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TORONTO, JANUARY 6, 1887.

With this number of our journal commences a new volume; and it being also the first number issued in the year 1887, we take the opportunity of expressing our wishes that our friends and readers may enjoy a prosperous and HAPPY NEW YEAR.

It is not perhaps strange, though it certainly is deplorable, that in this vast Dominion where there are innumerable matters of vital national importance for the Government to consider, the whole sphere of politics is at the present moment taken up with emotions of a wholly ephemeral and altogether trivial character. With millions of acres waiting for cultivation, with enormous areas practically uninhabited, with non-computed square miles of forest, with inestimable mineral wealth, with numerous insufficiently-recognized channels for foreign trade, and with fresh channels springing into existence, with new industries just beginning to attract notice—industries such as fruit-growing, stock-raising, meat, fruit and fish-exporting,—with, in short, national wealth in abundance of every conceivable kind lying not only latent but dormant, what a lamentable fact it is that what chiefly divides Conservatives and Liberals in Canada are questions concerning matters which, compared with the true interests of the country, appear trifling and childish to a degree. Whether a rebel who was executed a year ago was justifiably or unjustifiably executed; whether the community shall be made to drink tea, coffee, and water only, or shall be permitted to choose its own beverages; whether one section of the people, divided off from the others by re-

ligious opinions, have or have not encroached upon the due rights of those who think differently from them in matters theological; whether or not the Warden of a certain jail was persecuted by such sect; these and such like subordinate matters constitute what goes by the name of "politics." Some of these could doubtless by specious reasoning be raised to the rank of great state problems demanding speedy solution: the Riel question probably some think the nucleus of that greater question of ethnical differences, the Roman Catholic versus Protestant questions the nucleus of religious differences; prohibition the nucleus of public morality. But very few, I venture to think will thus regard these. The greater part of the public will surely see in them only party cries. Neither side will agree to sink its peculiar views for the sake of the country the welfare of which is the pretended object of both. It may be just within the extreme limits of possibility that each party thinks it is in reality doing its utmost for the benefit of that country, but the facts are very strongly against such a supposition. Both appear blind to the fact that a house divided against itself cannot stand. Of all these trivial points of dispute perhaps the most trivial are those concerning Separate Schools, Scripture Selections, Text-books. As we have before said, they are little more than party cries.

THE Christmas is not properly a Christian tree at all according to a writer in the *Cornhill*, but a heathen one. It does not belong, by right, to any other European families than those of Germanic and Scandinavian origin. Kelts and Slavs and Latins knew nothing of it, and if it has found its way into France and Italy, even into England, it is an importation. The Christmas tree was certainly unknown to our forefathers. The writer remembers when his parents, who had spent many winters in Germany, first introduced it, some forty-five years ago, into England, what astonishment it created, what sur-

prised delight it afforded. The relic of the Christmas tree with us is the ash fagot. The Germans when they accepted Christianity brought the yule tree into their new religion, and gave it a new significance. The missionaries to the Anglo-Saxons denounced it, and made every good Catholic hack the idolatrous symbol in pieces, and burn it at Christmas, in token that the Holy Child had destroyed heathenism. Among the Scandinavians, and probably among the Anglo-Saxons, the ash was the sacred tree. Yggdrasil, the world tree, was, according to the Edda, an ash with three roots, one in heaven, one in hell, and one on earth. On the tree branches sat an eagle, along them ran a squirrel, and about its roots, gnawing into them, was coiled a great serpent. The serpent and the eagle are ever in strife, says the younger Edda, and the squirrel runs between them trying to make peace. But probably the sacred tree among the Germans was a pine. Tacitus speaks in his annals of a temple that the Marsii, a mid German race, called Tafana, *i. e. fanum tauc*, made to resemble the earth. Tanne is pine tree, and the words of Tacitus have been supposed to refer to a sacred inclosure about a monstrous pine dedicated to the earth goddess. In one of the Wartburg Minnesinger's lay we have lines about the world tree long after its real meaning was lost:

"A gallant tree is growing high,
A garden gay adorning,
Its roots run down to hell below,
Its crown to heaven above doth throw,
Where God doth sit in golden glow;
Its branches take morning;
Its branches spread the whole world through,
Distilling manna, dropping dew,
And birds thereon are singing."

Otfried, in the ninth century, sings of the cross in similar strains, deriving his ideas from Yggdrasil, which he translates into the tree of life in the garden of the church—the cross. So also Alcuin, writing among the Franks, says of the cross, "Its position is such that the upper portion reaches the skies, the lower portion touches the earth, the roots reaches to hell. Its branches extend to all parts of the earth."

Contemporary Thought.

