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No. 9 1885. Sept.

THE

CANADIAN SCIENCE MONTHLY.

DEVOTED TO THE INTERESTS OF

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

CONTENTS OF THIS NUMBER.

Canadian Science Monthly.

VOL. III KENTVILLE, N. S., SEPTEMBER, 1885. NO. 9

CHOLERA IN SPAIN.

2nd ARTICLE.

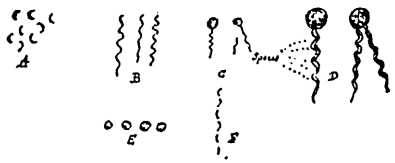
[Translated from the French.]

It is far from clear what will be the result of Dr. Ferran's work, for if the anti-cholera inoculations have warm partisans they continue to have numerous opponents among the most eminent savants. The Scientific Commission appointed by the Spanish Government to study this question, and the Madrid Academy of Medicine have agreed upon this point that the prevailing scourge is truly the Asiatic cholera-morbus, and that the vaccine which Dr. Ferran uses contains the comma bacilli, but while the Commission maintain that the inoculation is entirely harmless, the Academy acknowledged that in producing artificial cholera, dangerous accidents may ensue. As to the efficacy of the process neither has pronounced for the reason that they do not even now possess sufficient proof. Be it as it may the Spanish Government which at first forbade the practice of inoculation, has authorized Dr. Ferran to employ his system in the towns affected by the epidemic. Let us hope that it will succeed in conquering the terrible scourge that is decimating Spain.

It is proper however to make known a fact of very great gravity and which has raised up numerous adversaries of the Spanish doctor. France and Belgium sent delegates into Spain in order to study the methods of Dr. Ferran. It appears that the latter refused to submit to their examination the virus which he uses in his inoculations. On his return, Dr. Brouardel, chief of the French mission, made a report altogether unfavorable to this process of anti-cholera vaccination.

These are the facts which are now produced and which claim the attention of the entire learned world.

Let us examine now what is the method employed by Dr. Ferran. This method is only an application of the magnificent discoveries of M. Pasteur as to the nature of epidemic maladies in general, and upon symptomatic charbon and hydrophobia in particular.



Let us learn from Dr. Ferran what are the different states which are presented in the evolution of the cholera microbe. When we examine in the microscope some cholera dejections we notice two kinds of infinitely small beings to which has been given the name of *Comma baccilli* [A] and *spirilles* [B]. These two being of the same origin as we shall soon see owe their name to their form. If we collect them and place them in beef broth, observing certain conditions, they soon develop and multiply. At the end of a given time spirilles give birth at their forward part to spherical bodies which have been called oogons or oospheres [C]. We soon see forming in the interior of the *spirilles* little granulations or spores [D]. They pretend that these are female organs which are fructified by the *oospheres* or male organs. The fructified spores constitute what have been named muriform bodies [E]. If we leave these muriform bodies some time in the broth, they soon give birth to new spirilles. These last ones are those which in breaking up produce the comma bacilli [F]. On this last point Dr. Ferran departs altogether from the theory of Dr. Koch and supports the opinion of Prof. Ray Lankester that the comma bacilli are only the segments of a spirille that is to say the result of the rupture of a spirille into small fragments, each one of the fragments corresponding to one turn of the spire.

The anti-cholera vaccinations are made with the liquid culture when the bacilli which they contain have arrived at the condition of muriform bodies. The inoculations are made in both arms and should be repeated twice at intervals of five days to be free from danger. They produce in the person who submits to them sharp pains in the upper limbs and a high fever which generally disap-

pears in twenty-four hours. Such are the nature and effects of the cholera vaccine which according to the advocates of vaccination will cause death if it penetrates into the digestive system while it preserves when the inoculation is sub-cutaneous.

E. M. BONNET.

NOVA SCOTIAN GEOLOGY.

PAPER VIII.

Our first practical acquaintance with the Geology of Kentville, was made through the "Webster Collection," in our Provincial Museum.

