

THE ACADIAN

-PUBLISHED AT-
WOLFVILLE, KING'S CO., N. S.
DAVISON BROS., Publishers and Proprietors.
A. M. HOARE, Editor.

Terms.—The ACADIAN is published every Friday at FIFTY CENTS per annum in advance.

Any person sending the names of FIVE subscribers, accompanied with the CASH, will receive a copy of the ACADIAN for one year free.

All communications should be addressed to the ACADIAN, Wolfville N. S.

We cannot engage to preserve or return communications that are not used.

ANNIVERSARY.

WEDNESDAY.

Horton Academy, under Prof Tufts' management has never done better work than during the past year. A very fine class of young men have successfully passed the final examination and will enter Acadia College. The names of these matriculants are: Harry Brown, Wolfville; H. S. Shaw, Berwick; A. E. Shaw, Avonport; M. D. Hemmeon, Wolfville; D. J. Bethune, Lock Leonard, C. B.; Charles R. Higgins Wolfville; M. G. Higgins, Wolfville; L. D. Morse, Middleton; Louis Lovett, Kentville; Herbert Harris, Canning; Arthur Harris, Canning; Charles Lyons, Berwick; Charles Eaton, Canard; John Lewis, Advocate; Clarence Minard, Billtown; H. E. Wilson, Clarence; E. C. Bair, Portapique; Howard Harris, Canard; Miss Lena Lyons, Berwick. These will take the full classical course. Two others enter for the partial course, viz W. H. Morse, Weymouth and Fred. Johnson, Greenwich. Appreciative remarks were made at the close of to-day's exhibition by Dr. Calkin of the Normal school and by Dr. Day of Yarmouth.

ASSOCIATED ALUMNI.

The associated alumni of Acadia College held its annual meeting this afternoon. The membership society reported ninety-nine. W. M. McVicar, of St. John, was chosen scholar of the senate, vice Rev. J. Durkee, deceased. W. M. McVicar thus becomes Alumni representative in the senate. The officers chosen for the ensuing year were: President—Judge Johnson, Vice-President—Rev. D. G. McDonald, Sackville; Secretary—Frank Andrews, Halifax; Treasurer—W. L. Bars; Directors—W. L. Bars, E. D. King, Rev. W. Manning, Rev. E. J. Grant, Prof. Jones, B. H. Eaton, J. W. Longley. Auditor—A. J. Denton.

The Closing Exercises of the Seminary took place on Wednesday evening—Dr. Higgins presided. The programme was of the usual musical and literary character, and was well carried out. The following young ladies graduated: Miss Lillian J. Benjamin, Wolfville, Literary Course; Francis E. Cox, Upper Stewacke, Classical Course; Laura E. Hartt, Wlycock-

magh, Classical Course; Elizabeth C. Hill, Westminster, B. C., Literary & Musical Course. After the programme was finished Rev. Dr. Sawyer presented the graduating class with their diplomas and in an excellent address gave them some sound practical advice. Dr. Welton also made a speech which was well received.

THURSDAY.

In the morning there was the usual graduating exercises. The following taking the degree of A. B. viz:—H. Bert Ellis, Fredericton, N. B., Frank R. Haley, St. John, N. B., Frank M. Kelley, Collina, N. B., Enoch H. Sweet, Newport, N. S., Miss Clara Marshall, Lawrencetown, N. S. The degree of M. A. in course was conferred upon Walter Bars.

THE HARTT TABLET.

This tablet is a shield of white marble imposed upon a shield of dove-colored marble and having the following inscription:—

(Spray of myrtle)

CHARLES FREDERIC HARTT A. M.
of the class of 1860.

A valued assistant of Agassiz, Professor in Vassar College and in Cornell University. Appointed by the Emperor Dom Pedro II in 1875 Chief of the Geological Survey of Brazil, in which service our beloved 'Fred' sacrificed his life.

Born at Fredericton, August 23rd. 1840. Died at Rio Janeiro, March 18 1878. His remains were removed to Buffalo, N. Y. June 7th. 1883.

This Tablet is placed here by his classmates

June 1884.

NO. 3.

LECTURES ON

Chemical Fertilizers

BY PROF. GEORGE VILLE, DELIVERED AT THE EXPERIMENTAL FARM, VINCENNES, FRANCE. FURNISHED BY JACK & BELL, HALIFAX, N. S.

I have told you that plants owe their formation to fourteen different elements. I now add that some of these elements are in the form of aerial gases, while others, liquid or solid, issue from the soil. The first are absorbed by the leaves, the second by the roots. Thus, plants are formed from many and very different principles, drawn from varied sources. But these principles do not at once build up tissues and organs; they first pass through a stage belonging rather to inorganic than to organic nature.

The formation of a plant is, then, in reality an operation of two degrees.

These compounds of uncertain form are divided into two groups, the one comprehending those compounds into only carbon, hydrogen and oxygen enter, the other, those in which most azote, sulphur and phosphorus are found.

Here is a list of these products, which I will call *transitory products* of active vegetation, to recall at once their origin, principal character and true distinction.

Transitory Products.

