Annual pilgrimages were made, from the banks of the Missouri, the Arkansas, the Saskatchewan, or the Red river, from Lake Superior, Lake Winnipeg and the forests of the Rocky Mountains, to bring back a supply of the precious stone, to lend grace and solemnity to their councils and cabinet sessions. When spring clothed the prairie with verdure, so that pony travelling was practicable, these deputations of savages from every direction sought this common central spot, safe in the ancestral custom of sacred truce which made them lay aside their wars and feuds when in search of the valued stone from which was made the Puk-wa-na, or pipe of peace. But though this was common ground to all the Indians, yet they were very hostile to allowing any white men to dig or carry away an ounce of their catlinite. One old surveyor of my acquaintance has told me how jealously they watched him and prevented his securing any of it. The United States government has granted as a permanent reservation common to all tribes of Indians, a tract of

about one mile square, including this celebrated quarry; but there are not now many Indians within a hundred miles of it, and it is easier now to obtain the stone. Those who live nearest make part of their living by digging it up and carving grotesque pipes and ornaments for sale to the whites. These articles bear a good price, and are carried away by all tourists.

A. W. BARBER,  
Yankton, Dakota.

## NOTES.

The man who looks for design in nature may behold it everywhere. In every tree he may see the Creator as well as Moses beheld Him in the burning bush. The more carefully he studies the objects of earth and sky and ocean, the more devoutly can he exclaim :

"These are Thy glorious works, Parent of Good !  
Almighty ! Thine this universal frame,  
Thus wondrous fair; Thyself how wondrous then !"

—*The Argosy.*

After the Zambesi, the Bembe is the largest river of Eastern Africa. Its valley is very fertile,—suitable for the growth of sugar-cane, cotton, etc.,—and is well populated. To the northward the country is more healthy for Europeans. Its fine forests of valuable wood contain many elephants, and its saline lagoons are full of hippopotami; but, in consequence of the absence of native population, tsetse-fly is found everywhere through it. It possesses all the conditions to make it suitable for the immigration of millions of Europeans, who will find its soil more fertile than that they have left. It is perhaps the most populous region of tropical Africa; and its millions of natives, placed in contact with civilization, will become consumers of innumerable European wares.—*Science.*

The Paris *Figaro* describes a new style of cannon recently made at Lille, that is destined to work a complete revolution in the manufacture of artillery, if all that is claimed for it is true. It is made of steel about half-an-inch thick or even less, and, when pronounced perfect by the examiners, is placed upon an enormous turning-lathe, above which are several bobbins wound with fine silk thread. The ends of the silk threads are fastened to the cannon, which, as it turns rapidly on the lathe, soon covers itself with a thick and even covering of silk thread. When the diameter is thus increased to the required size, a coating of india rubber is applied to protect the silk from the weather, and the cannon is ready for use. It is claimed that a silk thread has as much tenacity and resistance as a steel thread of equal diameter, and much more elasticity. Consequently, its use in the manufacture of artillery possesses many evident advantages, such as the great decrease in weight and the increased facilities in handling and firing the field-piece, due to the fact that silk is a non-conductor of heat.

---

#### LITERARY NOTICES.

The "Bulletin of the Torrey Botanical Club," now in its tenth year, is becoming more and more valuable. Its February number is accompanied with a plate of the forms of twenty-six new species or varieties of the *desmidiaceae* in illustration of an article on *freshwater algae* by Francis Wolle. The plate itself is worth the price of the whole annual volume to students of the microscopic algae. Some of these forms have been observed in Nova Scotia.

In the January number of the "Bulletin" are some fern notes by Geo. E. Davenport, in which he states that the range of *Aspidium filix-mas*, Swz. "may now be given as extending from Canada (Owen Sound), or Newfoundland according to Kunze (who stated positively that he had seen true *filix-mas* from Newfoundland), to Washington Territory, in the North-

