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ENGLAND LISTENS.

"What are the sounds that I hear,
Gathering strength as they come,
Earnest and deep as a prayer,
Strong as a cheer for Home?

"The voices of children afar
Calling from over the sea.
Be still oh babble of war
Till I hear what they say unto me."

It is coming by stream and wheel,
It is coming by wave and wind,
It is flashing under the keel,
And *this* is the message it brings.

VOICES OF THE COLONIES.

"Oh mighty mother take our sons
To stand with thine around the throne.
The pulses of thy kingdom beat
Strong in our hearts as in thine own.

"Thy cause is ours, our leader thou
To follow, asking no retreat.
Shall we stand idle while the stress
Of battle presses at thy feet?

Far from the Mayflower land
Far from the heather,
Thistle and maple leaf
Stand they together.

Right in the teeth of hell
Shoulder to shoulder
Red Rose and Shamrock press
Which is the bolder?

Now the Palm shews its plume
By the Australian—
Watch while he closes in—
This is no alien

Love by their graves shall weep,
Forgetting never;
Light on their graves shall fall
Ever and ever.

IRENE ELDER MORTON.

The Bluffs, N. S., Canada.

"Tongues in Trees, Books in the Running Brooks, Sermons in Stones, and Good in Everything."

From a Geological Standpoint.*

By PROF. ERNEST HAYCOCK, M. A.

BEFORE entering upon the discussion of the topic upon which I will speak to you this evening, I wish to say a few general words in regard to my subjects Chemistry and Geology. I think I am speaking the truth when I say, that of all the subject in the college curriculum these two are the least understood, the most shrouded in mystery, in both the student and the popular mind.

Chemistry is or has been to most of us a matter of the memorizing of chemical equations, atomic weights and certain stock experiments, a mere text-book affair, to be ground into the brain for recitation or examination and then to be forgotten as quickly as possible, and never, except in rare instances, squarely faced again. The laboratory has been a place where death and danger lurked in innumerable guises, loosely restrained by glass stoppers or rubber tubing, and where the mysterious and uncertain results of experiments have caused equal incredulity in assertions as to the universal reign of Law. How many ever reach the conception that chemistry is a science that explains the most apparent, the most vital forces in our everyday lives; that no other knowledge whatsoever is so intimately connected with our very existence; and that the mastery of its truths is essential to the intelligent ordering of our daily habits of life? How many ever come to look upon the laboratory as closely related to the world without; as a place where facilities are provided for the isolation and examination of the properties and behavior of the substances which make up this outer world; and where knowledge of the reasons of the manifold changes going on about us, and of the laws governing these changes, is to be obtained? How many of us learn to seek and find the causes of varying and contradictory results in hitherto unknown conditions, or inaccurate observations, and reach the firm grounded conviction, not to be shaken by the evidence of the physical senses, that law is all-pervading, universal?

I may be pardoned for presenting to you the idea which my experience has led me to believe answers to the term geology in the mind of the person of culture, or is called up in the mind of the rustic by the peculiar and unaccountable behavior of the man with bag and hammer picking at the rocks by road or stream. To the former arises vistas of museum shelves laden with gleaming minerals, or cases of rock fragments bearing more or less perfect representations of leaf, shell, or fish,

*Inaugural address delivered at the opening of Acadia University, October 8, 1900.

curiosities merely, interesting for their beauty of crystal form or from the wonderful degree in which the delicate organisms have been replaced by stone. The fossils, to the casual observer, resemble living animals and plants and in themselves give little or no indication of their life story. The minerals may suggest gems and precious stones, or masses of ore of untold value, lying about awaiting a lucky finder, but reveal little of the individual and characteristic structure of each particular mineral, or the great architectural laws which bind all together in one harmonious whole.

Few, even of the cultured class, pass beyond the idea that Geology is the gathering of minerals and fossils, and that the geologist is merely a collector. Can, we then, be surprised that those who have been debarred from culture and a liberal education by the stern realities of existence, whose mental visions are circumscribed by their visual horizons, should have a still narrower conception of the term and seek a motive for the unusual behaviour of the man with the hammer in the search for gold?

Time does not admit of proving what I believe to be demonstrable, that these two subjects are not inferior to any on our curriculum in their importance as a part of a liberal education. I believe, as every other teacher probably believes about the tools he has taken in hand for his life work, that Chemistry and Geology furnish special advantages for developing the latent powers of the student and equipping him for the battle of life. They demand from him accurate manipulation and observation and the consequent training of the senses. They call for accumulation and weighing of facts, discovery of their relations to one another, continual balancing of evidence for or against opposing theories, and a consequent development of judicial power that must be invaluable in meeting and solving the multitudinous problems of our daily life.

Of many branches of knowledge it may be said with justice that, tho furnishing valuable discipline to the developing mind, they are of no cash value to those who have spent years in their mastery. Chemistry and Geology, however, are open to no such objection and possess a cash value that bears almost a direct ratio to the degree of proficiency attained. To some this may appear, at first sight, a somewhat unworthy plea. To these I would answer, that service is the basis of remuneration as well as the universal necessity and privilege of human beings, and I point to the money value of this knowledge, as evidence that the power of serving one's fellowmen has been increased, not only through the mental development acquired in the study, but also by the knowledge the acquisition of which gave the development; a knowledge which cannot be laid aside with our text-books when our school-days are ended.

To my mind not the least of the peculiar values of these studies is the revelation of the marvellous processes of nature, unseen and ignored by the careless and untrained, but everywhere apparent to the trained senses and understanding of the thoughtful student. One does not enjoy his hard-wood fire on a windy winter's night the less for the accompanying consciousness of the chemical changes to which that leaping blaze is due, or because lighted by the lamp of knowledge he may in fancy—by far the most comfortable conveyance—travel abroad and witness the warm humid air rising over the sunny Southern seas, displaced by the cold dry heavy winds from the snowy wastes of central and Northern Canada. Nor is one when travelling under such light and guidance confined to the habitable regions of Earth's surface, but may witness with equal ease, the planetary relations to which these diverse temperature conditions are due, and which underlie the majestic procession of the seasons. When June clothes the Earth with leaf and blossom, is this unfailling delight the less intense to us who have been conscious of the fact that each shrub and tree has been retaining all through the dreary winter the hoards of starch laid up by the patient labor of the preceding summer, only awaiting the departure of the frost to fling all forth in spontaneous profusion? As the night-fogs, no longer dissipated by the diminishing heat, creep up from the Bay of Fundy, is Blomidou beneath the snowy mantle less beautiful because we know the losing battle he is ever waging with winter frosts and summer wind and rain, or through the power to look back through his changing history to the time when no human eye had yet beheld him; yes, back to the time when that great mass of rock lay far beneath the Earth's surface and the observer standing on the ridge back of the college would have looked northwards with unobstructed vision across a sea choked with shifting sand-bars where now the fertile marshes and orchards lie sleeping in the setting suns? Set in the knowledge of their relations the commonplace becomes beautiful, the beautiful sublime.

Again, these sciences reveal to man his dependence on and connexion with nature, and teach him the long and intricate story of his past. The great laws and truths—in themselves a marvellous exhibition of harmonious forces, yet so simple that to some great minds they have had no inception, need no guidance—have their solution in divine revelation, and with this light bring us into fuller understanding of God's wisdom and a perfect trust in his power to call forth that "New Heaven and New Earth wherein dwelleth righteousness."

I have selected for my theme the beautiful and suggestive words addressed to his "co-mates and brothers in exile" in the Forest in Arden by the Senior Duke in Shakespeare's "As you Like It." Banished from the Court and its artificial life he is brought by adversity near

enough to feel the great heart of Nature and exclaims "And this our life exempt from public haunt, Finds tongues in trees, books in the running brooks, Sermons in stones and good in everything."

But there is a condition which is not that of exile from public haunt, yet which is certainly a banishment of the artificial and insincere, through which each one of us is privileged to hear and understand the tongues in trees; to read the books that are being written by the running brooks, and by the knowledge of their language delve into the ponderous volumes of the past; to interpret the sermons of the stones, and to see the good in everything; and the key that unlocks the hidden mysteries is the study of the Natural Sciences, and pre-eminently the study of Geology.

These so-called Natural Sciences—Botany and Zoology, Biology, Chemistry, Mineralogy and Geology,—all use the same subject matter—the material world about us—but confine their attention to particular divisions of this matter or to particular ways of regarding it. Each branch is thus so closely related to every other, that a knowledge of any one is incomplete without an understanding of the others. Botany takes for its special field the plant world—living forms which have or have had the power to assimilate inorganic food. Zoology considers only such living forms as derive nourishment mainly from organic foods, but the fringes of these sciences so overlap and intermingle that no man can place any but an artificial and arbitrary dividing line between them. Biology takes a step in advance, and considers all matter that is animated by life. It directs its attention mainly to the processes of development of individual plants and animals, and endeavours to trace the mutual relations and the ancestral descent of all living species. Chemistry studies the changes which all substances, organic or inorganic undergo, and investigates their composition. Mineralogy divides the material world with biology, and studies the great crystal-building forces and their action on the non-living. Geology investigates the Earth, and regarding it as an individual, seeks to know its present character from center to circumference, the chemical, mineralogical, and biological changes that are in progress in the air, the ocean, the solid globe, or in the organisms that inhabit it. It seeks to unravel the intricate processes which have led up to the present order of things, to reveal the history of the past.

