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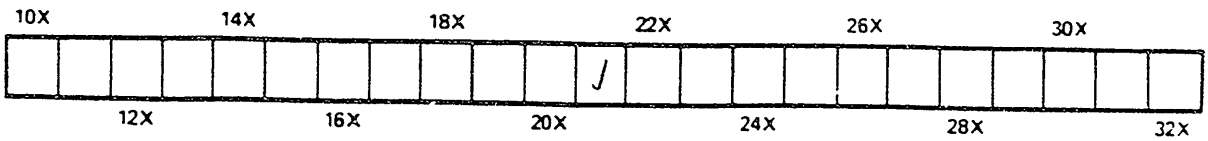

No. 3 1885. Mar.

THE

Canadian Science MONTHLY.

DEVOTED TO THE INTERESTS OF

Canadian Naturalists and designed to encourage the popular study of the Natural Sciences.

Canadian Postal College of the Natural Sciences.

This Institution 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 this Association pleasant and profitable.

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A. J. PINEO, KENTVILLE, N.S.

CONTENTS OF THIS NUMBER.

Canadian Science Monthly.

VOL. III KENTVILLE, N. S., MARCH, 1885, No 3.

SHELLS OF PRINCE EDWARD ISLAND.

We have picked up among the shores and streams and damp wild woods of Prince Edward Island eighty species of Mollusca. Shell collecting was not a special business of ours, but when on the rocky shore or pursuing the tangled border of a stream, a new shell was hailed as a fresh jewel from nature's store-house, adding something to our acquaintance with her boundless treasures.

The southern shores of the Island are the best collecting ground. The shallow waters of the Straits of Northumberland, land-locked and separated from the colder body of the Gulf, become elevated in temperature in summer so as to be an exceedingly favorable habitat for the Mollusca; and the centre of these straits is the best locality. There I have found the rarer shells most abundant and best developed. You may travel for days along the grey dunes and pebbled coves of the north shore without finding a single shell other than the common northern species. Even the sheltered bays and harbors of this side of the Island have fewer shells than are everywhere found on the southern coast.

Prince Edward Island is the head quarters of the oyster in the Maritime Provinces. There may be about 5000 acres of oyster beds scattered through our rivers and bays. Most of them yield but few oysters now from the reckless modes practised in gathering them. Many are dead beds, sunk under deep water, or covered with sediment, owing to the subsidence of the land.

It is evening ebb, and the silver skirts of the river are withdrawn from the muddy flats to roll in a shining ribbon down the narrow channel. Among these weed-covered flats we see bare patches where the dark *laminaria* refuses to grow. These are the "mus-

sel beds." Let us visit one, as it is a good place to see shells. Amid the slimy ooze of the river bottom the great accumulation of shells forms a solid pavement over which you may drive a team with perfect safety. Shells of oysters in myriads are here, paving the firm sea causeway with their rough calcarious valves. Some few live ones are in the edge of the water with shells slightly agape, showing the silky fringe of their mantles. Quahogs lie buried in numbers just under the surface, and all along the mud-flats they swarm in multitudes. The pure white valves of the *Petricola*, the delicate *Commingia tellinoides*, the curious *Crepidula fornicata* that fastens its boat-shaped valve to other shells, sometimes a number of individuals piling on top of one another, forming a bee-hive like structure, are all here in profusion. And there, among a pile of common northern shells, lies the carved spire of *Buccinum cinereum*. Among the sea-weeds we find the beautiful polished shells of *Tellina tenera* and *T. polita*, the last of rare size and beauty. As the returning tide swells its crystal margin by us, *Nassa obsoleta* expands its pearly foot and upborne by this delicate float, quietly voyages to a distant station.

We go to the sandy beach where the last tide has left white windrows of minute shells on the deep red strand. Among numbers of others, we notice the lovely polished and shaded spire of *Columbella lunata* and the snowy volute of *Utriculus caniculatus*. We visit a salt marsh and we find the beautiful *Modiola plicatula* lining the deep cut marsh run with thousands of pearly valves. On the surface of the marsh, under stray bunches of fucus we find *Melampus tridentatus* whose distribution extends to the shores of Texas.