ACTING is not an art, it is only a profession. Every art has *product*. The actor produces nothing. He contributes nothing to the future. When the actor dies, everything dies with him.—*Athenaeum*.

PHILANTHROPY is the great factor in modern civilization, and the school, especially the teacher, must be in sympathy with the philanthropic activities of the age. There is in some quarters a timidity on the part of teachers in regard to labours for humanity, lest in some way they antagonize important officials. If the schools and their teachers are afraid to be manly, independent, whole-souled, it is a sad commentary on the times in which we live. We shall not be misunderstood as counseling any action, speech, or thought even, that is injudicious, but within the bounds of courtesy and wisdom the teacher should have a cordial expression for the works and workers in philanthropic lines. We abhor the crank, the fanatic, and the superstitious devotee, but there remains a wide margin for the activities of the teacher by methods that are wholesome, in efforts that are wise, for the benefit of the poor, the sick, the plague-cursed of every kind.—*New England Journal of Education*.

ADVICE is not difficult to obtain. It is about the most extravagantly dispensed article we have. Without money and without price it is flung into our doors, and thrust into our faces on the highways and byways. Were it less freely distributed, or more difficult to obtain, it might be held in higher esteem and a greater value attached to it. Or it may be that we have it bestowed so lavishly and gratuitously that we consider it a cheap article, a kind of rubbish thrown out of back shop doors and carted off by scavengers. At any rate, we can find nothing more freely given. We are always told what to do and what not to do, and then do about as we please. At present we are being abundantly advised regarding what we should read. The minister, the publisher, the writer, the critic, the educator, the physician, all are invading our studies with classifications of books, programmes, directions, and such things, taking up our hours with preliminaries and rules and forcing us into literary straitjackets. It may be good pasture for those filled to overflowing with advice, but the difficulty is found in one man knowing what another desires and needs most to read—his time in which to read, and the circumstances and conditions modifying even his own desires. Here is a list of books that would be useful to a theological student, but would waste a lawyer's time and wreck his fortune at the beginning of his career. Here is another that would make a scientist, but would ruin any other. And thus we find it throughout. System and wise selection are proper, but each individual must, to a great extent, direct his own course. Certain classes of books are, of course, to be discarded altogether, and should be destroyed without ceremony. Yet, from the long lists of good books embracing all subjects, the student must determine not only the class of books which may be the most useful to him, but must select the best from that class. No one can read all books; few can read all the books of value to them

in their chosen profession, and those who read the best of the best class do well. Those who have had experience can direct well the course of those who are without experience; but the best advice comes from one who knows the limits of his time, his wants, and all the circumstances surrounding his individual case.—*The Current*.

ONE curious part of the Georgian land theory is the extraordinary coolness of its historical assumptions. If a theorist were to assume that the contents, say, of the warehouse of that most respected of Senators, the Hon. William McMaster, were the fruit of the Senator's daring exploits as a buccaneer, he would be thought to be running his head against a hard fact. Yet he would not be running his head against a harder fact than do the disciples of Mr. George in assuming that property in land has its origin in a series of robberies committed by primeval landgrabbers against the people. The origin of private property in land is not lost in the mists of fabling time. On this continent it is as certain and as palpable as the existence of the continent itself. Much of the land has been recently granted or sold to the proprietors by governments elected by universal or widely extended suffrage. The rest was either divided by settlers among themselves with mutual consent, or granted by authorities universally recognized at the time. The whole of it has been brought under cultivation by private owners, and manifestly owes its productiveness and value to the labour and capital which they have expended on it. Not a shadow of fraud, violence, or usurpation, rests on the process, nor is there more room for acrimonious speculation as to its nature than there is with regard to the authorship of the British North America Act, or the foundation of the Parliament Buildings at Ottawa. The fact is really the same with regard to the Old World. The Anglo-Saxon division of land into book-land and folk-land shows, that in the Saxon settlements each freeman had his private lot, while a portion was reserved as common pasture. In no country is private property in land more immemorial or more closely entwined with the general organization and character of the community than in Norway, where there is not, nor ever has been, a territorial aristocracy. The *Alod*, or freehold, was the very basis of ancient Scandinavian civilization. The same thing may be said of democratic Switzerland. That the land held in private ownership has been sometimes transferred by force of arms from one set of owners to another, as in the case of the Norman Conquest of England, makes no difference as to the origin or character of the institution. Property of all descriptions has changed hands in the same manner. The fact is that settled agriculture and private ownership necessarily came together. Together they came, and together they would depart. How much inducement would there be for the husbandman to fertilize with the sweat of the brow land in which he could have no individual interest, and of which the universal landlords were a ring of politicians dignified with the mystic title of "The State?" But the fact is that not one in a hundred of Mr. George's followers either pretends to understand or cares for the arguments, historical or economical. What they do understand and care for is the plunder. Mr. George has given a philosophic

character and an air of scientific respectability to the lust of confiscation. That is his grand achievement, and its importance cannot be denied.—*The Week*.