The greater part of this collection is Mineralogical, about one-third of it is Geological and Archæological. There is first a slab of sandstone studded with the fossil *Lingulella*. When I first examined this specimen I regarded it as of Potsdam sandstone age. Locality unkown. The Rev. Mr. Sutherland of Gabarus, Cape Breton, discovered on Mira Ridge a similar sandstone with abundance of *Lingulella*. Of this he sent me specimens which are also in our museum collections. This formation succeeds the Archæan Formation of Gabarus and Louisburg. Since I examined the Geology of Kentville I am persuaded that the specimen in question was found in Kentville. It is much to be regretted that it was not labelled. It would have been unquestionable evidence of Lower Silurian age in the Geology of Kentville.

The most striking and characteristic parts of the collection are the Fawn-coloured slates, literally covered with the *Dictyonema Websteri*, Hall. This fossil was named after Doctor Webster, the discoverer. It is a pretty little sea fan. It belongs to what is called the Graptolite family of fossils. In Wales these are of Lower Silurian age. They are found in Cape Breton in Lower Silurian rocks. The species are different and have been named accordingly. I do not see any reason to separate the Kentville *Dictyonema* from the others by the intervention of time and to regard them as of Upper Silurian age, as is done by the Author of "Acadian Geology"

Another interesting part of this collection is an illustration of the manner in which rain prints were formed on the ancient sediments (rocks) e.g. of the carboniferous of Nova Scotia and Cape Breton. The specimens are of dried marsh mud "rain pitted." I have already referred to these in my "Walks around Truro."

Geology.

The area which I examined at Kentville is about one-fourth of the size of the Wolfville area, and much more irregular.

It begins at the town, the first strata being exposed at the mill, a little above the bridge, on the side and in the bed of the brook. At the great dam, a little further up they are well exposed on either side, a little above this they disappear in the brook giving place to another formation (Triassic.) They are again seen in a limited section on the Beech Hill Road. This shows that the height on the right hand is formed of these pre-Carboniferous rocks. The continuation of these rocks, above the upper bridge, is manifest by exposures in the bed and sides of the brook and in outcrops in the high lands on the right.

Between the bridge and Kentville there are several branches of the brook. The most important of these has two water falls the lower and the upper, the one is at the Webster farm, the other near the summit of the height at New Canaan.

The rocks of the area are slates and shales with occasional arenaceous beds. Their colouring is sufficiently varied, being red, faun, black and grey. They are not so highly metamorphic as the rocks of the Wolfville area and their stratification is more obvious.

In the brook at Kentville some of the strata are yellow with beautiful red wavy lines, having the appearance of woody (pine) structure.

At the dam the slates are black and deep red (ochrey) with occasionally green films of carbonate of copper.

The rocks of the lower falls at Webster's are the *Dictyonema Websteri* slates of the "Webster Collection" in the museum. These are of considerable thickness having a homogeneous aspect, interrupted only by a few arenaceous beds with vesicular structure.

It seemed a hopeless task, to look for fossils in such a mass. I made up my mind to be satisfied with the museum fossils and merely collect specimens of the slates of the Fall for my rock collection. Catching a piece out of the strata on the left side of the fall I was pleased to find that I had, with my usual good fortune in similar circumstances, found a bed of the desired *Dictyonema*. In this I collected several beautiful specimens with perfect structure and form.

My gratification would have been complete if I had been equally successful in finding *Lingulella* in the arenaceous beds farther down the brook. I have not examined this locality since I found "Lower Silurian fossils" at Nictaux and Clementsport.

The strata of the Upper Falls are black slates almost like roofing slate. The height and arrangement of the strata must form a beautiful waterfall when the brook is well filled with water.

Having thus described the "Pre-Carboniferous" rocks of the area, we now come to the "Post-Carboniferous."

In this area we do not recognise any Carboniferous Formation.

The next formation that makes its appearance is the Triassic (New red sandstone.)

At Elderkin Brook near Kentville a fine section is seen. This is the site of a saw mill. On the west side of the dam of Kentville Brook a fine exposure is seen of the same formation overlying the ochreous and copper colored slates described already. They reappear up the brook at the "shooting range" and make an occasional appearance as far as the mouth of the Falls brook.