This assemblage of shells is of a southern type, not belonging to the Maritime Provinces justly but having its proper habitat about Cape Cod and southward. At present there is no geographical connection between this outlying colony and the original southern stock, and it becomes an interesting question to determine how these shells came to be located in the southern basin of the Gulf of St. Lawrence.

It has been suggested that the former greater elevation of the Atlantic coast would shallow its waters and raise their temperature so that the New England mollusca might extend themselves northward into the Gulf. But as the depressed temperature of the waters of the Atlantic coast is caused by the constant flow of the Labrador Current upon its shores, it does not appear to us that an

elevation which would only result in extending the coast-line a little farther seaward, while the cold stream washed every head-land and filled every bay, could in any way improve that temperature.

I think that we must look to some much more universal cause for such an elevation of temperature. Captain M'Clure found in the Arctic regions between lat. 74° and 76° remains of extensive forests of large sized trees. The climatic conditions which covered the hills of Bank's Island with the rich shadows of a lucurient forest growth would be sufficient to induce the New England fauna northward into the Gulf of St. Lawrence. And once established in the sheltered waters of the Acadian Bay, the mollusca would be the last to retreat before the succeeding glacial climate.

The evidence is fast accumulating upon us that there were intermissions,times of elevated temperature in the great Glacial Period. The dead Arctic forests of this hemisphere and the extinct northern mammals of the Eastern hemisphere are noted instances; but every now and again minor testimony turns up. Under thirty feet of Boulder sands at the west end of P. E. Island trunks of birch trees are faund buried. These must have grown right in the middle of what is usually considered the glacial submergence. And this isolated founa of the Acadian Bay, it appears to me, is additional testimony in the same direction. The succeeding period may have been of a glacial character. Glaciers may have descended from the mountain flanks and the greater part of the terrestrial fauna and flora have been changed and yet the marine mollusca in favorable localities live out the vicissitudes of climate, just as ninty-five per cent. of the Pleistocene shells of the Mediterranean are still found living in its waters, while the greater part of the terrestrial fauna of that period lies entombed in alluvium or cave-bed.

F. BAIN.

AN ADDRESS TO THE FOSSIL BONES IN A PRIVATE MUSEUM.

BY JAMES S. LIPPINCOTT.

"And you have walked about—how strang; a story!"
In days gone by, a million years or so,
When giant saurians were in all their glory
In the dim twilight of the long ago!
When Hadrosaurus reared his height stupendous,
And Aquilunguine Lælaps leaped tremendous!

Could ye but speak, what stories you could tell us!
How on the oozy flats you flundered free;
Elasmosaur and all his scaly fellows
That fished and paddled the Cretaceous sea,
And Mosasaurus, how he showed his tushes
Ages ere Moses boated 'mong the rushes!

That "there were giants in those days" is certain,
Not such as those by Scripture story told,
Nor known to us till science raised the curtain,
Their length and breadth and stature to unfold;
Monsters of flesh and bone and horny mail,
And jaws and claws and ponderous length of tail.

Oft have we queried, wherefore had ye birth,
And wherefore sent into a world like this
Ages ere perfect man appeared on earth?
As told in chapter first of Genesis,
Of which our Savans have not yet been able
To show how much is fact, how much is fable!

The "dark idolator of chance" may learn
A lesson pregnant from your grey remains,
See proof of plans, deep-laid, he may not spurn,
By Power Creative, through all time the same;
See glimpses of the slow evolving plan
Developing the monad up to man.

Then hail your advent to the light of day!
A revelation of old time to this,
Along the darkened past a brilliant ray
Lighting an else unfathomable abyss!
And hail to him whose skill your import can make plain,
Can reconstruct the past and make it live again!

—*American Naturalist.*

REPTILES OF FLORIDA.