DESPITE all our severe party-quarrels, we trust that the welfare of Greater Britain is dearer to us all than the rise or fall of any party in our Home Parliament. Nor will we be deterred by any party-jealousy from giving frank expression of approval of any action of our Government which seems to make for the prosperity and greatness of the land we love. We therefore express our profound satisfaction with the despatch which has been sent by the Secretary of State for the Colonies to the governors of colonies under responsible Governments; a copy of which despatch has also been transmitted to the governors of colonies not possessing responsible Governments.

The despatch links itself with that paragraph in the Queen's Speech which affirmed the existence of a growing desire to draw closer in every practicable way the bonds which unite the various portions of the Empire, and stated that communications had been entered into with the principal Colonial Governments, with a view to the fuller consideration of matters of common interest. The practical outcome of the intentions indicated in that paragraph is this:—A conference is to meet in London early next year, at which colonial representatives are to be invited to attend, for the discussion of questions demanding present attention. The first of these is the question of military defence. And the colonies are informed that it is not larger expenditure which is meditated, but such intelligent and friendly co-operation, in the light of common information and united purpose, as may increase, to the highest point, the effectiveness of expenditure.

The second leading subject suggested for consideration is—"the promotion of commercial and social relations by the development of postal and telegraphic communication."

Other subjects will no doubt arise; but we heartily agree, as our readers know, with the paragraph of the despatch which deprecates discussion of political federation, and for the reasons which the despatch alleges. Formal political federation, to be healthy and lasting, must be the outgrowth of the popular desire in Great Britain and the Colonies. To go too far ahead of public feeling is to get into the flimsy land of paper constitutions. For some time to come our duty is the grateful and useful work of strengthening the ties of good-will by all manner of suitable deeds and words, and when the spirit is thoroughly developed, a body will be found for it.

It is proposed that the conference shall be purely consultative; so that it can include any leading man from the Colonies or Dependencies who may happen to be in England at the date of the conference. It will include, of course, the Agents-General, and these, with the special delegations and casual but important visitors, will form a body of Colonial opinion to which the most earnest heed will be given by all whose hearts are set on the vitalisation of Greater Britain. No one can tell to what noble issue such interchange of thought and feeling, face to face, may grow; and there is a gracious suitability in its occurrence in the Jubilee Year of the Queen.—*The Leeds Times*.

Notes and Comments.

IN Mr. W. J. Robertson's letter, dated 11th Dec., 1886, which appears in our correspondence column in our issue of the 16th December, we regret that several typographical errors occur, the word *test* having been printed *text* in several places.

A WRITER in the *Montreal Star* says "the foundation of all education, from the time a child first begins to learn, is thoroughness. Whatever is attempted must be carried out thoroughly, until the learner becomes master of the subject. Thoroughness is the groundwork of all good habits of mind and a child's mind is as much a bundle of habits as its body. For this purpose it is well to strengthen the memory by insisting upon children learning something by heart every day; it cultivates the retentive powers of the mind, and is a help to spelling accurately, as the eye accustoms itself to the appearance of words."

IN Paris M. Maldant, a civil engineer, has called a meeting says the (English) *Schoolmaster*, for the purpose of creating a lecture room in which an "international and natural language" can be taught. As M. Maldant is a man of a good deal of cleverness and family and personal influence, he has obtained State patronage for his attempt to restore unity to human speech, and hopes to have made good headway by the time the Eiffel Tower of Babel is constructed. The principles of the Revolution, which are of universal application, and the Declaration of the Rights of Man are to be proclaimed there in 1889 in his general tongue. We are evidently getting on!

WHEN men enter college a new era in their life begins. For the first time in all probability they are in a position in which they have to depend on their own resources. It is at this period that those qualities are developed which will characterize their whole lives and acts. As is the student among the fellow students, so will be the man among his fellow men. But remember, that it is not the man who springs into notice as soon as the session opens that will be the most noticed and respected when his college course is over. The quiet unassuming worker will be the man of the final year when the at-one-time noticed Freshie will be heard but not heeded.—*Extracted from Queen's College Journal.*