At Elderkin Brook they appear in their characteristic manner, soft, sandy strata of decided red color—New Red Sandstone.

REV. D. HONEYMAN, D. C. L.

(To be continued.)

A PREHISTORIC TOOL.

While digging a cistern near his residence, Dr. C. L. Metz, of Madisonville, Ohio, made a very valuable find, which will be of interest to scientists, it being a paleolithic implement, supposed by him to be a scraper. It is about two inches in length, blue flint, and very rudely chipped. Dr. Metz is Superintendent of the Ohio Explorations of thePeabodyMuseum of Archæology and Ethnology, Cambridge, Mass. He is very much elated over his find, and declares it to be the first tool used by the inhabitants of North America, before the glacial period, ever found anywhere in these regions.—*Inventors' Journal.*

GOLDEN-ROD.

It stood, the blooming flowers among,
When spring's soft airs were whispering,
And all the woods were glad with song,
A poor, unsightly, weed-like thing.

The summer, with her languid sigh,
Stole on and warmed the unmoving air,
And still the wild bee passed her by,
And still she grew neglected there.

All scattered lie the flowers of spring,
The summer's early bloom is dead,
The song-birds have forgot to sing,
The thrush to other haunts is fled.

The mountain wears a misty crown,
The first red leaves are flitting by,
But to the fields is drifted down
A glory from the glowing sky.

A reflex of the ripened sun,
All spring and summer stored with care.
The patient plant-heart's work is done,
And now all nature owns her fair.

And from each dainty golden cup,
With amber nectar richly stored,
The Bacchant bees with rapture sup,
And hum love ditties at her board.

Thus the slow changing soul that keeps
Within her secret depths aglow,
And feels, as in long dreamful sleeps,
The germ immortal stir and grow—

The soul that feared itself so poor,
Half doubtful of its ripening—
When autumn's sun hath warmed its core
May bloom at last, a radiant thing.

—*Danske Dandridge, in Demorest's Monthly.*

WINTER BIRDS OF PRINCE EDWARD ISLAND.

(Francis Bain, in the Auk, July 1885.)

PRINCE Edward Island, situated in the southern basin of the Gulf of St. Lawrence, possesses in some respects a climate peculiarly its own. Sheltered from the chilling breath of the Labrador Current by the primary ridges of Nova Scotia and Cape Breton, it enjoys a summer season with a more elevated temperature, a purer atmosphere, a clearer sky, and more abounding sushine on its rich, verdure-clad swells, than are to be found on the immediate Atlantic seaboard.

In winter, on the contrary, the shallow waters of the Gulf are soon covered with ice, sometimes extending unbroken as far as the Magdalens, and the temperature of the season is uniformly severe. Snow lies deep on the ground, and the rivers and bays for four months are firmly locked in ice. The atmosphere, however, is pure and bracing, and free from the damp chilling mists of the ocean seaboard.

These conditions have an influence on our winter avifauna. Water birds which frequent bays and mouths of rivers are completely driven away. Only a few deep-sea fowl stay to glean a hardy living where the blue waves break among the parting floes. The depth of snow is unfavorable to members of the Finch tribe which, like the Tree Sparrow, seek their living from seeds on the ground. But the splendid deciduous forests which flourish on the fertile New Red Sandstone soil, afford food to some of the tribe during the inclement season, which are not known to winter in the neighboring Provinces.

The Purple Finch frequently winters here. He does not frequent the abodes of men, but the lonely forest, where the doomed summits of the great yellow birches, *Betula excelsa*, are thick-laden with strobiles, is his home. The stay-at homes never see him. But on a keen, bright morning, when the gilded twigs are surging aloft in the frigid blue, from their loftiest tops rings out the glad, sweet carol to startle and charm the adventurous woodman.

Strange that the occurrence of a roving song bird in a district should be connected with the distribution of the ancient geological formations. But it is so. The soils of the New Red Sandstone formation sustain a class of

plants affording more suitable food for the forest choristers than is to be found in the Primary districts. The Connecticut Valley is well known as the winter home of many of our song birds. Western Nova Scotia has features of bird life distinct from the surrounding districts. And Prince Edward Island affords an oasis for the wintering of certain Fringillidæ in the midst of less fertile Primary lands.