West, by way of Northern Michigan and Dakota, and to Southern California, in the South-West, through Colorado and Arizona. Its presence, therefore, in intermediate stations is to be expected." Mr. Davenport does not appear to know that this interesting fern is found in great abundance and luxuriance in the Island of Cape Breton, Nova Scotia. Principal A. H. McKay of the Pictou Academy, informs us that "as early as July 1876 he collected *Aspidium filix-mas*, near Aspy Bay, not far from Cape North and nearly within sight of Newfoundland." He has found it also 'as far South as the centre of the Island, on the picturesque summit of San Mountain, Whycoomagah, and also on the coast of the Gulf of St. Lawrence in Inverness County, nearly midway between the two former stations. Here, on the Strathlorne side of the Cape Mabou plateau, as the winding ascent is made up its high front and one of the grandest panoramas which the tourist seeks in this romantic isle, expands on the view, so do acres and acres of ferns appear lying above, below and around the traveller's path, and conspicuous among them for its profusion and robust luxuriance—enough to stock the herbariums and botanical gardens of a continent—flourishes the rare *filix-mas*." "In the same region is also found abundantly *Aspidium acculeatum* Swartz, var. *braunii*. And near Aspy Bay on the North-East, *Aspidium lonchitis* Swz. is not rare.

---

#### EXCHANGE DEPARTMENT.

Every subscriber has the privilege of inserting in this department one notice, not exceeding five lines, each year. Beyond that, and for non-subscribers, the charge is 5 cents a line.

Have been collecting Birds' Eggs for the past three seasons and am now prepared to exchange. Would like to correspond with parties desirous of exchanging.

F. L. ROBINSON,  
West Burlington, Otsego Co., New York.

FOR SALE.—Second-hand copy "Fourteen Weeks in Physics." Steele. Nearly new. Price 80 cents, postpaid. "Geological Story Briefly Told." Dana. Nearly new. Price \$1.10 postpaid.

A. J. PINEO,  
Wolfville, N. S.

## GRAND COMBINATION OFFER.

Two dollar monthlies for \$1.00. The *Visitor and Teacher*, a Literary, Educational, and Scientific Magazine, \$1.00 per annum; and the *American Farmer*, a large illustrated Agricultural Monthly, \$1.00 per annum. Both sent to any address for one year, for \$1.00. Samples both papers, for 10cts. Address all subscriptions, enquiries, and applications, to

VISITOR AND TEACHER,  
Kirksville, Mo.



Well, try it. If you cannot read this distinctly at a distance of 24 inches by lamp or gas light. Your eyes are failing and need help. No matter what your age is they can be corrected by having glasses properly fitted according to the condition of the sight, by JOHN W. GABRIEL, 17 Buckingham Street, who understands the fitting of glasses and has a full line of the celebrated Alaska Pebble Spectacles and Eye Glasses; also Eye Protectors and Colored Glasses for weak eyes. Hundreds of Certificates from parties now using them pronouncing them cool and do not excite the optic nerve.

## Nova Scotia Minerals.

I will send the following Minerals to any address, postpaid, for 30 cents:

ACADIALITE, ANTRYDITE, HEMLANDITE, LEANMONTITE, SAGIN SPAR, SELENITE, STILBITE, (white), DO (yellow).

These are not mere fragments, but fine, showy specimens, some of them being peculiar in beauty to this locality. They are suitable in size for School, Academy, or the private Cabinet, being as large as fine as those usually sold at from fifteen to twenty-five cents. Every one who orders this collection will be pleased with it. Larger specimens for College Cabinets at proportional rates. Address—

A. J. PINCO,  
Wolfville, N. S.

The Acadian Scientist is printed by

**ISAAC N. HALLIDAY,**  
COMMERCIAL

**Job Printer,**

Corner Duke & Granville Sts.,  
HALIFAX.

*New Type, new Machinery, skillful workmen and the best of stock, enables us to turn out splendid work, at the lowest prices consistent with good work*

(Over MacGregor & Knight's Book Store.)

## THE BEST

AMERICAN PUBLICATION DEVOTED TO  
HYGIENE.

(New York Herald.)

"THE SANITARIAN sustains its reputation for warfare in the cause of preventive medicine. Intelligent and conscientious physicians are using more and more Nature's health-giving remedies. Pure air, water and sunlight are potent agencies in the ARMAMENTA MEDICORUM. To parady Carleton, physicians, those deserting of the name,

Open the blinds when the day is bright,  
And God gives their patients the bright sunlight,  
They open the windows when the day is fair,  
And God gives their patients the pure fresh air.