A CORRESPONDENT of *The Schoolmaster* in London, England, writing against the Merit Grant, says that for the last two years he has earned the "Excellent," but the strain to do this was simply killing him. The natural reply to this, by say Mr. Sharpe, would be, Why strive after the "Excellent"

at such a cost? It is not expected we may say not desired by the Education Department that more than a small percentage of schools should obtain the highest Merit Grant. The more schools that do reach the "Excellent" the higher the standard will be, and consequently the greater strain on all teachers, those who earn the "Excellent" and those who do not. Teachers almost without exception are convinced that the effort to earn the highest Merit Grant proves injurious to both teachers and scholars. Why, then, is the effort so general? The answer to this gives the cause from which spring many of the evils from which teachers suffer. If every teacher were content to do in the day a honest day's work and refused to trouble himself about Merit Grants, reports, and the like, they would at once be relieved from much, if not from all, the worry which now, in sober truth, is almost killing many of them. But what hope is there that such a state of things will ever exist? If all teachers were combined together, united action on their part would render the adoption of such a course perfectly easy. But teachers are divided; and it is the interest of some parties to keep them divided. So long as eachers cannot depend on each other honestly to carry out what is for the good of all so long must they continue to suffer evils for the existence of some of which none but themselves are responsible.

SOME statistical particulars have lately been published concerning the Italian universities, which present some items of general interest. There are twenty one universities altogether in the kingdom of Italy, seventeen of which are "royal"—that is, maintained out of the funds of the State—and four "free" universities (Camerino, Macerata, Ferrara, and Perugia) are maintained out of local funds. There is only one university for Piedmont, at Turin; one for Liguria, at Genoa; one for Lombardy, at Pavia; one for the old Venetian territories, at Padua; two for the islands of Sardinia, at Cagliari and Sassari Bologna, Modena, and Ferrara lie near each other: Tuscany has Pisa and Siena; Rome is for Central Italy; Naples is the only university for Southern Italy; while Sicily has three—Palermo, Messina, Catania. Naples is attended by 3,900 students an attendance which in Central Europe is only surpassed at Berlin and Vienna. Turin has an attendance of 2,100; Rome, 1,200; Bologna, 1,160; Padua, 1,000; Pavia, 1,000; Palermo, 950; Genoa, about 800; Pisa, 600; Catania, 400. Of the others, Modena is at the head with 270, and Ferrara at the foot with 39. Surely nothing would be lost by the amalgamation of these miniature universities. Ferrara only professes to teach medicine, mathematics, and jurisprudence; Macerate, juris-

prudence only. *Et contra*, the great Milan Academy—where Ascoli teaches (one of the greatest philologists in Europe), and the Abate Ceriani is librarian of the Ambrosian—has not the rank of a university, although it does more genuine university work than a dozen of the nominal universities. The same is to be said of the Institute of Higher Studies, at Florence, where the teaching staff includes the historian Villari, the great Hellenist Comparetti, and De Gubernatis, Bartoli, and Rajna—names famous all over Europe.

MRS. E. LYNN LYNTON, in the October number of the *Fortnightly*, takes up the Higher Education of Women from the point of view of Dr. Withers Moore. "Of late years," says this clever writer, "this question of woman's work has passed into another phase; the crux now is, not so much how they can be provided with work adequately remunerated, but how they can fit themselves for doing it without damage to their health and those interests of the race and society which are bound up with their well-being." "Interests of race and society"! who can take thought for these until the claim of the individual is satisfied? And is it at all certain that the individual, in thinking mainly or solely of his or her particular interest, is not so far, possibly without knowing it, also advancing the interests of the race and society? It does seem hard that in the education of women such indefinite and remote interests as those of the race and society should be set up as a bar to individual progress, whilst on the education of men the interests of the race and society are left to take care of themselves, or, more correctly, are considered to be sufficiently safeguarded by each one cultivating his powers in the direction marked out for him by his special aptitude or the exigencies of his position. Mrs. Lynton, we think, holds herself equally aloof from the facts of life when she lays down, as one of the three important points which enter into the question of the Higher Education of Women. "The wisdom or unwisdom for a father of limited means and uncaptialized income to send to college at great expense, girls who may marry, and so render the whole outlay of no avail." No father who is worth his beard ever considers whether the money he spends on the education of his daughter is lost or otherwise by reason of that daughter getting married. He is abundantly rewarded by the contemplation of the unfolding of the powers of his child's mind, and is not at all careful to weigh on an accurate balance the interest on *£. s. d.*, which the employment of those powers will yield for his outlay. Is it not a begging of the whole question to say that, when a girl marries, the outlay on her education will be rendered of no avail?

Literature and Science.

ON HEARING A LADY READ THE "ODE TO A NIGHTINGALE."

(From the *Halsfax Critic*.)

TITUS supreme song of him who dreamed
All beauty, and whose heart foreknew
The anguish of vain longing seemed
To breathe new mystery, breathed by you :

As if the rapture of the night,
Moon tranced, and passion-still, were stirred
To some undreamed divine delight
By sudden singing of a bird.