The same facts of nature will thus appeal in somewhat different ways to the followers of the several sciences. The botanist sees in trees the outward characteristics of leaf and blossom and they speak to him of the wonderful devices for perpetuation of the species, of their tissues, and the physiological processes by which their lives are nourished and

maintained. The zoologist may look upon the trees as a source of food for the animals which he studies, and as an underlying cause of their anatomical peculiarities, habits of life, and geographical distribution. The biologist hears in their whisperings the story of the cell-multiplication, differentiation of tissues, and of structural characters, in their growth from germ to death. The glinting sun upon the leaves flashes to the mind of the chemist the information that the manufacture of oxygen and starch from carbon dioxide and water is in full progress in these minute but innumerable laboratories of nature. Even to the mineralogist they are not wholly silent, for he knows that within cell of leaf or stem, minute crystals are being formed by processes analogous if not identical with those that produce our mineral veins and ores.

If the geologist appreciates his calling, and realizes that every fact of nature is significant and gives a broader, loftier platform from which to look adown the diminishing and hazy vistas of the past, his ear must be attuned to catch the tones that fall on others ears as well as those that come in louder note to his alone. To him that knows the rapidity with which the uncovered soil is swept by wind and rain to lower levels and the sea, the great extremes of heat and cold torrential rains and parching winds to which large areas devoid of vegetation are subjected, the trees speak in tones of unmistakeable import of the land kept habitable through their presence, made desolate by their removal. To him who has watched the slowly accumulating layers of sediment on the adjacent flats and beaches, and noted the leaves and other fragments of vegetation that are continually being buried along with the myriad traces of the life of land or ocean, and who knows that out beyond the lowest limit of tidal uncovering in the bottom of creek or bay the same scrolls are being inscribed with similar records, real bits of the present to remain entombed in the soft enfolding mantle, perhaps at some later age hardened into stone, until, we know not when, to him who has the sequel to this story and has with hammer and chisel separated the thin layers of hardened mud and sand and found thereon the real fragments of leaf or stem, shell or fish of some afar off Time, and read thereon the marks and records of wind and wave, rain and shine, inscribed on one day of that distant Past, the tongues of trees tell of a curious and extended ancestry, a line of descent reaching through lower and lower forms to the time when there was no land vegetation on the Earth and all was marine, and beyond that the records are lost.

He who can interpret their whisperings may hear this story:—
 “We take the impurities from the air you have breathed, the gases from your fires and factories, and transform them into beauty and fragrance, food and clothing. We steal from the sun his heat and preserve it for your comfort when he is away. Through all our generations since our

beginning we have labored to remove the gases of primeval fires to make your air pure and life-giving. We have stored up in Earth's strata the sunlight of untold ages for your benefit."

To him who in child-like simplicity and the love of nature gives ear to these voices of the past, not only "Whether we look, or whether we listen" do "We hear life move or see it glisten," but the old world itself jogs along instinct with life, and every particle of sand or clay or stone has a history which human wisdom can only partially decipher.

One of the most certain laws that chemistry has given to the world is what is known as the "law of the indestructibility of matter." It states that "Whenever a change in the composition of substances takes place the amount of matter after the change is the same as before the change." That is, that when we have burned one ton of coal in our stoves, exactly that weight of matter is still in existence transformed into gas or ash, and not one smallest atom has been annihilated. That each plant that grows, altho the soil in which it is rooted has lost little or nothing in weight, has as truly derived its matter from another source and not one atom has been created in the process. No way is known to man by which one atom of matter can be either created or destroyed. The matter that is in the universe must then be a constant quantity and every particle about us or entering into the composition of our own bodies must have been in existence since creation, passing through manifold chemical changes, forming now one substance now another, and the present order of things—the solid rock, the everlasting hills, the quiet valleys, the living forms that make them beautiful or enjoy their beauty,—is merely a passing picture in the great procession.

A simple device is used in Physics to show that white light is made up of many colors combined. A disk, divided into sectors painted with the colors of the spectrum, is rotated with such exceeding swiftness that the eye cannot separate the impressions. The colors blend completely, and we see a pure white disk altho we know that white is not one of the colors upon the circle. Should we darken the room we see nothing, but if the lightning flash or the electric spark illuminate it each several color stands out definite and clear cut; we see no movement in the swiftly revolving circle. So exceeding short is this brief illumination that throughout its duration the rotatory movement of the wheel is wholly imperceptible. The Earth is such a swiftly passing procession of events; our Life the brief illumination of the electric spark. We get a snap-shot of the World about us and see the boundaries of ocean fixed immovable, the hills and valleys permanent unchanging, the plants and animals unvarying, fail to grasp the time relations, fail to note the slight progression or to see in it the interpretation of the eventful past, the prophecies of the future.

In the running brooks we may detect the slight progression that furnishes the clue to past and future. "All the rivers run into the sea : yet the sea is not full : unto the place from whence the rivers come thither they return again," wrote the wise man ; and every school-boy now knows that the flowing water in our brooks and rivers is returning to the vast reservoir whence it came. Starting from the surface of the ocean as invisible vapor, "Fleet-oared from far by galleys of the Sun" it has been borne o'er sea and land to finally descend as rain and find its way by brooks and rivers to the sea again.

This water is not however, returning to the sea in the same condition in which it left it. Then it was the purest distilled water known to nature ; but as soon as it began to condense in cloud and fall as rain, it began to absorb impurities ; first the gases and fine dust of the atmosphere, then the soluble substances of the Earth's surface, and then the small solid particles of sand or clay that are moved and carried along in suspension by the force of the moving water, continually increasing its burden of impurity until near or at the sea, when, through the gradual loss of velocity, the load of sand and mud is spread out over the bottom while the soluble substances are added to the salts already there and furnish a supply of material for the shells and bones of the inhabitants of the ocean. These solid substances cannot return to the land through the medium of evaporation but remain behind to form sediments on the bottom or to add their sum to the three-and-a-half per cent. of salts already in solution in ocean water.

This action goes on year after year, century after century. It has been acting ever since rain first fell upon the Earth ; it will continue to act until the last drop has fallen.

We can see the magnitude of this action at our very doors in the muddy red waters of our roadside ditches, in our brooks and rivers during heavy rains, in the deep gullies that have been excavated by the force of the running water, and in the thousands of acres of marsh built up of the material that has been gradually removed during this excavation. We know, too, by the gradually clearing water as we pass out towards the Bay of Fundy that layers of fine sand and clay are being spread out over the bottom of the whole Basin, at every tide, one upon another, from the exhaustless supply poured in by the surrounding brooks and rivers or worn from the shores by the ceaseless chafing of the waves and tides upon the coast.

But did I say exhaustless? The amount of material removed by any given river can be estimated when the percentage of solid and soluble impurities in the water, and the yearly discharge are known. These data can easily be obtained, and thus an estimate of considerable accuracy of the tons, or cubic yards, of solid matter removed by any

given river in a year may be made. All this material must come from the region drained by the stream, and having found the area of the basin in square miles, it is then simply a question of arithmetic to determine how thick a layer would be formed over this area if the amount removed by the river were distributed evenly over it. The average elevation of the land above the sea can be quite easily found, and it will require just so many years to reduce the land to sea-level as the thickness of the yearly layer removed is contained in the total thickness of the land above the sea-level. These estimates are not fanciful. They have been actually made for many of the larger rivers of the Globe, and tho varying a good deal as they naturally must through the variable nature of the land, rainfall, and other influences, there is a wonderful agreement in general results. Estimates based on the action of the Mississippi, which drains nearly one quarter of the North American continent, show that about one five-thousandth of a foot is removed yearly from this area, or one foot in every five thousand years. The average elevation of the continent is about 1500 feet, so that at the present rate, if there are no opposing forces, the continent of America with its great mountain chain, its elevated plateaus, will in about seven millions of years be removed and cast into the sea by the action of the running brooks alone. Is the land then exhaustless? Measuring the action by the unit of human life, Yes. Measure it by the lifetime of species of plants and animals, No. Measure the movement by the life-time of the Earth itself and these long periods of time, the changing surface of the planet, are but the swift rotation of the painted disk, wherein the details are lost in the grand whirl of change.

The beauty of the waters whirling along their rocky channels or gliding silently along the level reaches through leafy vistas beneath the slant rays of the morning sun to plunge again adown the sloping rock-bed beyond is a pleasing and familiar sight, and it requires a vivid imagination to see in this summer brook a force that is transforming and levelling the surface of the Earth itself.

But we must study it in all its moods if we would appreciate the magnitude of its power.

There comes a time when hour after hour the rain drives on before the wind, each ditch swells to a brook of muddy water, each mountain brook becomes a roaring turbid torrent loaded with floating leaves turf and trees torn from the banks, while the hoarse rattle tells of the moving rocks and boulders along the bottom. Then indeed do we gain a truer conception of the mighty forces that surround us, never dormant but often silent. So the work goes on. Year after year the melting snow of spring, the Autumn rains, remove the loose upper portions of the soil to lower levels, leaving bare the rocky framework of the

hills, and moving the loosened particles ever to lower and lower levels, until they reach a final resting-place in the quiet valleys of old Ocean.