Several have written enquiring among other things about the reptiles of Florida. In tropical climates the insects and reptiles are supposed to be more dangerous than those of more northern countries. But during five months stay in this place we have seen no grounds for fear in this respect. On entering our house here last November, we noticed a small creature in the shape of a lizard darting about the window. It was slender, lively, brown colored, and, including its tail, about 2 1-2 inches long. We were told that it was a chameleon, come in to catch flies for us. This disarmed our fears. Though it stayed with us and shewed itself fearlessly every day, yet for a time we never saw it catch flies, and we had begun to doubt this as its mission. But some weeks ago we saw a creature of the same shape, about twice as large, and darker in color, voraciously devouring sand flies from a log in the field. And a few days ago our old household friend reappeared, climbed to the top of our table at dinner time, and in the most familiar manner began to dine with us on the few house flies that dared to present themselves. A pile of newspapers lay on the end of the table on the top of which was a fold of the 'Examiner' presenting a smooth surface for our friend's operations. He located himself on this smooth surface in a watchful attitude, and woe betide the fly that dared approach him. His motions were quick as lightning, and he enjoyed his meal of flies with evident gusto. When we first saw him his color was brown. But now he had put on his dinner costume, the most beautiful green. He had not grown since we first saw him, nor had we seen him for some time. But this we accounted for by the fact that in the interim, by some mishap he had lost one of his forefeet. Noticing something peculiar in his rapid movements we ascertained that one of his forefeet, one of the tiniest pieces of divine mechanism imaginable like a human hand, had been removed. His apparatus for catching a fly seemed to be like that of a toad, a long darting tongue.

This creature is a vertebrate, it has a backbone. In this respect it seems to be linked with another reptile found in Florida immensely larger, the alligator. The largest chameleon may be four inches, the alligator from ten to twenty feet in length. The backbone of the chameleon seems to be full of joints, that of the alliga-

tor is said to have but two, at the junction of the head and tail with the body. The chameleon seems to be almost domestic in its habits. The alligator lives far from human dwellings in the desolate swamps and bogs. The chameleon is peaceable, the alligator is warlike in its nature. A nest of eggs was found in the Oclawaha River. As soon as hatched the young brood made war on one another. When grown the alligator will attack the largest animal. A blow from its tail will throw its pray within reach of its jaws. It is said that a herd of buffalo came to the shore of a river to drink. One of the largest was seized by the nose by an alligator. The struggle was desperate. Sometimes the alligator was dragged on the land and sometimes the buffalo into the water. The scene was witnessed by a party of travellers who put an end to both. A number of young men had been enjoying a swimming match. At the close one of them said, 'I will take one more bath.' He leaped in and had swam partly across the river, when he suddenly raised his hand and disappeared. He had been seized by an alligator, which reappeared with the young man in his jaws on the opposite bank, and then returned with his prey into the depths of the stream. His companions could do nothing but look on with horror. But a war of extermination is being waged against these monsters. Their teeth and skins are found to be valuable. They are fast disappearing and soon except in the everglades of the extreme south, they will be unknown.

Poisonous reptiles, including rattlesnakes have been seen in Florida, but so scarce are they, that practically people are as safe here as in Nova Scotia. It is said that mosquitoes are thick in summer, but this pest is confined to the marshy malarial districts. I am told that many places are free from them.

D. FREEMAN.

TRUFFLES.

[New York Tribune.]

"The importation of truffles to this country is on the increase," said Jacob Meyer, who, until recently, was engaged in raising them in Germany, near Hanover. "They are looked upon as a

great luxury in Europe, and I have often wondered why they were not more used here."

"What are truffles?"

"They are a fungous growth, similar to the mushroom, and are found generally in soil impregnated with lime, and always in the neighborhood of oak or beech trees. They are found under the ground, at a distance varying from an inch to a foot, and are supposed to be a parasite, living in their early stage upon the roots of trees. They are oblong or spherical, and vary from the size of an English walnut to that of a large potato. Quite frequently I have known them to weigh two pounds, and once I found one that weighed three and a half pounds. Some are of a dull white color but the black or brown truffle has the finest flavor and brings the best price. Their surface is rough and covered with excrescences resembling warts, and judging from the exterior they would not be selected as an article of food. Internally they resemble a dark colored marble and are different from other known forms of fungi.

"But little is known about their propagation and growth. The reproductive portion is found in minute sacs, which contain a number of spores, and are thickly scattered through the numberless small veins that traverse the mass in every direction. In growing they are not attached to any other body, and lie loosely imbedded in the earth."

"In what localities are truffles found?"