The highly cultivated character of the country, with numerous stock yards and farmsteads, favors the wintering of birds. The Song Sparrow has been supposed not to winter north of Massachusetts. But among the stock yards of Prince Edward Island we often find the jovial songster tuning his pipe in midwinter as gaily as if he was in his old New England homestead.

In the latter part of October the Snow Buntings come here. It is worthy of remark that they appear in New Brunswick considerably earlier, indicating that they arrive from the North by that way instead of by direct flight across the Gulf. At first they do not frequent the cultivated districts, but may be seen foraging along the shores and in deserted grain-fields. In December, when snow and ice bury up their food in the wilds, they come about the grain stacks and farm yards in large, white flocks, whirling, like snow drifts, in the keen winter air. They are very fond of oats, for which this island is famous. They always shell the grain before devouring it, using only the farinaceous kernel.

It is rare to hear Snow Buntings sing, but on a bright morning in March, ensconced in a sheltered nook, I have heard them sing a low, sweet song, resembling the Linnet's in general outline, but much less strong, full, and rapid.

The Redpolls arrive the first week in November, when the ripened and gilded cloak is just reft from the forest boughs. Then we see little of them, but will occasionally hear their gentle chitter as they pass back to the groves of great yellow birches, on the seeds of which they principally feed. Free and happy is their life in the wilderness now, as you may witness if you watch a group of them whispering and calling sportively as they rifle the seeds from the crowded strobiles of a giant *excelsa*. But when winter fully comes they are driven from the forest's summit, evidently suffering from

the cold. They then crowd close in shivering flocks of fifty or more, and come and feed on hay stacks and on the seeds of goosefoot, polygonum, and other weeds about the gardens. I have seen the hunger driven flock settle on loads of hay exposed for sale in the city market. Yellow birches are our only deciduous forest trees which carry a quantity of seeds through the winter, and it is this circumstance which makes them so important for the support of the winter flocks.

The Goldfinches leave the last of October, the last individuals evidently suffering during cold storms, and their place in winter is taken by a few wild, bounding Pine Goldfinches, whose slim voices sound sweet notes round the dark spires of ancient spruces where the White-winged Crossbills feed. We sometimes have large flocks of Red Crossbills, but their coming is very uncertain. They were in force in December, 1877, and in January, 1884. Spruce seeds were abundant both these seasons.

Pine Grosbeaks come in November, but their numbers are uncertain. When coniferous seeds are plenty, flocks of fifty bright-plumed beauties with their gentle, unsuspecting, wilderness-ways and soft voices, come frequently about the spruce groves. But when these are scarce, as they are this season, it is rare to hear the call of a solitary wanderer in the most unfrequented forest scene. But Grosbeaks are not dependent alone on a precarious supply of cone-borne seeds for a living. They feed much on the buds of the trees, and will even go to the shores for a meal, like Buntings and Robins.

In midwinter they retire to the shelter of the deep, coniferous forests. On a sunny morning, when the fir drapery flashes with crystals, the group of forest wayfarers may be found in their sheltered home, keeping each other company with quiet flocking calls, a male constantly breaking into a delightful Linnet-like song, with some peculiarly rich flute notes of his own. In such circumstances they do not mount the blast-swept summits of the trees but content themselves with foraging on the lower sheltered boughs.

All these winter visitants, except Snow Buntings, are irregular and uncertain in their appearance here. During mild seasons we have them in numbers, but cold and stormy winters drive them to districts where food is more easily obtained. But Grosbeaks and Crossbills are never in numbers unless coniferous seeds are abundant.

But few Tree Sparrows winter here, although they are abundant in November. Black Snowbirds are almost equally rare, and it is only now and then that Robin favors us with his presence during the dreary months. One or two will sometimes stay where the berries of the mountain ash *(Sorbus americana)* are plenty.