Is there then a final resting-place for matter? If there were no opposing forces, the running brooks would remove all the land now above sea-level into its depths in from six to ten million years. The ocean waves would carry on the work of demolition until the Earth would be one watery waste, —a solid ball with one unbroken sheet of water within the encircling atmosphere. This term of years has been repeated many times during the time allotted to the Geological periods and throughout that time evaporation of water, fall of rain and flow of river, have been actively going on, and yet the continents have not been levelled to a smooth and even plain, but probably were never as extensive or presented greater diversities of surface than at present. What then is the explanation of the lack of harmony between what observation teaches ought to be and what observation shows beyond a doubt is? Are our data and reasonings incorrect? No, they are correct, but we have not taken into consideration the opposing forces that are in operation, vast, stupendous, subterranean, only seen in their effects, and little understood, that are elevating whole continents and replenishing from below the solid matter removed from the surface, that ridge up in mountain-chain the thick bands of mud and sand torn from the surface of the land and spread out beneath the sea along our continental shores. No, in this world of changing scene and substance there is no final resting-place for matter animate or inanimate. All is tireless, unending change. All rest is momentary, transient.

Just as the rivers return again to the place whence they came to begin again their journey to the sea, so the solid fragments of the land are buried beneath the continually accumulating layers to be heated, compressed, and transformed into solid rock and then crushed or lifted into new land above the sea, to begin again their journey to the ocean.

These processes are continuous. There are no breaks. The cycles move ever onward, ever progressing toward some distant goal which human wisdom may only vaguely apprehend.

The molecule of water that mixes with the sea from the Cornwallis or the Avon may pass off from the surface and be borne by the wind back upon some part of Nova Scotia but the possibilities that are equally probable are almost infinite. In the great circulation of the ocean it is just as likely to pass off in evaporation in any other quarter of the globe, and fall in any land as dew or rain or snow, or even to meet with capture by the way, and torn apart by plant or animal, or fixed in the body of some crystal, begin a series of chemical changes that only infinite knowledge can trace. The grain of sand may pass from land to sea and back through subterranean depths to land and

sunlight again, but in that journey many chemical dangers are encountered, and if passed successfully in the lapse of time from surface to surface again how various may be the change of company and condition, the new land, new life, with which it next begins to play its part?

The books in the running brooks reveal this story also. In and upon their pages are inscribed the records of climatic and geographical conditions under which each leaf was written, the records of the rocks and soil, the vegetation and animal life of land and ocean, when the materials of which the leaves are composed made their overland journey to the sea.

We cannot in the short space of a human life trace a particle of the solid Earth through the whole cycle that has been alluded to, but we may with as much certainty trace out its various parts. The sediment carried to the sea by running water gradually settles to the bottom, the larger and heavier particles falling first, the finer farther out, and thus there is a gradual sorting of material. The ebb tide will carry the sediments farther seaward before they come to rest, the flood may stop deposition because the clear water coming in from sea contains very little sediment, and thus the rate of deposition and the character of the material are continually varying. The result is the formation of thinner or thicker sheets of pebbles, sand, or mud, or of mixtures of all these. Each one of these layers has for a shorter or longer period been the actual sea bottom until covered by the next succeeding layer. On and in each lived the various forms of life both plant and animal that people the bottom. Floating leaves, trees, carcasses of dead animals from inland, became waterlogged and sank there, along with the dead bodies or mutilated fragments of the free-swimming denizens of the upper waters. The changing tides swept up the particles into solid ripples, in shoal water the breaking waves heaped up the sands in wild confusion. All this can be observed by any one who cares to watch what is going on near and below the lower limits of the zone between tide marks. The work done there is characteristic, is unmistakeable.

Everywhere in their steeper portions, the brooks are wearing deeper and deeper into the rocky crust. The very sand and stones swept by rills and rivulets into their channels, or tumbled from the banks into the stream form chiseling, grinding tools, by which the channel is deepened and the banks undermined for new supplies. Through this action the loftier peaks and pinnacles of the hills are kept free from soil, chasms and gorges formed, and the solid crust laid open for investigation. And what do we find there? Two great classes of rock. The first is formed of leaves or layers, plainly distinguishable to the most unobservant, and is termed stratified rock. The second shows no such structure, but a little inspection reveals shining crystal faces, such

as we may sometimes see in miniature on a freshly broken surface of cast iron. This is igneous rock, and as our brooks rarely show this class of rock we may leave it for the present.

One of the greatest disappointments of my school days, was the failure to find stratified rock. Altho my Geography asserted that the larger portion, in fact almost all of the Earth's crust was made up of stratified rock, my boyish excursions in search for it were always unsuccessful, and the truth of that statement was always in question, until a wider acquaintance with the Earth's surface has restored my belief.

Igneous rock masses are almost as rare in the immediate vicinity of Wolfville as stratified rocks were in the basaltic region of my childhood, and the stratified rocks of this vicinity are beautifully laid open in almost any of our mountain brooks, and there we may split apart the layers of hardened sand or clay, and read the writings of the past. Here great sheets of hardened sand of less than an inch in thickness are covered with rippling ridges like those formed by running water in loose sand. Can this layer of rock high up on the hillside, torn by frost and freshet, and overhung by birch and alder, once have been the bottom of a tidal bay? We know no other agent but sea and wind that can produce such marks, and if wind formed them, how did the next and the next layer above come to be brought there? No, only the shifting tides of ocean could have transported and spread out these sheets of sand and clay rippling them by the current that brought the sediment from some ancient river.

But if these are successive sea-bottoms, where are the other marks that living things inscribe there; or was there no life so far in the past as this must have been: for since man came, no such great interchange of land and ocean has been recorded in his history, and then beyond that no short term of years would be required to build up these thousands of feet of layers, often paper-like in thinness? No, even if the usual signs of life on the sea beach are wanting still the evidence of the ripple-marks stands unimpeachable, otherwise unexplainable.

Still, let us examine more closely and see if other signs with which we are familiar on our beaches may be detected. Here is a pebble embedded in this layer. Is it worn and rounded? Yes, it is a beach stone, smoothed and polished by the attrition of the other pebbles of the beach, and it is of slate. Here is another and another of white quartz. Yes, unmistakably these were carved from rough and angular fragments upon an ancient shore, and quartz and slate were being worn and torn from some long vanished hills by other brooks, to build those beaches, marshes, flats, that here are turned to stone. Hold, not five hundred yards in distance up the brook across the upturned edges of the older lower layers, we find the slate and quartz veins lying *en masse*

beneath the strata we are studying. Here is the very land upon whose shores these scrolls were written and from whose waste material the leaves were in part composed.

But was there life upon that far-off land? Did man inhabit it? Did the sea support any living forms? Again we search for records. Here, running with winding trail along the little ripple valleys, now striking across the intervening ridges, is a little path that tells the tale of purpose, search for food along the surface of the sand-flats, the struggle for existence of one of Earth's lowly forms, a worm or small crustacean. The sea then was inhabited, but was this all? Here straight parallel veinings impressed in the stone suggest the parallel-veined leaves of marsh plants; there lies a pitted stem-like structure; and in another finer bed the perfect outlines and delicate veinings of fern fronds stand out in black upon the chocolate stone. No doubt remains. These beds were formed as those we see to-day being built around our shores.

Very little observation revealed the traces of animal life in the ocean, and a flourishing land vegetation; and every careful search reveals some new fact about that ancient land. Surely there are unread volumes here, at our very doors, written by no human hand, nor in a foreign language. Nature is her own interpreter, and any one of us may read in her brooks the story of the past, and the key that unlocks that past is the present.

I would dwell here for a moment, to consider what the mountain brook reveals of at least two cycles of the grand procession of the solid matter from land surface to sea bottom and back to land surface again. It is not only repetition but progression. The pebble of slate was first formed from finely divided sediment, in rather deep water, off the shores of a land that bore throughout its length and breadth, if any, only the beginnings, the very lowliest forms, of plant and animal life. Strange plated fishes swam above that bottom; trilobites crawled slowly over its oozy surface; stony crinoids raised their flower-like heads on jointed stems and waved abroad their slender arms to mesh the infusoria of the deep. The fine mud kept settling slowly, softly, down upon the bottom, and this layer was buried, slowly but surely, to a depth of thousands of feet. The escaping heat of the Earth's interior gradually penetrated these layers; the pressure of the masses above, and the horizontal pressure developed by the effort of the cool outer crust to adjust itself to the shrinking interior part, melted and rearranged the particles, destroying nearly all the records written on the pages, forging them into a mass in which the pages themselves can scarcely be distinguished, and finally elevating the whole above the sea level. Then the powers of the air began their work, tearing it away until the underlying deeper portions were laid bare. From these in part the leaves

that I have been reading to you were formed, and our fragment again saw the light, and for a time played its part in the surface action.

But what a change. A luxuriant vegetation such as this part of the world has not since seen clothed the surface. The forests resounded with the hum of insects, and the shallow bays and creeks were tenanted with scaly fishes and strange amphibious forms, whose feet often pressed the mud and left great human-like hand-prints. Again our piece of slate was buried, but not so deeply, bearing now in its outward form the story of the part it played upon that carboniferous beach. Again it was buried, again elevated above sea-level, and by wear of frost and flood again it sees the light and finds its interpreter with eager eye and brain wresting the secrets from the iron hills.

Now it begins its journey down the brook to the sea. Perhaps it will not stand the wear and will be reduced to fine mud, but it will make up part of the strata now forming in the basin. No rest is there; but who will venture to peer into the future and look abroad over the land where it will again see the light of day? It will not be like the present. It will not be a repetition of the past. We stand awed before this mighty Onward! and we can only trust that he who formed this Earth, whose works declare him, has an all-wise purpose which is being worked out in this grand spectacle in which man now plays his part.