"They are found in the greatest profusion in Southern France, and these are also of the best quality. They also grow in some parts of England, Germany, Italy, Australia and Africa. I have never heard of any being discovered in this country. My experience here, where I have endeavored to transplant them, as well as in Germany, where I spent many years in futile efforts to cultivate them artificially, has led me to approve the common opinion of truffle hunters, that a truffle is the most contrary thing in the world. When forced or coaxed, not one will appear; and frequently a field will be unexpectly filled. No one knows where they come from. I have taken a small truffle out of the ground, filled up the hole, and the next day taken a larger one from exactly the same spot. Removing this second one, I have taken a third and still larger

one from the same spot on the next day. Then for five days not a sign of a truffle could be seen. On the sixth day a small truffle would be found in exactly the same spot, and the others would be found as before. They would alternately appear and disappear in this manner for about three months, and then finally disappear altogether. At times they grow so quickly as to awaken astonishment, and again will increase in size with the slowness of a century plant.

"I have had some success in raising them by taking the water in which the paring of truffles had been steeped and sprinkled it over a truffle bed that had been worked out. In some parts of France acorns sowed upon a calcareous soil have yielded truffles after the saplings had attained three or four years' growth, but attempts to raise them in large quantities will surely fail. Mushrooms are cultivated with good results, because the vegetative portion of the plant is easily obtained for planting. The vegetative portion of truffles has not yet been obtained, and consequently all experiments with them have been futile.

"The odor of the truffle is aromatic, peculiar to itself, and will speedily penetrate every room in a house. It produces nausea in some people, and in others a sense of light-headedness."

"Is there any particular way of finding them?"

"Yes. In England and Germany dogs are trained to find them, generally poodles or spitz dogs. A truffle is given to one of these dogs to play with, and then is taken into a field and planted in sight of the dog. When feeding time comes, the dog is taken to where the truffle is buried, and he is given to understand that his getting food depends upon finding the truffle. Some dogs are remarkably apt, and will gather the idea in a few trials, while others will never comprehend your meaning. As soon as they are trained they are turned loose in a truffle bed and will move rapidly around with noses close to the ground until they scent the peculiar truffle odor. They will then begin to scratch up the soil, and care must be taken to stop them or they will tear the truffle to pieces. A good dog, however, will stop scratching as soon as the truffle comes in view. Sometimes they are buried so deeply that the dogs cannot reach them. They will then lie down by the hole and patiently wait for help. In the southern part of France and Italy, sows, which are passionately fond of truffles, take the place of dogs, and search for them as an article of food. Hunters follow

the sows around and gather the truffles as soon as the sows begin to root.

"The truffle bed I had in Germany cost me for rent, I think, $600. I sold the truffles in Hanover for $1.50 a pound and made considerable money. They will average about four to the pound. There is a company at Perigord, France, who are large purchasers of truffles. They cook them and put them up in sealed tin cans by a secret process. The strong odor is not noticeable in the canned goods, and they have not the delicious flavor of the fresh truffles. The French use more of them than any other nation, and they are almost the only consumers in this country. The only objections to their universal use is their scarcity and cost. There are plenty of truffle beds yet undiscovered, and some day, no doubt, an improved system of searching for them will be invented, and this rare flavor will become common to every table. Delmonico imports truffles for his restaurant direct from France. He serves them sometimes with steaks, like mushrooms, but seldom are they eaten alone, on account of their expense, and because the appetite of but few can stand a large dose of them. They are cut into thin slices and used principally as a condiment for boned turkey and chicken, scrabbled eggs, fillets of beef, game and fish. When mixed in due proportion, they add a peculiar zest and spice to sauces that cannot be found in any other plant in the vegetable kingdom. They are retailed here at 65 cents per 1-8, 30 per 1-4, and $2.50 per 1-2 pound. There is quite a large and increasing demand for them."

A WONDERFUL MOUND.

By Prof. J. H. Panton.