CHARLES G. D. ROBERTS.

KING'S COLLEGE, Windsor, N. S.

GOETHE IN THE CLASS-ROOM.

THE character of any epoch in literature is philosophical as well as historical, and can be comprehended only when surveyed from the double stand-point. It is a fact arrived at inductively by considering the works of writers whose careers fall within the epoch, and at the same time a product whose factors are the elements of contemporary civilization—a fact essentially human, and subject to the necessities of heredity and circumstance. Historically, literature is little more than a compendium of facts; philosophically, it is the sublimest of human creations, a massive tapestry, through which may be traced the subtle action and reaction of intellectual genius. The specialistic method, dealing with particular authors, which has now been generally adopted in systematic literary study to a certain extent, recognizes this to be true; but there is danger of making such treatment too local and individual, with little or no reference to the social and mental status of their surroundings and the general spirit of their age.

Any analysis of literary character resolves itself into two lines of investigation—the one native, probing into national prejudices, institutions, and customs, which make up its individuality; the other foreign, and having to do with that boundless range of influence insensibly emanating from one country to another, and leaving its impress in the more delicate shadings of fashion and sentiment.

The prevailing tendency of study to ignore this foreign element in literary character is much to be deplored. The subject is, doubtless, too vast and complex for thorough handling in general academic work, yet it is certain that more attention could be appropriately and conveniently attracted to those international lines of cause and effect, so inextricably binding together modern genius.

Perhaps, with regard to preceding centuries, this might be done most advantageously in outline; but all contemporary literature is radiated so directly from one great master that no philosophic comprehension of it is possible without special consideration of his individual greatness. Our epoch leans on Germany, and should be studied with direct reference to that country. The universality of German influence should be enforced with as much prominence on the student's mind as on the fundamental principles of a science before actual investigation is permitted. Otherwise, how can he be brought to understand the transformation of British thought and sentiment as reflected in the early literature of our country? The transition from the classicism of a Pope to the idealism of a Wordsworth, bridges a chasm too narrow and deep to have been effected by purely indigenous forces. Whence that sudden growth of intellectual criticism which snatched Shakespeare from the inconoclasts of actors and placed him foremost on the book-shelves of scholarship? Whence that intense love of nature seeking poetic ideas in fields and forests rather than in drawing-room and library! Whence that exaltation of man encumbered with all his common wants and necessities above the flimsy conceptions of chivalry and sentimentality? Whence that marvellous production of scientific works which have almost revolutionized civilization? Whence that ceaseless striving after truth, be it at any cost, even to the sacrifice of most cherished spiritual hopes and beliefs? Such queries must spontaneously arise in minds before which are brought out the antithesis of the last two centuries in their ideas and principles.

The key of our literary epoch is to be found in Germany and in the hands of one man, Goethe, who "represents in himself alone," said Mme. De Stüel, "the whole of German literature," and nowhere has its influence been so widely propagated as among English-speaking people. They were the first to appreciate and grasp at the genius which made the obscure duchy of Saxe-Weimar the focus of European interest. Coleridge and Wordsworth were among his earliest disciples, imbibing those doctrines of metaphysical and literary art which led to a complete overthrow of native prejudices in matters of speculation and criticism. Scott looked to him for guidance and assurance; he was the hero, and more than once the pattern of Byron; Carlyle compared him to the god-like, while the American sage, Emerson, followed close in his footsteps. All the elements of influence did not originate with him, but he appropriated, summed up, and practically applied the revelations and suggestions made by his great predecessor, Lessing, as well as those of his worthy compeers in literature and philosophy. All the

channels of his nation's genius seemed to centre in him as a kind of reservoir, destined to replenish and colour the sea of international thought.

Goethe's work was prophetic—a foreshadowing of the comprehensive civilization of to-day. The characteristics of his genius are identical with those of contemporary thought, and the parallelism is the most effective illustration of his individual power.