Just as in "books in the running brooks" we may read the story of the part played by running water in the geological history of the Earth, so "Sermons in stones" may speak to us of the equally important and complementary part played by heat in the economy of our planet.

If we travel out northward from Wolfville a few miles we reach the great ridge of rock which, beginning in the majestic headland of Blomidon, extends with occasional transverse breaks for 120 miles where it disappears beneath the waters of the Bay of Fundy. The transverse gorges cut by old-time rivers across the mountain, show that throughout its length the underground structure is the same as where the waves and tides of Minas sweep away the debris falling from above and lay bare the edges of the sheets of rock that form this mighty valley wall.

Sailing past this line of cliff or walking along the shore, we see sheet on sheet of red sandstone rising with steep and sculptured slope some 200 feet above the beach capped with a vertical precipice of black rock—the edge of an overlying mass. The layers of sandstone slope northwards and the superincumbent sheet of trap, altho its base is high above the beach at the Cape, gradually lowers as we go northwards and finally disappears beneath the sea. From this point to the termination

at Cape Split, the line of precipice is wholly made up of black forbidding trap.

On examining the rocks that form these cliffs we find the red rock made up of grains of sand, often very fine, spread out in sheets by the action of water and evidently formed of sediment that was washed out into an ancient bay from the adjacent land. The black rock, or trap, presents a totally different aspect. Altho there is a rude arrangement into massive layers, a close examination reveals no worn composing particles, no assorted sheets of fine and coarse sediments, but all is compact, solid. Here and there projecting irregular tongues penetrate the underlying sandstone or waving sinewy lines run through the mass, as tho it once was liquid and was flowing when it solidified. Here and there portions are permeated with little cavities, generally filled with white or pinkish minerals by nature's chemistry, or the rock is glassy or porous like the cooled slag from a smelting furnace, or lavas that have been discharged from the great furnaces of nature. The trap is really as different from the underlying sandstone in point of origin as the cooled iron that has been run from a blast furnace differs from the moulding sands in the surface of which the trenches were cut for its reception. Yes, this mass of black rock was once a molten glowing river of lava flowing from some great orifice to lie and cool in this huge trough of sandstone in a sheet over a hundred and fifty miles in length and several miles in breadth. Tilted by mighty subterranean forces it now lies part submerged beneath the Bay of Fundy, its southern edge raised high in air, guarding with bold headlands the peaceful valley, and frowning in beetling crags upon the whirling waters of the basin.

In front of Wolfville lie the marine marshes made up of clay and sand washed from all the rocks of the adjacent land that are exposed to the disintegrating effects of air and water. These several rocks were in their turn similarly derived from pre-existing rocks and we can trace back this derivation step by step through underlying and older stratified rocks until we reach the foundation upon which the whole series rests and from which the materials of the whole series were originally derived. This rock possesses a great interest for us, as it dates back to a time of which it contains the only natural records, and we search it for what it has to say of the beginnings of the planet on which we dwell. Granite is the type of this foundation rock, and its crystalline texture, its massive unstratified character, its transformation of the stratified rocks with which it has come in contact, its frequent penetration of these strata, all show that it has cooled from a molten state and tell us of a time when the Earth was a fluid ball. Upon that glowing tremulous surface no ocean could find a resting place, and it with much of the oxygen, carbon, and easily vaporized constituents of the crust

made up the greater part of the thick and heavy atmosphere of that far distant time.

This liquid fiery Earth whirled through the ages. The heat was gradually dissipated from its surface through the heavy atmosphere. The temperature finally fell to the freezing point of the seething mass. A crust formed, broke up, sank, to be remelted and abstract heat from below, until through loss of heat above the surface and pressure beneath the force that draws the invisible molecules together to form the rigid steel, the ice on lake or river, overcame the repelling action of the heat and pulsing through the mass turned the whole fluid Earth to stone. Yet not the whole, for here and there through all the ages, by increase of temperature and relief of pressure in the readjustment of the crust upon the shrinking interior, these molecular attractions have again and again been overcome and through crack and crevice the molten rock has poured out on the surface or penetrated in dike or sheet the strata beneath.

The stones speak to us of these tremendous forces interacting and counteracting in the solid depths beneath; of the power of heat to force out mountain ranges, raise or lower continents, and balance the loss or gain from subaerial waste; of mountains and seas of liquid lava, and even Earth itself, congealed by the same molecular force that forms the dew upon the blade of grass or shapes the dainty snowflake lightly falling through the quiet winter air. They tell us something of the passing aeons during which the elements were acting upon the hardened cooling crust, and the earliest stratified rocks were forming in the hollows of that earliest surface, of the gradual accumulation of the water in those depressions, hot and even boiling, charged with gaseous or solid impurities from the air above and rock beneath; of the atmosphere ever clearing and becoming purer by this removal, becoming fitted for the final advent of life.

Glancing over the moving scenes of Earth, the liquid fiery ball, the solid globe, the lifeless land and sea, then verdure-clad and tenanted by changing forms of life, the still onward movement, old species dying out, new coming in, and man himself bending the forces of nature to his own purposes, we ask, what of the future? What do the rocks say of the time to come. Two great facts rise up in answer to this important question. The heat within the Earth is so much less with every throe that agitates the crust. The very sunlight that stirs the moisture from the sea, the life in bud and leaf, is but a fragment of the daily drain upon this second source of energy. Neither is exhaustless, and if no sudden catastrophe befall our planet, we may look forward to a time when, all heat gone from Earth and Sun, the life that now exists through it must vanish, the rivers cease to flow, the sea still left congeal to ice, and the dead Earth swing onward through the ages.

The exiled duke "Found tongues in trees, books in the running brooks, sermons in stones, and good in everything."

The passage is frequently misquoted, God in everything, and we are sometimes conscious of a feeling of disappointment that it was not so rendered by the author. Yet on fuller consideration I am convinced that it is good, not God, the better, not the best, that we find in nature, and I am led to greater wonder and admiration for the master mind that framed such noble and beautiful thoughts, that in one short sentence summed up in poetic and fitting words the content and the philosophy of a great science then unborn.

Yet is it not true that "the heavens declare the glory of God; and the firmament showeth his handy-work. Day unto day uttereth speech and night unto night showeth knowledge"? Yes, it is all true, but the Psalmist proclaims it to be the glory, not God, that is revealed in nature, and history and experience unite to testify that tho the book of nature has been ever open for all who will to read, tho it has had its students in every age and country, as the Hymns of the Vedas, the writings of the Egyptian priests, the literature of Greece and Rome reveal, yet Hindoo and Egyptian priest, Aristotle and Strabo, and even Herbert Spencer, one of the greatest natural philosophers of modern times, all groped blindly in nature for its author, evolved many grand and noble philosophies, came close to but never got a clear vision of the Creator.

We find in the unchristian student of nature of the present time strange repetitions of the blind gropings of the earlier philosophers. Some see in the ceaseless changes, in the great law of Natural Selection or survival of the fittest, in the climbing of life to higher and higher types and lastly man himself, over and on the rubbish of less successful forms, in the survival of the life of to-day wholly by the death of beings equally fitted in all justice to survive, some see in all this only the cruel, purposeless, relentless grinding of an unknown tyrant's wheel rolling from some infinite and misty past on to an equally dark and unknown future. To these, man is an animal, subject to the same hard and cruel fate as all other living forms, but the most miserable because he comprehends the process and sees himself the powerless victim of this Juggernaut of nature.

They who view the moving panorama of the natural world through such disordered vision, may not find God, or good, but only evil in nature.

But the picture has another side. Wordsworth says,—

There was a time when meadow, grove, and stream,
The earth, and every common sight,
To me did seem
Apparalled in celestial light,
The glory and the freshness of a dream.

and the life of childhood, youth and all the best of manhood, feels itself a part and finds response to inexpressible but lofty emotions in the very contact with the sights and sounds of the material world about us. Listen again to Wordsworth,—

I hear the echoes through the mountains throng,
The winds come to me from the fields of sleep,
And all the earth is gay;
Land and sea
Give themselves up to jollity,
And with the heart of May
Doth every breast keep holiday;—

And Lowell concludes,—

Yet while the world is left, while nature lasts,
And man the best of nature, there shall be
Somewhere contentment for these human hearts,
Some freshness, some unused material
For wonder and for songs? I lose myself
In other ways where solemn guideposts say,
This way to knowledge, this way to repose,
But here, here only, I am ne'er betrayed,
For every by-path leads me to my love.

Through such eyes one sees in the life and death, the better rising from the embers of the good; in the wondrous interdependence of all life, the "Giving that is gaining." One feels a part of the myriad life of Earth, and even land and sea live and breathe to him in sympathetic gladness. It is a joy to live, and even knowing no God the happy possessor of this power of vision gets very near him, and even tho he sees not the purpose of it all, he is content to live and bear his part trusting that the mighty wondrous work will have an adequate fulfilment.

But there is still another loftiest pinnacle of attainment to which the student of nature is privileged to rise, whence, with vision cleared by faith he may see both good and God in everything. Purified in heart and life he may "As a little child" enter into, feel a part of, and enjoy all the wealth of creation, see in it the work of an all-wise and loving father, look with wonder and awe adown the vistas of the past, view with faith and hope the future. Even the man may be attended by this vision splendid, which can only be seen in its fulness by the student-lover of nature.

Nature's book is open but unreadable to the sordid grasping soul; its contents are legible and ever-present to the simple child-like searcher after truth. Only he who will take the attitude of a little child may come to nature's knee and find tongues in trees, books in the running brooks, sermons in stones, and good in everything. The simple reverent study of her truths not only brings the unbeliever nearer to the fountain-head of truth, but enlarges and broadens the vision of the christian student and gives him a richer, fuller conception of the master that he serves.