"In a line almost direct south of Medicine Hat, and about twenty-five miles distant, there is located one of the most interesting geological hunting grounds of the Northwest. In this vicinity a large coulee cuts through the prairie, and from its south side a hill extends somewhat in the form of a peninsula. This is about 100 feet high, and embraces an area of 20 acres. It presents a striking appearance in contrast with other portions of the ravine. The deposits are largely composed of soft sandstone intercalated

with ironstone and bear a marked resemblance to those of Irvine Ravine 29 miles east of Medicine Hat. A small stream evidently passes through the valley at certain seasons of the year, but in the summer this dries up and its course is indicated only by small pools. Several springs of strongly alkaline water issue from the hills. No vegetation appears either on the top or sides and the whole presents a very unattractive appearance. Though from a distance the elevation seems comparatively steep yet it can be readily climbed at any point. In some parts the sandstone has been considerably affected by the weather and portions have been washed down forming flats of beautiful white sand. A close examination of this hill reveals much that is of intense interest to a student of science. Innumerable fragments of baculites, possessing the beautiful nacreous appearance of these Northwest fossils, lie on every side. Some are three inches in diameter and several feet in length. Equally numerous are gigantic forms of ammonites, some three feet in diameter. These, too, present a beautiful appearance, rivalling in color the pearly shells of modern tropical seas. Both these wonderful forms are the remains of extinct members of the cuttlefish family, and occur here in greater numbers and more striking characters than any place yet discovered in the cretaceous deposits of the Northwest. Besides these large types there are several species of smaller shells and immense fragments of petrified wood. There has also been found here an interesting mineral, having a marked resemblence to opal. This occurs in small pieces containing clusters of small rounded bodies about the size of peas. When first discovered they were called petrified fish eyes and afterwards were supposed to be the fragments of melted glass. Many of the stones scattered along the sides of the hill present no attractive features, but on breaking they appear to contain numberless fossils of great beauty. These boulder-like stones, seem to occur frequently in our cretaceous clays. An excellent example was taken from a well near Pense station. It showed no indications of being anything more than an ordinary boulder, but when broken it was found to be a mass of exceedingly interesting specimens. This has also been observed in other places, and is worth remembering, as it may lead to the examination of rock fragments which might otherwise escape examination. The innumerable places rich in fossils that have already been found in the Northwest show that the book of nature is certainly illustrated on a magnificent scale, and in a most inter-

esting manner throughout the vast prairies of the west, and that however fragmentary the leaves of the geological records may at present seem, there is no doubt further investigation along the banks of the mighty Saskatchewan, and in the ravines which cut through the deep deposits of the west will aid greatly in shedding light upon pages hitherto obscure."

THE SECRETS OF NATURE.

Around as everywhere are things wonderful and full of mystery, yet to the majority of people they are unseen. "Eyes have they but they see not." As I look out of the window where I am writing, everything seems dead. The ground is covered to the depth of a foot or more in its pure white snowy overcoat. Wherever stream or pond is found, it too is locked in its icy winter garments. To all outward appearance the trees and bushes are without life, the green leaves which a short time since shaded the grateful earth from the fierce rays of a summer sun are seen no more. The birds which used to sing so sweetly in the branches, filling the air with music, are gone. The fields and woods which so shortly since were green with grass and spangled with flowers, are now invisible except on exposed hill-tops and they too are brown and bare. But wait awhile till the days lengthen and the sun rises higher in the heavens and shines warmly once more, when the gentle April showers fall to the earth. Then as if by magic everything in nature changes. The snow disappears, the ice melts. The woods which now seem dead, gradually change, each day becoming more beautiful until they are dressed in their full livery of green, which after a season of warmth will, at the approach of frost, assume rich gorgeous tints of crimson and gold, while the ground beneath, which is at the melting of the snow a bare brown surface, is quickly covered with flowers. Great masses of Trilliums, red and white, send forth their blossoms which wave to and fro in the gentle breeze; the sweet scented Violet in many colours, lies close to the earth as if too modest to force itself upon our notice; the Anemone and Hepatica appear side by side on the gentle slope of some sandy hillock, which catches the first rays of the warm spring sun; the beautiful mottled leaves and graceful drooping bell-shaped flower of the Dog-tooth violet can be seen in the quiet glades; the Spring Beauty

flourishes in thousands on every dry knoll or sloping hill side, as true a worshiper of old Sol as the world contains. While the sun's rays shine forth the Spring Beauty opens its delicate pink flowers in long racemes which cannot fail to delight the eye of any one who will stop for one moment and gaze upon its beauties, but let the clouds gather and shut off the direct sunlight its flowers close and are seen no more until those warm rays shine forth again in all their fervency. The fields are soon green with carpets of grass and waving grain, the feathered songsters of the grove return, and hill and valley wood and field, ring and echo with their songs of love.