Such journals as the SANITARIAN are most valuable to non-professional readers, in showing how in a thousand ways disease may be prevented, and when it does come, the intelligent physician will be all the better appreciated by those who are conversant with the facts such a publication disseminates.—The Living Church.

Published Weekly.

**SPECIMEN FREE.**

\$4.00 a Year, 10 Cents a Copy.

113 FULTON STREET,  
NEW YORK.

## New Premium Offer

Quite a large number, in response to our offer in the January SCIENTIST, sent in club lists and received the specimens. From many of these we have since heard, and the universal testimony is to the fact that they were highly pleased with the premiums. We have now decided to offer still larger club premiums, in order that our magazine may be brought to the notice of all to whom it would be of interest.

For every Club of Five Subscriptions, with one seventy-five cents, we will send, postpaid, to any address in Canada or United States, one dollar in specimens.

Those wishing fine crystallizations from Nova Scotia cannot obtain them in a cheaper or more convenient way. Schools and Scientific Societies can thus easily obtain specimens from this locality. Remember that all premiums are put up at cash prices, which are much below those of any other dealer.

Address—

ACADIAN SCIENTIST ST.,  
Wolfville, N. S.

## The Acadian Scientist.

SUBSCRIPTION, Thirty-five cents per annum in advance.

ADVERTISING RATES.

Per inch, one insertion, 50 cents; one inch, 3 insertions, \$1.00.

Address all communications to—

A. J. PINCO,  
Wolfville, Nova Scotia.

**\$4.00 FOR \$2.00.**

The best paper in America and the best book in the world. The

# Burlington Hawkeye

AND THE

**Rise and Fall of the Moustache,**

BY ROBERT J. BURDETTE.

**THE HAWKEYE MAN.**

The retail price of THE HAWKEYE is \$2.00 a year, cash in advance, and this price has been rigidly adhered to, although the management knows very well it is worth \$200.00 to any man with a family to raise.

The retail price of the book is \$2.00 and not a cent more nor less. Any one sending a larger sum for the book will have the surplus returned to him by the nearest telephone.

**BUT**

For the Purpose of Encouraging  
The Rising Generation,  
Improving the Morals  
Of the Community,  
Enhancing the Value  
Of Real Estate and

Reducing Taxes,

The management have decided to offer.

**The Hawkeye for One Year and a Copy  
of the Book**

for the beggarly sum of TWO DOLLARS. Both will be sent to any one sending \$2.00 and a copy of this advertisement, or a reference to it, to

THE HAWKEYE CO. PANY,  
Burlington, Iowa.

## E. B. BENJAMIN,

Importer and dealer in

# Chemical & Physical APPARATUS,

## RARE CHEMICALS

AND

## Assayers' Supplies

of every description.

Nos. 6 Barclay and 12 Vesey Streets,  
NEW YORK CITY.

## A. C. REDDEN.

MANUFACTURERS' AGENT, AND IMPORTER OF

# PIANOS, ORGANS,

AND

## Sewing Machines,

MAIN STREET,

WOLFVILLE, N. S.

**PIANOS.**

**ORGANS.**

Decker & Sons.

Mason & Hamlin

Haines Bros.

E. P. Car, enter.

Geo. Woods, etc.

Smith, American.

Etc., Etc.

Etc., Etc.

General Agent for the "Boston"  
Sewing Machine.

## SCIENTISTS.

Having made a specialty during the past few years of ordering miscellaneous books, and having accounts with the leading publishers, and the best jobbing house in New York City, we beg to solicit your orders for Scientific Works of all kinds, Botanists' Paper, Genus Covers and Dryers, and all kinds of Scientific Goods obtainable through the mails.

## Western Book & News Co.,

### A. M. HOARE,

MANAGER,

WOLFVILLE, N. S.

## Job Printing

AT

WOLFVILLE, N. S.

The Subscriber is now prepared to furnish printed to order,

Posters, Auction Bills, Programmes,  
Dodgers, Bill, Letter & Note Heads,

Business, Visiting, Address and Post Cards,  
Customs, Legal, and Magistrates' Blanks.

Society Work, By-Laws, Notices, Notes of  
Hand, Receipts, Checks, etc., etc.

A Specialty.

A. S. DAVISON.