One thought permeates the science of which I have endeavored to give you a passing glimpse. It is the ceaseless change to which all material things are subject. We may well ask is change universal? Is there nothing permanent, unchangeable, no place of rest anywhere in this tireless universe? I know of only one exception, and I will give you that in the words of the greatest apostle of mankind, than which no grander, more majestic summing up of the complete thought can be desired. "And Thou, Lord, in the beginning hast laid the foundations of the Earth; and the heavens are the works of thine hands: they shall perish but Thou remainest: and they all shall wax old as doth a garment; and as a vesture shall Thou fold them up, and they shall be changed: but Thou art the same, and thy years shall not fail." Yes, we seek in vain for a resting place in the material world or in materialism, and we can only find it in that One who is unchangeable, whose years shall not fail.

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In Memoriam.

Twice within the passing year, the class of '91 has been severely stricken, and Acadia has lost two of the most promising and worthful of her foster sons—Rev. Prof. E. A. Read, Ph.D., and Rev. A. C. Kempton, M. A.

The second of these, Arthur C. Kempton, was born in Margaree, Cape Breton, May 6, 1870. Mr. Kempton was a child of the manse and belonged to a family of ministers. His father was the late Rev. Joseph F. Kempton, so well known in these provinces as one of the most godly and devoted ministers in the Baptist denomination. His brother, Rev. A. Judson Kempton, is now pastor at Mt. Carroll, Ill., and another of the same name, though not of the immediate family, is held in highest esteem by Maritime Baptists. In the fall of '86, after a preparatory course at Horton Academy, Arthur Kempton entered Acadia College with the class of '90, with whom he remained two years, when after an hiatus of an Academic year, he joined the class of '91, with whom he graduated. At his graduation he purposed to become a medical missionary, and in Sept. '91 he entered Rochester Theological Seminary with the intention of spending one year there—taking the full course in Systematic Theology—before he began his medical studies. Circumstances, however, modified his plans and he took the entire Theological course, and graduated in 1894.

Before he had completed his theological studies he applied to the American Baptist Missionary Union for service abroad, and was strongly recommended by Dr. Strong for a position of high responsibility in Japan. The Union was not prepared just then, however, to carry out

its purpose, and Mr. Kempton received a call to the Baptist Church at Eau Claire, Wis., which he accepted. With remarkable vigour and consecration he entered upon the work at Eau Claire, and pursued it for more than three years with such effectiveness of spiritual force, that the membership of the church was doubled, a mission was started, and great progress was made in every department of its organized work. During his pastorate at Eau Claire he visited the Holy Land and Europe and contributed a series of articles on his travels to the *Baptist Union*. Here, he was married to Miss Anna Wyman, who with one child survives him.

In 1897 Mr. Kempton was called to the pastorate of the 1st Baptist Church at Janesville, vacated by the retirement of Rev. Dr. M. G. Hodge. In this large and important church, those qualities which had made him successful at Eau Claire, were manifested in constantly growing power, and no one can tell to what heights of usefulness he might have risen in years to come had God not called him home.

As a classmate of Mr. Kempton's, both at Acadia and Rochester, it was my privilege to be one of his most intimate friends, and I am glad unhesitatingly to pay a tribute to his strong, healthful and noble personality. As a student, he was capable, industrious and faithful, and though both of our classes contained men of unusual mental strength, he stood among the first. Mr. Kempton had a rare fondness for natural history, in which department he received his M. A. degree in '94. He was especially interested in Ornithology, and his collection of bird's eggs, now in the College museum, was one of the finest private collections in Nova Scotia. Outside of the classroom, he was full of life and animal spirits, always ready for a bit of innocent fun, and the five men who were his classmates at Rochester will often recall with a bit of heartache the happy hours we spent together on Friday evenings, when the work of the week was done. At both Acadia and Rochester, he was a christian through and through. Beginning with his Junior year his christian life was especially strong and forceful, and though he gave much of his energy to the Wolfville church, his strong spiritual personality made itself felt among his classmates and throughout the college. The Senior year of the class of '91 was marked by a great revival and a wonderful quickening of missionary interest. Arthur Kempton was foremost among those who surrendered themselves to the missionary spirit and identified himself with the Student Volunteer movement, and probably no student in the College or Seminary was more widely read than he in missionary literature. His spiritual life, which began to deepen and broaden during his last years at college, continued to develop through his seminary course and it revealed itself in many ways. Those of us who knew of it, will never forget his re-

buke of a misdemeanor of a Seminary student, a rebuke that disclosed his high ideals and conscientious integrity.

In his chosen work, Mr. Kempton's ministry was intensely spiritual and evangelistic. The Gospel of Jesus Christ was profoundly true to him, and he preached it with all earnestness and high faith. He was gifted with fine imaginative powers, and these coupled with his careful, conscientious preparation and profound spiritual convictions, give the secret of his success as a preacher. As a pastor, Mr. Kempton excelled in executive ability. No one who knew him doubts that he would have made a most successful business man. He was full of energy and push, possessed remarkable tact and the power of arousing enthusiasm in others and that large capacity for work which belongs to the leaders of men. In both Eau Claire and Janesville he was esteemed and honored as a good, true man, and those who know him best admire and love him most.

December the 4th, 1900, was a sad day for the class of '91. But mingling with our sorrow there is gratitude that Arthur Kempton was counted among our number. The fellowship and friendship of a good man is one of God's best gifts, and we were given that in our class-mate. For the future we shall have his memory, and the thought of his zealous, devoted, spiritual life and early death, will make duty more urgent and life more hallowed.

Canning, N. S.

W. N. HUTCHINS.

The Junior Exhibition.

DECEMBER 18, 1900.

The Hall appointments were neat, pretty and effective. It is hard to be both original and artistic, with past years of artistic originality to beckon imitation. Yet, the juniors exceeded admirably. The dainty scutcheon above the platform portiers was the pink of modest egotism. Bunting was most artistically draped. The programmes with their jackets of three colours were not in any way gaudy or pretentious—quite the reverse. Perhaps the procession would have been more graceful and dignified had the students appeared less obviously wrapped up in the mechanism of their legs; but that, after all, is a perennial fault which can be remedied only by the music of a brisker march.

Frankly, we were disappointed in Mr. Smith. His essay was a good one from a scholar's point of view, with material well ordered and periods nicely turned, but not, we think, appropriate for platform declamation; for the public tympanum loves dearly to be tickled with fine rhetoric. Mr. Smith's essay was as dry and unappetizing as a Pluto's pomegranate. True, there was a little flash of tardy enthusiasm near

the close, but not enough to save it from the charge of aridity. To employ a somewhat homely simile, this composition was like a pig with a curl in its tail—a prosy subject with a happy termination. Really we expected more from Mr. Smith. A man who can isolate himself from things material simply by standing up, should give us something original, something fervid with thought, and all a-glitter with poetic fancy.

Both Miss Rand and Miss Colpitts presented essays of high literary merit. Now it would of course be wrong, discourteous, to harshly criticise young ladies, and indeed we have small cause for censure. But why, I wonder, do these really excellent compositions suggest so delicately the somniferous music of a lullaby? Possibly it comes from that monotonous pitch of voice which might be tested with a spirit level and found plumb. Perhaps it arises from that feminine love for neatness which folds a newspaper according to the creases; rough, harsh words are snubbed for tidier, softer syllables; thoughts which project too prominently are trimmed and smoothed into reluctant harmony. Miss Colpitts' subject, *Nature in Poetry*, was treated with a rarely sympathetic touch. Ideas were clearly presented, and quotations selected with nice judgment and discrimination. *The Mission of the Scholar*, is not a theme to be lightly handled. But Miss Rand dealt with it in a thoughtful and comprehensive manner. Both ladies bore themselves with that charming dignity which is the happy mean between diffidence and pomposity. Few young men attain unto it.

Mr. Cann has apparently read fiction in the proper way, namely, with artistic appreciation and psychological insight. His paper concerning *The Significance of the Modern Novel*, was good both in conception and in style; adapted to satisfy not only the scholar who looks for intellect, but the unlettered plebeian who revels in sonorous sound. For some of Mr. Cann's periods (although with always thought to ballast them) were evidently fashioned for rhetorical effect. Mr. Cann is a pleasing, but not a finished speaker. But then, a finished speaker is a sad spectacle; for the pigmy attains his stature long before the giant is fully grown. Which does not mean that Mr. Cann is a giant, but only that he is not a pigmy.

In the matter of original composition, the palm should go without doubt to Mr. Neily, whose somewhat heavy theme, *Spiritual and Material Forces*, was handled in a very thoughtful way. Mr. Neily is not even a miniature Demosthenes; but he has a good style, a clear voice, and a quick alert manner indicative of mental activity. Mr. Neily will pardon the brevity of these remarks. We are brief because we cannot criticise; for we have no intention of puffing up a man unduly by a recitation of his merits.

Mr. Reed discoursed pleasantly upon Tennyson's *Holy Grail*, with

keen appreciation for its poetical beauties and thoughtful interpretation of its ethical meaning. Mr. Reed is a very fascinating speaker for one who at least seems to be upon the sunny side of twenty; self-possessed, graceful, agreeable, almost unctuous, but not. We like Mr. Reed's style of speaking, and (provided he does not overdo it) shall look for great things from him in days to come. Peryl Clinton Reed! The very name bulges with potential eloquence!