What caused all this change? Did my young readers ever think about it? If not then let me ask you to begin at once to read from the book of nature and see if you cannot get her to give you up some of her secrets, how the apparently dead branch under the influence of the sun's warm rays which sends the sap through its every part, puts forth leaves and flowers; how in her laboratory, two plants side by side, their roots and branches interlaced it may be, growing in the same soil and watered by the same showers, the one will produce food for man and animals which will sustain life, the other a deadly poison which will destroy it; or the mystery of grafting. Take a cion cut from a sweet apple tree and graft it into a sour one. To all appearance the wood is the same, yet there is a hidden barrier, a dividing line; the same sap goes to all parts, but sweet apples grow on the graft the same as if on the parent stem. What hidden process causes this?

No need of going to foreign lands to see wonders; there are more to be found in a few square rods of land and its productions, than will suffice to give a man food for study for a life time.

To the Christian especially a study of nature should be doubly pleasing.

There is a lesson in each flower,
A story in eacn stream and bower,
On all the earth on which we tread,
Are written words which rightly read,
Will lead you from earth's fragrant sod
To peace and happiness and God.

Oban, Ont. Feb. 10th, 1885. JOHN MORRISON, JR.

THE WILD HORSE OF THIBET.

The celebrated traveler, Przevalsky, on his return from his third great journey in Central Asia, brought to St. Petersburg an example of a new species of Equus. This was described in 1881 by Mr. J. S. Poliatow as *E. przevalsky*. It has warts on its hind-legs as well as on its fore-legs, and has broad hoofs. These characters ally it to the true horse, but the long hairs of the tail do not commence until about the middle of that appendage. It is thus intermediate between the horse and the asses, to which category the other known wild species of Equus belong. Its mane is short and erect, there is no forelock, and no trace of a dorsal stripe. The stature is small the legs very thick and strong, the head large and heavy, and th ears smaller than in the asses. In color, it is whitish gray, paler and whiter beneath and reddish on the head and on the upper part of the legs, which are blackish from the knee downward.

Przevalsky's wild horse inhabits the great Dsungarian desert between the Altai and Tianschan mountains. The Tartars call it "Rertag," and the Mohgois "Statur." It goes in troops of from five to fifteen, led by an old stallion. It is lively, very shy, with sight, smell, and hearing well-developed, so that it is exceedingly difficult of approach. It seems to prefer the saline districts, and to be able to do without water for a long period. Thus it can only be hunted in the winter, when melted snow can be obtained. Przevalsky only met with two herds during his whole stay in the desert. The only specimen brought to Europe is in the museum of the St. Petersburg Academy of Sciences.—*American Naturalist.*

ORIGIN OF PETROLEUM.

As to the origin of petroleum scientific men are by no means agreed. In the early period of American oil-mining the only question much debated was whether it was of animal or vegetable origin or both. Of late, however,, a theory has been started that the oil is not due to the storage of organic remains under the surface, but that it originated from chemical combinations of carbon and hydrogen in the interior of the earth. This view of the subject has been taken up in consequence of petroleum having been found in such large masses as almost to preclude the idea of its origin in animal or vegetable deposits. If this be true, it is probable that the oil exists in still larger quantities than any which have yet been observed.—*Mining Review.*

EDITORIAL NOTES.

Principal A. H. McKay of Pictou Academy will present our readers soon with papers on "Bacteria." Mr. McKay is an enthusiastic microscopist and has made some interesting and valuable discoveries in this direction.

Our correspondents whose communications have not received prompt notice will kindly overlook delays. We have as yet hardly recovered from the confusion of moving.

We have a few sets of the MONTHLY of last year, which we can furnish at 50 cents for the volume.

Back numbers of the MONTHLY of this year can be obtained at 5 cents each.

POPULAR SCIENCE NEWS gives an engraving of a fossil scorpion recently found in the island of Gottland. Special interest is attached to this discovery as it is the oldest specimen of a terrestrial air breathing animal yet found, being from the strata of the Silurian age. The name *Palæphoneus mincius* has been given it by Professor Lindstrom of Stockholm.