Hydrocarbonates. Azotes.
Insoluble in water { Cellulose, (bein.)
Amidon (starch.) Fi-

Semi-solubles, { Gum-dragon,
Pectin, Casein.
Inulin.
Solubles. { Gum-arabic,
Mucilage,
Grape sugar,
Cane sugar. Albumen.

We will take first the products of the first group. All these products, to which we will give the name hydrates of carbon, have a common character; their composition is the same. For greater distinctness, we will express them by the common formula, C (HO.) In all there are twelve equivalents of carbon, always in combination with 12 hydrogen and oxygen in proportions to form water.

Although unlike in appearance, all these bodies are, in reality, but reproductions of the same type. The proof of this is the impossibility to draw a line of demarcation between them; so, instead of taking them separately in a single plant, we will notice the variations they exhibit in plants in general. A deeper study of these products shows us the point at which it is impossible to make clear and exact distinctions between them.

We have placed the cellulose (so called because it forms the warp of vegetable tissue) at the head of the first group; immediately after comes the starch or amidon; then the gums, and lastly the sugars.

Between the cellulose and the sugar there are great and numerous differences, and if one did not know the other series—pectin, nulin, gums, etc.—it would not occur to one to see in these two bodies dissimilar forms of an unique type.

Cellulose is insoluble in water—the sugar, on the contrary, melts away in it.

Cellulose is not easily attached by acids or alkalis slightly diluted. Sugar is easily changed by both. Sugar has a sweet taste, cellulose no taste.

How did we get the idea of assimilating these two bodies, so as to make of them one and the same body?

The identity becomes manifest, and almost forces itself upon us, if we do not confine our observations to the cellulose of woody tissue, but look also at the properties of the other terms in the series, and at the changes to which the cellulose itself is subject.

Cellulose in the form of woody tissue is insoluble in cold water, and even in boiling water. But in Iceland moss cellulose, being less compact, jellies as soon as boiled. Hard as ivory in the curls of some fruit, it becomes edible in the mushroom. There is no greater difference between the edible part of the mushroom and a piece of the oak than between the sugar and cellulose of the lichen.

The cellulose in the tubercles of the Irish potato is in isolated grains formed by concentric layers fitting into each other.

Between the amidon and the cellulose there is little apparent analogy; but if we add that the amidon swells in boiling water to such a degree as to form a true jelly, like Iceland moss, the analogy between the two products becomes incontestable. Amidon swells in boiling water without dissolving; but inulin, which is found in the tubercles of the Jerusalem artichoke, and which

is a species of amidon, dissolves in boiling water, from which it separates itself in independent grains as the water cools.

If we add that gum dragon forms jelly in cold water without dissolving, and that gum-arabic swells and dissolves in it, and has a slight taste of sugar the change of the gum into sugar becomes evident, and the analogy which joins the sugar to the cellulose, though at first concealed, can no longer be doubted.

To prove this conclusion, I will add that the cellulose itself, even when most compact, can be changed into gum and to sugar, and to do this it is only to be treated with sulphuric acid—that it is the same with all the other terms of the series, which can be changed into gum and to sugar, and to do this it is only to be treated with sulphuric acid—that it is the same with all the other terms of the series, which can all be turned into sugar by the same means. These transformations are incessant in vegetations; the economy of vegetable nutrition depends upon them, as I will show when I come to speak of albuminous substances. The materials which form the second group of transitory products of vegetable activity are three in number; they are distinguished from the hydrates of carbon by the azote, sulphur and phosphorus they contain, which are wanting in the first.

Their composition is then one more degree complicated. We will observe the same of them as has already been said of the hydrates of carbon: in spite of their dissimilarity they are in reality the same body under three different conditions. Their composition is the same and is expressed by the same formula, C 144, H 112, Az 18, G 2, O 44.

Wall Paper!
SPRING STOCK,
1884.

The Subscribers call particular attention to their stock of

SPRING
PAPER HANGINGS,

Which for style and finish are superior to any ever imported into King's Co., and were personally selected for this market from the best English manufacturers.

Our prices are as low as the same quality of goods can be purchased in Halifax. Our patrons should not confound these Paper Hangings with an inferior quality of narrow width American make, sometimes to be found in the markets.

A call is requested before sending to Halifax or St. John.

Western Book &
News Co.,

WOLFVILLE, N.

RATES OF
Half Square one
Square
Half Column
Column

All advertise
number of inser
manuscript will
ged for accordin

In order to
tishments should
later than Mond

Local and

PANTINGS.

June 6, 2ins

A horse, dri
down, while tu
damage done.

We take ple
marriage this w
ley, A. B. of R
daughter of
Canard. Mr.
Horton circuit
all unite in wis
py married lif

After the n
was performed
Canning, the
ceeded to Kin
the boat for
River John by

"CHAMPION
Creamer in
R. Sleep's
itself in one y

D. A. Mur
Sashes and M
tion for hous
up my slop
the above bu
stock I am a
persons favo
Wolfville, A

NEW
fine assortm
June 6, 2ins

INFORMA
—The follo
Forbes, app
accompa
copied in M
"Will you
formation o
delegates t
the Presby
the kindne
General T
Brunswick
been secur
Falls to to
round tick
and return
day morni
reach 1 or
Assembly
be made t
for tickts