As a poet, Goethe is the genuine precedent of Wordsworth and all his professional successors. His ideals and inspiration were sought out of the whole range of humanity and the universe of nature. The little court of which he was the idol did not monopolize his interest, but rather by its very compression produced an overflow which extended to the outer rim of poverty and ignorance. While tarrying for a short time among the miners he wrote: "How strong my love has returned upon me for these lower classes, which one calls the lower, but which in God's eyes are assuredly the highest! Here you meet all the virtues combined: contentedness, moderation, truth, straightforwardness, joy in the slightest good, harmlessness, patience." Such an expression of democratic enthusiasm at that stiff-necked period, when aristocracy plumed itself most arrogantly, is certainly portentous of the philanthropy which has become such a prominent feature of our age. All his life he found enjoyment in mingling with artisans and becoming initiated into their handicrafts. "I know very well," says Werther, "that we are not, and cannot be, all equal; but, in my opinion, he who avoids the common people in order to command their respect is as culpable as a coward who hides himself from his enemy because he fears defeat." Labour was as poetical to him as luxury, for back of it lurked the same human nature which inevitably links man into one universal brotherhood. The same active curiosity led him to seek fellowship with foreigners, and be made acquainted with their national peculiarities. The Jews particularly engrossed his attention, and excited in him a certain awe and reverence for their steady adherence to old Scriptural beliefs and dogmas. The exquisite portraiture of provincial manners and passion in *Hermann and Dorothea*; the faithful delineation of citizen life in *Egmont*; the peasant scene in *Götz*, evince familiarity with the common grades of existence, and afford a kind of complement to the court intrigues and aristocratic foibles of *Tasso*, the classicism of *Iphigenia*; while as a culmination of his many-sided art rises the great drama of humanity, *Faust*, which, sifting man's soul out of its carnal environment, subjects it to a series of metaphysical, ethical, and æsthetic experiments.—*Journal of Education*.

THEORIES OF VENTILATION.

GEORGE ELIOT never made a sharper definition than when she called generalization the faculty that enables man to make a greater fool of himself than any other creature (or words to that effect.) And there is, perhaps, no other branch of science in which man has so grossly or persistently made a fool of himself as in generalizing laws of ventilation from a part of the physical properties of fluids without cross-examining the supposed laws very strictly by experiment. A respected correspondent, who sends us from Utica some thoughts on this subject, falls not into bad company, but into the best, when he assumes that the impure air in the house is to be displaced by an opening upward for the escape of the warmer and lighter elements, and by an opening downward to permit the descent of the heavy carbonic acid. It is true that warmth lightens air, and sometimes makes the house air lighter than that out of doors, and so capable of slowly descending. It is also true carbonic acid is heavier than air, and if free would sink to the ground. That it is not thus free to sink, however, leaves existence possible for breathing creatures that walk on the earth, and that otherwise would be all smothered like the dogs in Mr. Bergh's proposed carbonic acid chamber. This wonderful power of the atmosphere to absorb and diffuse other gases somewhat equally throughout its vast expanse is essential to the existence of life, and is notably instanced in the nearly equal diffusion of carbonic acid at all heights, whether in the interior of houses and public halls, from the floor to the ceiling, or in the open air from the foot to the very summit of the highest mountains. Experiment has thus overturned entirely the plausible preconceived theory, long universally accepted, and still usually acted on, that the carbonic acid lies near the floor and must be drained off at that point. Only when confined air has become saturated by an enormous supply of this gas will the excess fall to the bottom of the room, or swell and displace the air with a suffocating substitute. Until then the extra warmth of the gas as it issues from the lungs, or gas-burners facilitates its diffusion upward, and prevents any material inequality, even temporary, in the mixture at different elevations. --*Sanitary Era.*

SUN-SPOTS AND TERRESTRIAL PHENOMENA.

THE question of sun-spots and the weather is still debated with about the same vigour as ever; but, on the whole, there seems to be no reason to modify the opinions expressed in the text. While it is not at all unlikely that careful and continued investigation will result in establishing some *real* influence of

sun-spots upon terrestrial meteorology, it is now also practically certain that this influence, if it exists at all, is extremely insignificant, and so masked and veiled as to be very difficult to determine. There is no ground or reason for the current speculations of certain newspaper writers who ascribe almost every great storm in the eastern part of the United States to some sun-spot or other.

The strange connection between solar disturbances and magnetic disturbances on the earth has, however, become more certain, if possible, than ever before, and is no longer anywhere disputed. In November, 1882, there was a very remarkable instance of an intense magnetic storm and polar aurora, simultaneous over all the earth, and coincident with the sudden outbreak of an enormous group of sun-spots.

Mr. Lockyer announces, as the result of a long series of observations upon sun-spot spectra, that there is a striking difference between the spot-spectra at the time of maximum and minimum sun-spot frequency; the lines that are most conspicuous by widening and darkening are by no means the same in the two cases. The most remarkable change is in the lines of iron, which are usually conspicuous, but almost vanish from the spot spectrum at the sun-spot maximum. --*From "Recent Advances in Solar Astronomy," by Professor C. A. Young, in Popular Science Monthly for November.*

ACCORDING to Mr. W. H. Preece, the English electrician, the so-called induction sounds in telephones, caused by electric currents passing over other wires, have been produced in telephone lines not approaching nearer than forty miles to the wire of the disturbing current.