We have decided to offer for sale, at great bargains, our large stock of minerals, principally Nova Scotian. This region is famed for its zeolites of which we have unusually find specimens. Send for our Catalogue now in preparation.

NOTES AND COMMENTS.

Electric lighting has been introduced into Halifax, Nova Scotia.

There are swans on the River Thames that are known to be 150 years old.

The total length of railways in Japan is about twenty-three miles. Eight hundred miles are already projected.

The first Railway in Cochin China was opened on December 21st, last. It runs from Suigon to Mytho, the journey taking four hours.

The annual product of soot swept from the chimneys of London is 50,000 tons, which realizes about $200,000 when sold as a fertilizer.

Osbert Salvin, F.R.S., and F. DuCane Goodman, F. R. S., have given to the English nation a collection of 20,000 specimens of American birds and a fine collection of Central American insects.

The intelligent reception given the Potato Beetle *(Doryphora decemlineata)* on its arrival into Nova Scotia, has prevented it from having any appreciable effect as yet, on the potato crop of the province.

Powder made from the pounded flowers of different species of *Pyrethrum*, is a deadly poison to the most of insects, while it is innocuous to man. It is now being cultivated in enormous quantities in California under the name *Buhach*.

E. Klein, M. D., F.R.S., Joint lecturer on general Anatomy and physiology of the Medical School of St. Bartholousa Hospital, London, has returned from India where he has been studying the Asiatic Cholera. His investigations seem to prove that Koch was wrong in attributing the origin of cholera to a microscopic organism called the *Comma bacillus*.

The Boston Journal of Chemistry says that in January, 1874, the thermometer at Jakoutsk, Eastern Siberia, registered 101.7 below zero, and in the same country a staff surgeon had known it to be eight degrees colder. Mercury in that region is solid for hours at a time, and can be worked with a hammer like lead; iron is brittle as glass, and is useless; even fire itself seems to freeze, for the gases which feed it loose their heat. During the winter of 1819-20 it was impossible to go out without a mask, to prevent losing the nose or ears.

In the *Annals and Magazine of Natural History*, (London), for January 1885, H. J. Carter, F.R.S., &c., describes a fresh water sponge new to Science from Nova Scotia, under the name *Spongilla MacKayi* (Carter). It is found in the lakes of Pictou Co., N. S., and as named in honor of Principal A.H. McKay of Pictou Academy.

Another fresh water sponge new to science, will be described before the Academy of Natural Sciences in Philadelphia by Edward Potts. It is also from the lakes of Pictou County, Nova Scotia, and will be known as *Heteromeyenia Pictavensis* (McKay).

The *Bulletin of the Torrey Botanical Club* for January, contains another plate and article on the Desmids of the United States in which the Rev. Francis Wolle adds a number of new species to those already described and figured in his excellent book on the subject. The Bulletin contains also several other interesting articles, and always, of course, has something new. It is a necessity to the American Botanist.

In the JOURNAL OF BOTANY, (England), for February, Mr. Joshua F.L.S., F.R.M.S., makes some notes on some rare *Desimidieæ*, from Nova Scotia, which he received through the kindness of A.H. McKay. Some of them are new to America, and one variety, *Xanthidium antilopeum var. Canadense*, is new to cience.

NATURAL GAS IN ESSEX, PA.

John White, of Mersea, whilst boring for water last fall procured an abundant supply at a depth of 40 feet. The water will suddenly rise to the surface, boiling and bubbling with a hissing sound like escaping steam, and will as suddenly recede, flowing up and down alternately every few seconds. Whilst Mr White was passing the well with a lighted lamp he was considerably surprised and frightened by the air suddenly igniting and a steady, bright, roaring flame shot up to the height of 20 feet, and continued to burn for two or three days, when on account of its proximity to his farm buildings Mr. White had the flame extinguished by covering the top of the well tightly over with plank. He then inserted a gas pipe, 1 1-2 in. bore, 15 feet long, and when a light is held near this pipe a bright flame 15 or 20 feet in length will shoot forth, lighting the country for a considerable distance around, and will continue to burn for any length of time, regardless of wind or weather, until extinguished by being turned off.—Ex.

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