We heartily commend most of these compositions for their originality. A student's brain is too often like a Mexican silver mine: a great deal put into it and very little out. Perhaps it would not be out of place to say a word or two regarding gestures. These were used somewhat lavishly by two of the speakers. But Mr. Cann's were too theatrical. Mr. Reed's were good but one could see the glass in front of him. In fact the gestures of both suffered from excessive merit. If one is tempted to say "that was a good gesture" it is safe to conclude that it was a very bad one; for a good gesture attracts notice not to its own perfections, but to the thought which its purpose is to emphasize. If the arm moves at all, it should move of itself without conscious premeditation on the speaker's part. Now I venture to say that Mr. Cann's and Mr. Reed's gestures (which were really very beautiful evolutions from a deaf man's point of view) were followed with admiration to the almost total nullification of the thought which they accompanied. When Mr. Cann pointed up to Heaven the mind of the audience ascended only to the tip of the index finger of Mr. Cann's right hand. For my part I almost think that a man who depends solely upon clear articulation flexibility of voice and felicity of phrase, is a more effective speaker, other things being equal, than he who paws the air. A small thought is dwarfed by a big gesture; a big thought can take care of itself. These remarks may be taken for what they are worth.

The librarian's-desk presented to the College by the Junior Class at the close of the Exhibition proper is a most judiciously selected gift. Constructed of beautiful material and with brazen embellishments, it will make (aside from its utility) a graceful addition to an apartment hitherto but sparsely favoured by the artistic muse. These presentations, by-the-way, are becoming traditional. And it is well that it should be so. The fact, however, does not reflect upon the credit of the junior class; curmudgeons are never infected with philanthropy by family traditions of benevolence.

The musical selections were well rendered. Miss Drew possesses a contralto voice of rare richness; Messrs. Taylor, Haley and Cohoon also performed their part with credit.

Altogether, the juniors are to be congratulated.

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The Students are strongly urged to patronize our Advertisers.

The New Century. Undoubtedly we have at length reached the Twentieth Century. All are agreed that now, at least, that golden age has arrived. Some profess to have already enjoyed a year of the wonderful new century, and regard with wondering pity those who are so far behind the time—that is, their time. But the old century has gone for sure, and has taken with it (we hope) that inconclusive discussion in regard to the exact moment of its departure. It has been a brave old century, and the tendency is to praise it a trifle overmuch, but the world was growing tired of it, and gladly welcomes the bright new century with its fair promises, many of which may, alas, prove deceptive. For the prospect is not all sunshine. A dark cloud appears on the horizon in the direction of China, and it is impossible to tell even yet whether or not the threatened storm will break. In Africa are still heard the angry mutterings of the late tempest. The Philippines are by no means tranquil. Everywhere great social and economic questions clamor for consideration and settlement. The conflict between good and evil, between truth and falsehood, is incessant and unending.

On the other hand the encouraging features are not few. A speedy settlement of the Chinese imbroglio is hoped for, and affairs in South Africa and in the Philippines will before long be satisfactorily settled. The cordial friendship now existing between the two great English speaking nations is a strong force for the preservation of peace throughout the world. In respect to the British Empire itself there is much cause for congratulation. In the Antipodes a new nation has been born, a nation which has already been lavish of men and money in

upholding British interests in South Africa. To-day, as a result of the war, the British Empire is a unit, strong in all resources, and strong in the common patriotism that closely unites the most distant colonies to each other and to the motherland. But these new conditions bring with them new problems and new responsibilities. They offer also new opportunities to men of educated minds and high principles. The present generation of college men must exercise a mighty influence on the future fate of the British Empire, for upon them must rest in large measure the responsibility of leadership in the wonderful new century that is dawning.

Students' Building Fund. In our last issue there appeared a communication calling attention to this fund, and asking for information in regard to it. Such information will be given by Pres. Trotter as soon as possible after the students return from their Christmas vacation. From such information as we possess we gather that his report is not likely to be of a very encouraging nature. And yet the need of such an building is urgent. It will afford a centre for the whole life of the institution, and do much to foster a wholesome *esprit de corps*, a healthy sentiment of loyalty to our own University. The project merits the fullest support of every student and friend of Acadia. While we who compose the present student body cannot hope to enjoy the new building we can insure to future generations of students the benefits which we lack, even as we are indebted to the self-sacrifice of those who have gone before us.

There may be and no doubt is, some difference of opinion as to the construction of this building. Within a few years a place of safety must be provided for the treasures of the library and museum; and some have thought that the expense would be less if the two buildings were united under one roof. Would it not be best to take subscriptions to provide suitable accommodations for all students' meetings as outlined in the original scheme, leaving the details of constructions to be determined by future conditions? This we think would be satisfactory to those who have already subscribed. We earnestly invite discussions of the subject in the correspondence column, and wish to hear from graduates as well as from students.

We note with interest a work that is being undertaken by the students and graduates of our good Baptist neighbor, Colby University, Waterville, Me. This is the publications of a volume of 'Colby Stories', representative of Colby life at different times. The question has arisen, why can we not have some Acadia stories, if not in book form, then published from time to time in the ATHENÆUM? And there would be no need of a resort to fiction to secure interest. Acadia

has a history of which we may well be proud. To certain men and events in that history an especial interest must always attach. Why should not the memory of these be perpetuated in such a way as suggested?

Readers of the ATHENÆUM will remember the letter in the November issue from Corporal Stanley L. Jones, Acadia '97. All will be pleased to learn that Corporal Jones arrived at home in safety, reaching Wolfville Dec. 24th. in time to spend Christmas with his mother and sister. On Wednesday evening Dec. 26th, an informal reception was tendered him at the residence of Mr. A. J. Woodman. Speeches were delivered by Drs. Trotter and Kierstead, and by Revs. Dixon, Hatch and Dill. Mayor Thompson on behalf of his Wolfville friends presented him with a handsome gold ring. Mr. Jones has since returned to Manitoba where he was living at the outbreak of the war. We are sorry that his visit to Wolfville could not be prolonged until the students returned from vacation. We also deeply regret that his brother Horace, who was for some time a member of the class of '02, was not able to return from Africa at the same time, being left in the hospital suffering from an attack of enteric fever. But a speedy recovery is hoped for, and we expect to welcome him also before we leave Wolfville in June. Acadia is proud of having had two such representatives in active service in South Africa.

Last month we recorded the death of a veteran, a member of the first class which graduated from Acadia College, a man who for many years had borne the heat of the day. This month we announce with sadness the death of a young man, one who had scarcely attained life's prime. Yet if we count length of life not by years but by achievements by this standard Rev. A. C. Kempton may be said to have lived long. An appreciative tribute from the pen of a classmate of Mr. Kempton appears in another column.

OUR EXCHANGES.

The *Clarion* and the *Nova Scotia Normal* come to our table this year for the first time. Both papers are good but somewhat volatile. They want avoirdupois.

Number twelve of *Cananian History Readings* reaches us by courtesy of Mr. G. U. Hay, the Editor. This little paper makes delightful reading. The writers are men of fine brain, pure style, and thorough knowledge. The articles are crisp, clean-cut, vigorous, comprehensive, and free from that arid prolixity which is so often the bane

of more ambitious historical writings. It is Mr. Hay's purpose we observe, to publish the twelve numbers already issued, in book form. Should fortune warrant it a second series also comprising twelve numbers will follow in due time. We wish Mr. Hay success. Such fine work should not be nipped in the bud.

Dalhousie (more ambitious than most of us) provides a special Christmas number of the *Gazette* in a very tidy cover with gilt lettering. A beautifully clear cut of Dalhousie's foot ball giants furnishes an attractive frontispiece; Messrs. Hall, Rhodes and McLeod look out upon us with familiar faces. *The little Boy before the Gate of Heaven*, translated from the German of Helene Stoke is a charming bit of Teutonic composition, and supplies the necessary Christmas flavor. The article entitled *Dalhousie Football* will be read with interest by devotees of the pigskin. Altogether it is a good number of the *Gazette* and a most artistic one.

What a sober-minded journal is the *McMaster Monthly*! The very cover is a little sermon in dignity and decorum: the articles are austere and solemn as a procession of Quakers. Mark the headings of December's issue; The Preaching of the Prophets, a Celestial Symphony, The Silent Hills, etc.—These, of a surety, would hardly fascinate the man who takes his porridge for the sake of cream and sugar. True, there are a few good witticisms near the close, but they are distinctly out of place like chuckles in a cathedral. But the monthly is good, thoroughly good. It lacks sparkle and colour but it possesses solid worth, sound intellect. In this particular few college journals can compete with our Toronto exchange.

We looked for something good from Harvard; and we have got it. The *Harvard Monthly*, (a pure product of the student brain) is superlatively good. Keen thought, (it testifies) trenchant criticism, and polished phrase, are not the exclusive property of ripe years. The journal is essentially literary; matters of purely local interest are ruled out. "Its aim" we are told "is to represent as far as possible the best literary work produced in college by undergraduates." First we have a poem *Prometheus Pyrphoras* by Joseph Trumbell Stickney, quite Euripidean in its classic finish and structural rigidity. It is not often that a young American is found audacious enough to measure his pen against the styles of the Grecian Muse; and perhaps Mr. Stickney is a little too ambitious. Mr. Rowland Thomas gives us a delightful bit of marine comedy, rippling with humour and hung with sailor portraits, slight but clear cut as cameos. Farther on we get a critical peep into the literary methods of the late Stephen Crane, the apostle of bald realism. Students should read the *Harvard Monthly*.