A curious fact concerning Mount Blanc has been communicated to the Paris Academy of Sciences by Mons. Ch. Zengler. It is that a bluish-green glow about the top of the mountain sometimes remains visible until half-past ten o'clock at night. Mons. Zengler concluded that this phosphorescence was due to ice and carbonate of lime mingled; and he has succeeded in photographing the glow.

If it were possible to rise above the atmosphere which surrounds the earth, we should see nothing but an intense and sharply-defined ball of fire, while everything else would be wrapped in total darkness. There could be no diffusion of light without an atmosphere or some similar medium to act upon; but if the air about us extended to a height of 700 miles, the rays of the sun could not penetrate it, and we would be left in darkness. At the depth of 700 feet in the ocean the light ceases altogether, one-half of the light being absorbed in passing through only seven feet of the purest water.

Special Papers.

MODERN LIFE--HEIR AND PARENT OF INSANITY.

MODERN life, as compared with the life of our own or of any other enlightened people a hundred years ago, is characterized by several marked features; but one broad generalization will sufficiently serve our present purpose; that is, *intensity*.

This is the age of rapid movement, of steam and electricity,—of steam-ships, steam-roads, and steam machinery,—of telegraphs and telephones. One hundred years ago a trip of 1,000 miles, then seldom taken, required thirty days; now it is a common occurrence, and is done in thirty hours. News then requiring three months for transmission, comes to us in the morning paper only a few hours old. The errand up town that once occupied an hour or two, is telephoned in a minute or two. Cheap transportation for agricultural and mechanical products has opened more and larger markets, has increased demand, and, as a necessary consequence, has increased supply. Agricultural implements have cheapened farm products, and thereby have increased their consumption. Machinery in a thousand ways has multiplied and cheapened, and enhanced the use of mechanical products. The printing-press and the stereotyped page have stimulated thought, and multiplied news, knowledge, and literature. Education and its advantages (such as they are) are made free to all. Political influence and public office, no longer the special privilege of a privileged class, are open to all. Science, even yet a pioneer, opens up almost daily new avenues of mental and physical activity. New lands and untold stores of mineral wealth invite the labourer and the speculator. Our thoughts girdle the earth on the wings of a thunderbolt, and we and our merchandise fly on the wings of the wind.

What is the mental result?—We read more, see more, hear more, do more, think more, know more, feel more, and worry more in ten years than our grandfathers did in thirty. Where does the strain of this intensity fall?—Not on our mere physical strength; for, with all we do, we do not labour as hard physically as our fathers did before us. No, *this strain of intensified life falls on the brain and the nervous system.* It exhausts our fountain of force in the brain, which must supply every muscle with power and every organ with ability to perform its function. The busy brain of our people exhausts, on its own work and worry, not only its own daily dividend of nervous force, but it steals part of that which belongs to the heart, lungs, stomach, liver, bowels, kidneys, and skin, and drives them to the feeble performance of

their proper work. Here, in this exhaustion of nervous force, and in the uncomfortable sensations which result from it, the practical thinker, true social reformer, and statesman will find the real cause of vicious habits of eating and drinking so dangerously prevalent. Here, too, you will find why so many of our busiest and best men, who think themselves just ready to enjoy the fruits of their labours, drop suddenly of heart disease in the prime of their life; or their kidneys fail, and Bright's disease claims a victim; or dyspepsia fastens its fangs on their stomachs, and gnaws like a vulture at their vitals; or consumption or asthma invade the lungs; or apoplexy and paralysis resent the abuse of a willing servant; or insanity drives the mind to wander like an unhappy ghost amid its own ruins. Nor is this all; if they have an inherited mental taint, which by good fortune they may have personally escaped, such a life aggravates it, and makes it all the more sure to be the inheritance of their children, if, indeed, they have vitality enough to leave children at all.

. . . . We come now to the consideration of the exciting causes of insanity, which spring out of modern life. . . . To begin at the beginning of those noxious influences, we will consider, first, the effect of modern life on the children, the most plastic of all human material, the objects of so much care, pride, and affection. They are sent to school too early; they have too many studies, their studies are not adapted with sufficient care to their individual peculiarities; they often study too many hours, especially if they are required to study at home; they are too little taught to be children, and too much, entirely too much, taught to be men and women. (To prevent misapprehension permit me to say this is not a criticism of teachers, it is a criticism of a fashion and of a vicious school system. It is a physician's criticism of the educational policy of a fast age that compels a too rapid growth of a child's brain at the expense of its vital forces; and with a strong tendency to produce nervous and mental troubles, and lay the foundation of life-long evils.) Pope's familiar couplet has, by misinterpretation, done great mischief:—

" 'Tis education forms the common mind;
Just as the twig is bent, the tree's inclined."