Our only permanent residents really abundant in the winter months are the little Black capped and Hudsonian Chickadees. We have rarely any Shrikes, and the Chickadees' mode of nesting secures them against the large birds of prey, and, being the only insectivorous tribes of consequence during winter, they have an ample supply of food, so that they enjoy a regular paradise here among the groves of gray lichened firs. Everywhere you turn, even in the most severe weather, a merry *chick, pee dee* greets you, and a little black cap bobs from among the snow-laden boughs.

The Hudsonian Chickadee is less pert and obtrusive than its black-capped friend. Like a coy maiden in sober brown it keeps to the retirement of the thickets, attracting little attention with its soft, whispered notes. I think both species, though plenty at all times, are less abundant in midwinter.

The Gold-crested Kinglet, and the Red-bellied and White bellied Nuthatches are permanent residents, though by no means abundant. Besides the Downy and Hairy Woodpeckers, and a rare Black-backed Wood-pecker, the Brown Creeper may sometimes be seen in midwinter. Blue Jays are numerous, but Canadian Jays uncommon. During severe winters Crows get very scarce, yet a few will brave the most Arctic temperature while grain stacks are to be pilfered from.

Goshawks are resident here and the terror of the desolate winter forest. Often we see the blood-stained snow and the scattered feathers of a Jay, or the fur of a hare, where this marauder has had his meal.

Among Owls, the Barred and Horned Owls are the most common. The Snowy Owl visits us in winter; and the curious bell-like tones of the little Acadian Owl form the first voice of spring in the wintry woodlands.

After the ice closes round the Island in January we see but few water fowl. Yet, in mild winters, occasional Golden eyes, Old squaws, Mergansers, or Eider Ducks, may be observed. Herring and Black-backed Gulls come in during softer spells and survey the ice-locked bosoms of the har-

bors for some quieter opening to fish in. But the Terns and the great fleets of Bonaparte Gulls, that all summer long drifted, like snow-clouds round the blue bays, had all left in October, when these were first silvered with the breath of December.

The Kittiwake is the true bird of the wintery wave. In the narrows of the harbor, where the contracted current is swiftest, there is often a restricted opening in the ice, even in midwinter. When the deep waters of the Gulf are frozen solid as far as the eye can see from the most elevated hilltop, the Kittiwakes will come in and gather round this little spot of blue, circling and dipping and rending the keen air with their harsh *ke-a, ke-o* reminding us, as we watch them amid nature's fiercest aspect, of the amazing possibilities of animate being.

It will be observed that our northern visitors are about the same as appear in the neighboring Provinces of the mainland. It is otherwise with our summer visitants from the South. A number of birds of more southern habit, as the Catbird, Bluebird, Scarlet Tanager, Rose-breasted Grosbeak, Indigo Bunting, Bobolink, Red-winged Blackbird, Meadow Lark, Baltimore Oriole, and Whip poor-will, which visit New Brunswick and Nova Scotia, are never seen on Prince Edward Island. There is no reason to be found in the existing state of things why some of these birds should not stay over here and enjoy our delightful summer season, which is superior to that of the Atlantic seaboard. The reason is to be found in the fact that the Island was separated from the mainland in the earlier days of the modern period, when the climate was cooler than at present, and the more southern tribes of birds had not yet distributed themselves in these northern Provinces. Since their distribution in these parts the Northumberland Straits have proved a barrier to their movements which they have not yet learned to overcome.

In the birds the fact shows the exceeding tardiness with which they adopt new lines of migration, and, consequently, the tenacity with which they adhere to established habits in their migrations and distribution.

It also reveals something of the great northward movement of the feathered tribes which must have followed the recession of the cold of the Glacial Period, pointing out those which were the last to arrive within the limits of these Provinces.

EDITORIAL NOTES.

THE NEW STAR.—A new star has appeared in the Constellation Andromeda. Unlike the new star of 1865 in the Northern Crown this one has appeared near the nucleus of the well known nebula of Andromeda, suggesting the possible sudden condensation of the nebulous mass into a central new-born sun. It is probably, however, not a condensation; and it appears also not to be in the exact nucleus, and to change both its brightness and position, from the observations which have so far been reported. The phenomenon is justly considered by the astronomical world as one of great significance.