The *New Brunswick University Monthly* contains only a modicum of interest.

Other Exchanges to hand : Argosy, Ottawa Review, King's College Record, Niagara Index, Excelsior, O. A. C. Review, Colby Echo, Presbyterian College Review, Manitoba College Journal, College Index, Prince of Wales Observer, Bates Student, Theologue, Queens University Journal, McGill Outlook.

De Alumnis.

W. G. Parsons, '75, is practising law at Middleton, N. S.

Rev. J. W. Keirstead, '99, is pastor of the Baptist Church at Campbellton, N. B.

Frederick L. Schaffner, '82, has an extensive medical practice in Boissevain, Manitoba.

Rev. J. B. Morgan, '87, has closed his labours with the Baptist Church at Aylesford, N. S. and has accepted a call from the church at Nelson, B. C.

C. M. Gormley, '96, has been appointed to the principalship of Annapolis Royal Academy in the place of J. N. Creed who recently resigned that position.

Rev. O. N. Chipman, '92, has resigned the pastorate at Great Village, N. S. after a prosperous stay of nearly five years to accept a call from the Baptist Church at Canso, N. S.

Rev. Chas. T. Illsley, '92, is further pursuing his studies in Theology this year at Chicago University and at the same time has the pastorate of a church at Harvey in the suburbs of Chicago.

Two of Acadia's graduates are on the teaching staff of Wolfville High School. R. W. Ford, '87, is the popular principal and Miss E. J. Yuill, '97, is very successfully conducting the work in one of the lower departments.

Clarence E. Griffin, '80, a native of Canard, N. S. has been practising law with much success in the United States for several years. We are pleased to announce that on Nov. 9th. he was elected to a judgeship in Tacoma, Washington.

Rev. G. O. Gates, D. D., class of '73, with deep regret to the whole Christian community of Saint John has resigned the pastorate of Germain St. Baptist Church in that city, and has accepted a call to the pastorate of the Windsor Baptist Church.

Rev. E. E. Gates, '91 of Acadia, and also a graduate of Rochester Theological Seminary of the class of '94, has recently completed a

successful pastorate of nearly seven years with the church at Sennett, N. Y. and has accepted a call to the Baptist Church at Noank, Conn.

O. P. Goucher, '92, is principal of the Public School at Middleton, N. S. this being the fourth successive year of his services in that position. Mr. Goucher has an enviable reputation as a teacher in the Annapolis Valley and the marked success of his candidates who present themselves for examination each year for Provincial High School Certificates confirms his reputation as a thorough, wide-awake, broad-minded, painstaking teacher. A course in military training including both squad and physical drill has lately been introduced, and a literary society in connection with the school has also recently been organized, at the weekly meetings of which debates, original papers, synopses of current events and other literary matters are presented. The introduction of such valuable and educational functions by Mr. Goucher in connection with the school is further evidence of his interest in the work and they will doubtless contribute in a marked degree to furthering the interests of education in general in the prosperous town of Middleton.

Library Notes.

Books of reference form an important part of the equipment of any library. Dictionaries, cyclopedias, gazetteers and atlases are in constant use by all frequenters of libraries. To furnish such works as are most useful in these lines is a matter of difficulty for a library with scant income. The entire income of our library would not suffice to purchase the yearly output of reference books of one sort and another. Hence it is no easy matter for those having charge of our library to make the right selection among the many competing lines of reference books; to keep abreast of the times without encroaching upon what should go to meet other demands is almost impossible.

With encyclopedias we are fairly well supplied, although we need now something that is right up to date. We have the Encyclopædia Britannica with its twenty-five large quarto volumes of supplementary matter. This is a standard work but it is getting behind the times, as the material in the early volumes is quite twenty years old. Appleton's American Cyclopaedia of sixteen volumes with annuals down to 1889 has much valuable matter that is not to be found in the more pretentious English work, and especially in connection with American questions. Besides these two larger cyclopedias several works of more limited range and of less exhaustive treatment are to be found on our shelves.

Of dictionaries, the International, the Century with its six volumes and the later Standard enables our students to get at the most of what

has been done in the way of English lexicography, although we ought to have two or three English works that would give us the latest results of the learning of the English Universities. Littre's *Dictionnaire de la Langue Francaise*, in five volumes, 1883, represents all we have of the best and latest French lexicography.

In the department of Theology McClintock and Strong's 12 volume *Cyclopedia of Biblical, Theological, and Ecclesiastical Literature* makes available a collection of material that stands for thorough scholarship and exhaustive treatment; and yet, since the publication of this work, research and discovery have made place for other cyclopedias, none of which we have.

Bliss's *Encyclopedia of Social Reform* and Palgrave's *Dictionary of Political Economy* are valuable books of reference in the department of Sociology and Economics.

To the preceding works, most of which have been in the library for several years the following have been added lately: *Century Cyclopedia of Names*; Lippincott's *Pronouncing Gazetteer of the World*, 2 vols.; *Who's Who 1900*; *Who's Who in America 1900*; *Bartlett's Concordance to Shakespeare*, and *Masterpieces of the World's Literature*, 20 vols. These additions have been made none too soon. Their purchase, however, has been put off from year to year simply because there were so many other books that were urgently called for by the various departments. At last, however, without making undue demands upon the knowledge of the librarian or the time of the investigator we are in a position to meet all reasonable inquiries concerning places and persons—inquiries that formerly could be answered only by a laborious search through many books.

The *Masterpieces of the World's Literature* is an elegant work of twenty volumes, beautifully illustrated, printed with good clear type on excellent paper, and handsomely bound in half morocco. The work has been prepared under the editorial supervision of Professor Harry Thurston Peck of Columbia University. The range of selections is wide, comprehensive and sufficient. The selections are long enough and complete enough in themselves to give the reader a true idea of the merits of a given author and to arouse and maintain interest in the extracts presented. It is true that all readers may not always agree with the judgments of the editors in the choice and amount of matter given. Unanimous agreement, however, in such selections as are included in the *Masterpieces*, can scarcely be looked for. It is enough if there be no unanimity in disagreement. The usefulness of the work is very materially increased by the condensed biographical sketches that precede each group of selections. In this way the *Masterpieces* becomes a biographical dictionary of authors as well as a treasure-house of literature.

Seminary Notes.

The attendance of resident students, it is expected, will be considerably increased during the winter term.

Friday evening, January 18th, has been set apart for an At Home to the Sophomores and Freshmen.

The first Recital of the new year will be given by the pupils in Piano in College Hall on the evening of February 1st.

A committee has been appointed by the Executive Committee of the Board of Governors to consider the advisability of establishing a department of Domestic Science. If such a course is established a number of pupils from the town schools will, in accordance with the provisions made by the Council of Public Instruction, avail themselves of whatever opportunities the Seminary may provide.

[The editors regret that no notes from the Academy were received in time for publication this month.]

The Month.

Editors: O. B. KEDDY and MISS B. M. McMILLAN.

When the daily routine of college life seems to be becoming a little monotonous, and the assigned problems in Trig. appear even more stupendous and impossible of solution than before, the announcement of a seminary recital reanimates the dormant minds and awakens a lively interest in everything. The misty clouds which envelop the very cover of Wentworth's perplexing enigmas float away, or are absorbed in the sunshine of anticipated enjoyment.

The teachers' recital given in College Hall on Monday evening, Dec. 3rd, in no way disappointed the expectant audience. The piano selections by Miss Gillmore, Miss Reynolds and Mrs. Chubbuck, were excellently rendered and highly appreciated. While everyone most heartily welcome the reappearance of esteemed *known* friends, there is always some degree of curiosity present in the mind when an unfamiliar name appears upon the program. Both Miss Drew and Miss Brown, when they made their debut at Acadia, worthily won great applause. The rich contralto voice of the former and the easy grace of the latter entitle them to special praise. The Seminary is to be congratulated upon the possession of such an efficient staff of teachers as it may boast this year.

Frederick Hamilton, the celebrated war correspondent of the Toronto *Globe*, gave his illustrated lecture upon the South African war in College Hall on Tuesday evening, the 11th inst. Dr. Trotter presided

and introduced the lecturer in his usual happy manner. His views were very informing and realistic, as they were actual photographs of the first Canadian contingent on board ship, landing at Cape Town, on their way to the seat of war, and bivouacing on the field of battle after a contest, or a hard day's marching. The descriptions were most accurate and the hearers came away with new conceptions of the hardships and trials of a soldier's life.

The following we clip from the *Middleton Outlook* of Dec. 21st :

A very handsome wedding took place in the church at Clarence on Wednesday morning the 19th inst. The contracting parties were, Rev. Arthur V. Dimock, Pastor of the First Baptist Church, Winthrop, Mass., and member of the class '01, Acadia, and Miss Winnifred Crisp, daughter of Wm. Crisp Esq., Paradise, and graduate of Acadia Seminary, 1900. The ceremony was performed by Rev. J.G. Dimock, pastor of the Baptist church, River John, Picton Co., N. S., assisted by Pastor E. L. Steeves. The church had been tastefully decorated for the occasion, a large arch with bell suspended, over which floated the Union Jack and Stars and Stripes. The platform contained house plants while the walls were decorated with flags and bunting.

The bride was tastefully dressed in pearl colored silk wearing a bridal veil and carrying a bouquet of white lilies. She came in leaning on the arm of her father. The happy groom was at the altar and ready to receive her.