THE BRITISH ASSOCIATION.—The British Association for the advancement of Science met in Aberdeen from the 7th to the 16th Sept.—the 55th annual meeting. The Right Hon. Sir. Lyon Playfair presided. As usual a great number of papers were read, but nothing of more than ordinary interest was mooted. The addresses of the President and Presidents of Sections were generally very severe on the British Government for its tardy action in stimulating Scientific education. The conduct of some of the continental powers, with its advantages, was pointed out in contrast.

SCIENCE IN OUR SCHOOLS.—The Council of Public Instruction is commencing to stimulate the study of Science. The Academic Course of Study outlines some elementary work very minutely. The Government has also made a great step in advance in opening a department of Agriculture in connection with the Normal School. It is valuable, of course, only as a step in the right direction. The results of the novel experiment will be interesting and instructive to observe.

NEWFOUNDLAND.—Principal MacKay has been exploring a portion of this island during the summer vacation. The Avalon peninsula is a land of rocks and lakes. Diatomaceous deposits and fresh-water sponges are abundant. The new sponges discovered in Nova Scotia, *Spongilla MacKayi* and *Heteromeyenia Pictovensis*, are quite abundant there.

SCIENTIFIC APPARATUS.—As an outcome of the present Academic reorganization, we may shortly expect to see our high schools supplied with apparatus for instruction in all departments of Natural Science. Among these must come local museums of Natural Science.

CORRESPONDENCE.

BOTANICAL NOTES.—A plant which seems to be new in the Maritime Provinces has been discovervd in Ohio, Shelburne County, N. S. This plant is the Rhexia Virginica of the *Melastima Family*. This Family are all tropical except the genus Rhexia. Rev. Mr. Annand has noticed a number of the tropical plants in the New Hebrides. Gray does not speak of Rhexia as found north of Massachusetts.

This plant grows on the sandy shore of Mackay's Lake, Middle Ohio. It is a low plant, not more than a foot high, with square stem winged at the angles. The leaves are opposite, ovate, bristly, 3 ribbed. The most peculiar thing about the plant is the stamens. They are 8 in number and arranged in two rows one above the other. The anthers are long, curved, and attached to the filament near one end. The 4 petals and 8 stamens are inserted at the summit of the urn-shaped calyx-tube.

A few miles further up the river, in deep rich woods, the *Habenaria orbiculata* and *Goodyera pubescens* are found. The latter plant is not in bloom this summer, but the variegated leaves are very beautiful. If it could only be domesticated, it would serve as a foliage plant. The white reticulation gives it an interesting appearance. I took a few of the plants up, and brought them away in their native moss. I have them in a shady place inside the house. How they will thrive remains to be seen.

Any information as to their cultivation will be thankfully received by

JAS. ROSBOROUGH.

Shelburne, N. S., Aug. 19th, 1885.

I caught a Screech Owl a few days ago which has the pupil of one eye three or four times smaller than the usual or normal size. The abnormal eye is somewhat smaller than the other, but otherwise appears to be natural and perfect.

W. H. BEAN, Lebanon, Ohio.

"One interested in Science" wishes to ask through our columns:

1. Where can I procure a list and description of birds' eggs, numbered ready for the cabinet?

2. Where can I get a colored list of the butterflies and moths of Nova Scotia and at what price?

Will some of our readers please reply?

ALBERTITE.—In the article "Mineralogy" of the New Encyclopedia Britannica by Prof. Heddle of St. Andrews, Scotland, under the class MINERAL RESINS, we find *Albertite*. It is thus described: Massive, velvet-black, adamantine lustre, brittle, C. C. carbon 86, hydrogen 9, nitrogen 2.9, oxygen 2. Hoy, Orkney; Strathpeffer, Ross; Hillsborough, New Brunswick.

I would invert the arrangment of localities and read Hillsboro, New Brunswick; Strathpeffer, Ross; Hoy, Orkney, for the following reasons: It was first found in and named after Albert County, New Brunswick. The albertite of Strathpeffer, Ross, Scotland, was identified and named by Professor Tennant and myself during the International Exhibition, London, 1862, and I presume that the Hoy, Orkney, was identified with that of Strathpeffer. One of the original pieces from Scotland is in the Provincial Museum beside a specimen from New Brunswick.

The Geological position of the New Brunswick *Albertite* is Lower Carboniferous.

The Scotch Albertite is found in the Old Red Sandstone. It occurs as veins

D. HONEYMAN.

NOTES AND COMMENTS.

THE NEW PLANET.—On September 3rd Herr Palisa, of Vienna, discovered a minor planet, which makes the number of these bodies now known 250.

GOLDEN EAGLE.—A fine specimen, measuring 7ft. 2in. from tip to tip was recently shot by Mr. James Morrison, Jr. on Bear Island, N. S.

In the equatorial lake region of Africa a kind of beer is prepared from bananas. The missionaries there have discovered that it is a prophylactic against malarial fevers, and that its use is indispensable to health.

Dr. Honeyman has just discovered that, in Long. 80° W. and South of James' Bay the magnetic 0 (Zero) Variation (1870), the glacial divergence (S. E. & S. W.) and the Watershed, East and West, *approximated*. An interesting conjunction.

THE POTATO BEETLE.—*Doryphora decemlineata*, while extending his bounds in Nova Scotia, has not yet appreciably injured the Potato industry. This shows the advantage of an intelligent action on the part of our farmers. There is nothing like wide spread knowledge.

THE PEACH BORER.—*Algeria exstiosia*, Say, in the absence of the peach tree has turned its attention to the plum trees in Pictou. In Mr Salker's garden a number of trees were extensively injured by the eating away of large areas of sapwood under an apparently sound bark. Their presence is indicated, by the appearace of a minute gummy exudation scarcely noticeable, from the point at which the bark had been penetrated. A tapping upon the bark above the injured portions gives an indication of an unsound hollowness within.

Literary Notices.

THE SCIENTIFIC REVIEW is a new monthly from Northfield, Vermont, of which Prof. Louis Habel, A. M., Ph. D., etc. is editor. It is devoted principally to Chemistry and Physics, and contains many valuable selections. 24 pages, $2.00 a year.

THE NORTH AMERICAN REVIEW for December may be called an historical number, both from its topics and its contributors. It opens with an article by Colonel Fred Grant, entitled Halleck's Injustice to Grant." This article explains how Halleck so misrepresented General Grant, after the capture of Fort Donelson, that General McClellan authorized his arrest! It is an extraordinary revelation and is told almost exclusively in extracts from dispatches, many of which were suppressed.

Gov. Ireland of Texas describes the progress of that State.

"Motley and Monarch" is a prose poem on Lincoln, by Colonel Ingersoll. It is a marvellous bit of rhetoric.

"Rome and the Inquisitions" is a learned Catholic defence of the charge of cruelty against these ecclesiastical tribunals—outside of Spain.

Gen. Fry, in his "Acquaintance with Grant," describes the cadet life of the future "General of the Army," and vindicates Gen. Fitz John Porter.

S. Dana Horton gives a rejoinder to the silver symposim of the November number.

Israel Green, the lieutenant who struck John Brown in the face with his saber after he was down, tells his version of the Harper's Ferry affair.

Senator Boutwell and Gen. Rosecrans contribute two articles—on Johnson's plot and on Grant's mistakes, which are too important to discuss in a paragraph.

Mr. Rice, the editor, contributes the closing article on "A Disfranchised People," which, he claims, the citizens of Deleware are.

The BULLETIN of the "Torrey Botanical Club," Vol. XII., No. 7. contains a bronze medallion portrait of Dr. Gray. The print is very good and will be highly valued by the legions of admirers of the leading Botanist of America.

Exchange Notice.

Rubelliete, sodalite, herderite, vanadinite, descloizite, topaz, zircons, cunolite, amblygonite, montmorillonite, and other desirable species, for fine specimens only. Correspondence solicited.

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