The wedding march was rendered by Miss Nettie Longley, Miss Hattie Foster filling the place of maid of honor. Little Reta Phinney cousin of the bride acted as flower girl, while A. J. Wilson and Abner Williams filled the role of ushers. After the ceremony the party repaired to the home of the bride where a very enjoyable reception and lunch followed, after which the happy couple accompanied by a large number of friends drove to Paradise station, where they took the noon express for their future home. Before they were permitted to board the train the groom was met by his fellow-students who proceeded to give him the college bounce.

A large number of valuable presents went to show the high esteem in which the couple are held.

We extend our hearty congratulations to Mr. Dimock. He and his bride will be warmly welcomed by his fellow-students when they return to Wolfville after the holidays.

Sharps and Flats.

Editors: B. COREY AND MISS M. V. CRANDALL.

Is it true that Mr. Piers was up to the Social?

Several times a bright *halo* has been noticed about one of the Juniors.

A definition by the Greek Prof. of a kiss:—Two heads and an application.

One of the Sophomores says that the new girls wear their hair in a tam o'shanter.

H-t:—“Hav'nt I got a good moustache?”

K-d-y:—“Yes it's a dandy, its out of sight.”

Prof. in Physics:—“Purdy did you recite last day?”

Purdy:—“Well—well Prof. you had me up.”

A Freshman who does not like Greek very much asked recently, why they did not substitute the Indian language as he liked it a lot better.

Of late the artist of the Freshman class is spending much of his time upon the shades of a picture, in which *brown* appears very distinctly.

Lost in the College waiting room, on Monday, Dec. 17, a *fine* pair of sidelights. Finder will be rewarded by returning them to the owner Mr. K-ll-m.

B-rd-n:—Conscientiously I could not vote for a Sophomore racket

E-t-n:—But you said you were going to be a politician.

P-r-y:—“Where is Go-d-d?”

B-l-y:—“Don't know? Isn't he in his room?”

P-r-y:—I didn't think of looking there.

T-mp:—Dr. Trotter didn't see me in the Reading room the other Sunday.

H-t-n:—How do you know he didn't?

T-mp:—I know he didn't for I hid behind the stove pipe.

At the hospital in Halifax, there is a certain man and all he can say is 'Next' 'Next.' The doctors don't know whether he was once a barber or a College professor.

Prof. in English:—“Suppose you were writing a business letter to the Town Council, would you address them as Gentlemen?”

Class:—No! No!! No!!!

One of the speakers at the Junior Exhibition quoted from the Bible:—"What went ye out in the wilderness to see." If he had finished the verse it would have read; "A *reed* shaken by the wind."

Dr. Sawyer:—"If a man has no freedom of will, why should a man be hanged for murder?"

Mr. P-e-s:—It would give him a motive for not doing the same again.

As a matter of fact one Junior has not forgotten all the Latin he ever knew; for while in a deep reverie the other night he was heard to decline:—

Flos, Floris, Flori, Florem, Flos, *Flossie*.

D-n-t-n:—"Say Jimmy did you have a good drive the other afternoon?"

Scipio:—We had a dandy drive. We made a straight *line* up and down Main Street, and had cider to drink on the way.

A *pierless* Senior was heard reciting the other night before going to a social gathering;

I'll black my boots and comb my hair
And on it place some oil with care,
And with my razor keen and fair
I'll scrape my face that will not bear.

A certain Chip Hall freshman who says he has a relative in the Sem, proves it by the old axiom "Cousins that are cousins to the same cousins are cousins to each other." But he does not always call on the same cousin and sometimes he goes up and finds no girl to call on. It is evident that a change of *bait* is necessary.

It is well known that when College students have attained the dignity of being Juniors they feel that they have left youth with all its frivolities behind them; but it was not understood that the Professors looked upon them as such ancient beings until quite recently, when Dr. Tufts addressed the class as follows:—This event took place in the year 84 B. C. Do you remember it?

No. 1:—Oh girls! Mr. C-n—m has invited me to the Junior supper.

No. 2:—Why! he invited me a week ago!

Chorus:—Goodness! He invited us!

No. 1:—Well Mr. C-n—m, and how many dozen did you invite before you asked me?

Mr. C-n—m:—Never mind, I intended to ask *you* from the first.

It becomes our duty, onerous yet pleasant, to convey to the readers of the ATHENÆUM the startling intelligence that one of the most unique events which has ever occurred in the historic town of Wolfville took place on the *night* of Dec. 18th. Fully four weeks before the en-

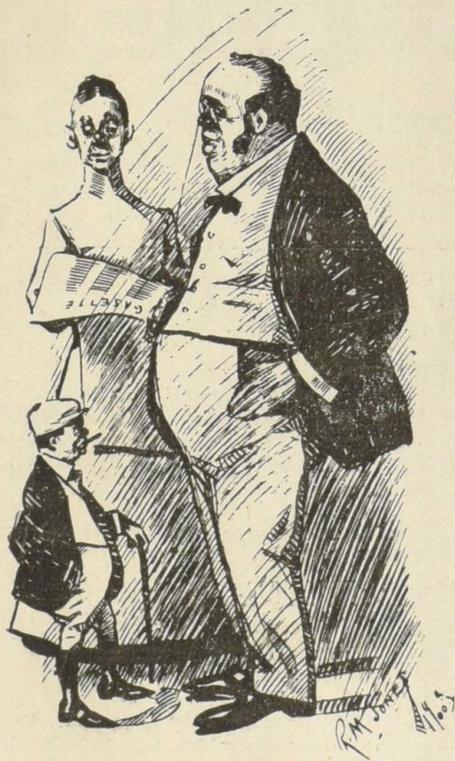
tire feminine portion of the affiliated institutions was thrown into the wildest state of excitement by the whispered rumor that one of the girls had an invitation. This was the first the juniors had heard of the affair, but they now entered into it with great spirit. Invitations came thick and fast. Some issued as many as seven, considering that, no doubt, the perfect number. No young lady would accept an invitation which was suspected to be the first issued. A second would do, but none was so desirable as a third.

But these preliminaries must be passed over. The supper was in celebration of the Junior Exhibition. In truth it was a continuation of the exhibition of the said Juniors. The principal entertainment of the evening consisted of toasts (not toast.) It was a great mistake that a reporter from one of the leading dailies was not present so that the speeches in connection with these toasts might be given to the public. Such brilliancy of rhetoric, such scintillations of wit have indeed been seldom heard. We may well say with Hamlet, "we ne'er shall look upon its like again."

HOME FOR XMAS.

PAPA: "Well Theophilus, why don't you like Acadia?"

FRESHIE THEOPHILUS: "Pleathe pa, the theniorth don't even believe in Thanta Clauth."



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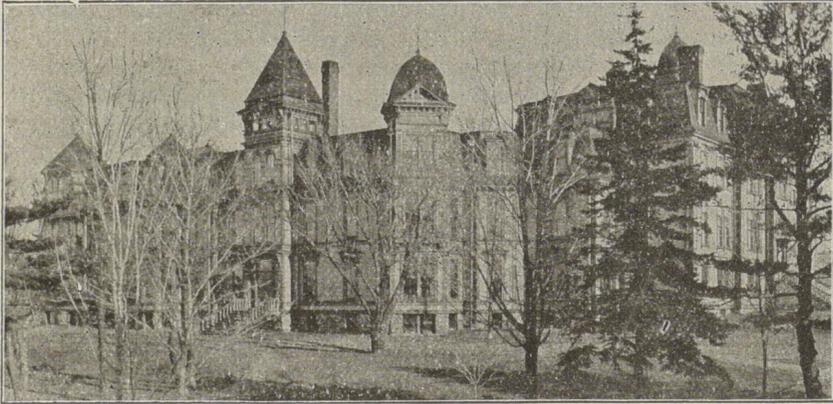
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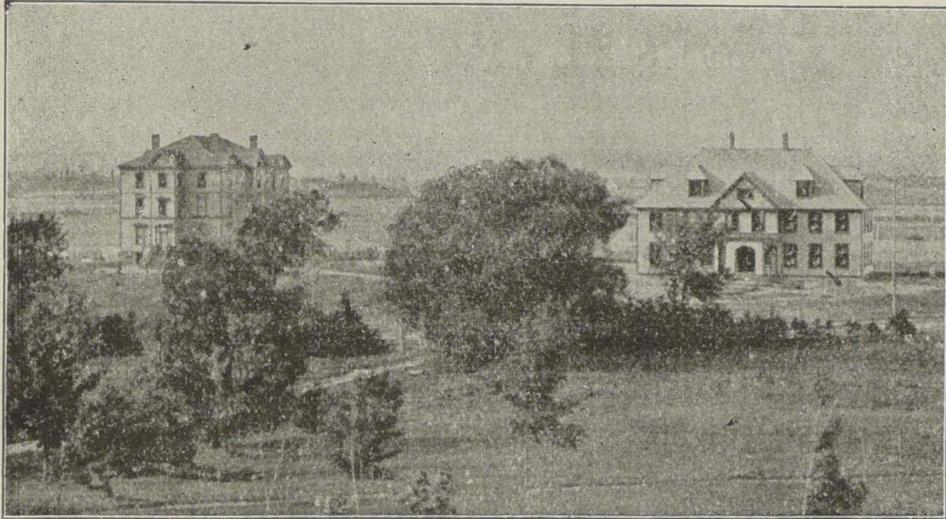
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