The twig, like the child's mind, generally inclines to grow *straight*; then why bend the twig at all? The child's mind and character often have a bent. (in another sense) which should be respected, and perhaps encouraged, but seldom a diseased bent that can be improved by a straight-jacket, whether physical or educational.

Again, much the same general criticism is applicable to the effect of fashion and an educational system on our youth. They study too many things and too much, and quite

too often, they are forced to studies not well adapted to develop their best qualities. There is too much brain work and too little body work to secure a balanced development. Our college graduates too often enter on real life with a nervousness and listlessness born of an overworked brain that foretell either years of uselessness or a total failure in the great purposes of life. Our active men, our successful men, our leading men in business and in public life, are too often the men whose education has been found in the business of their life, and too seldom among those who have had the boasted advantages of the schools, to make the comparative results of a favourable commentary on our scholastic systems.

The customs, the fashions, and the nervous waste of modern life have also begotten in our youth too much fondness for dangerous forms of dissipation. The tobacco and the alcoholic stimuli, even though used in a moderate amount,—an amount that might not injure a matured man (?),—have and can have no good influence on the youthful nervous system. During the period of mental and physical development that intervenes between puberty and twenty-five years of age, such narcotics and stimulants are evil and only evil; and their use—even moderate use—at this period becomes the exciting cause, in some temperaments, of serious mental evils. This is a broad field, and time permits hints only; exhaustive discussion requires volumes.—*From a paper by F. Pratt, M.D., read before a sanitary convention at Muskegon, Mich., U.S.*

THE DEMANDS OF THE SOCIALISTS.

WHEN, from Utopian generalities and vague denunciations of Capital and the rich, Socialist leaders come down to practical proposals, they soon give us the measure of their competence to reconstruct society. Mr. Hyndman demands, for all men and women out of employment, work on full wages, to be paid by the State, which is also to divide among them the profits of their labour: a minimum of wages to be paid for short hours of work; and the same wages for women as for men. This, for any one who has a glimmering of economical science, or even a particle of common sense, is enough. In the first place, what is the state, and where is it to get the funds for paying high wages to an indefinite number of persons, without receiving any profit itself? Whence can it get them without taxing the rest of the community? What justice is there in taking money, say from a struggling tradesman, or even from a struggling professional man, in order to pay, not only full wages, but profits, to a mechanic whose lack of employment may after all be partly his own fault? It is astonishing how incurably the minds of most

men are infected with the fallacious idea of the state, as a being apart from and above all the persons of whom the community is made up, and possessed not only of superior wisdom and beneficence, but of an inexhaustible stock of money of its own. If such a bonus were held out to lack of employment, whether caused by accident or demerit, what limit does Mr. Hyndman suppose there would be to the multitude of the "unemployed?" Does he not know that national workshops have proved frauds, and that even relief works, on a large scale, have generally been little better than waste. To enact that men shall not be allowed to work at any below a fixed rate of wages would be simply to enact that a good many of them should not be allowed to work at all, unless Mr. Hyndman means to compel employers to give out work at a loss to themselves; and this arrangement, as Mr. Hyndman himself can hardly fail to see, would soon come to an end. The rich cannot be plundered and still remain rich. Besides, to make his legislation work, even for a day, this reformer must constitute himself dictator, not only of British industry, but of the industrial world; otherwise the foreigner being left free, both as to wages and to hours, will at once undersell the products of forced wages and restricted time. The Germans, it seems, choose to work for ten or eleven hours a day, and the English reformer has no means of preventing them. This is a rock indeed, upon which all these schemes for forcibly altering the relations of industrial classes split. In the same manner the reformer, in forbidding women to work for lower wages than men, practically forbids them to work at all, inasmuch as nobody will employ them at the male rate of wages, if their labour is worth less than that of men. Worth less than that of men in most departments, their labour unquestionably is. Woman is not made for labour, but for the home and for maternity. Her natural wages are her maintenance by the man. Her employment in other than domestic work is the sad necessity of overcrowded countries. To make her labour worth as much as that of men, and enable her to command the same wages, Mr. Hyndman must alter her organization, which, indeed, we should not be surprised to see him undertake to do.—*The Week.*

On the eastern coast of the Caspian Sea a curious phenomena is in progress. The Kara Bobhaz is an estuary nearly separated from the main body of the sea by a bank through which there is an inlet. The evaporation from this gulf is so great that a current continually sets in from the Caspian; and as there is no return current the water of the gulf becomes more and more saliferous; and a deposit of salt is in course of formation. In time this gulf will be cut off from the Caspian, and will then be dried up and become an extensive salt-bed.

Educational Opinion.

THE ADMISSION OF PUPILS TO NORMAL SCHOOLS.

DIVISION of labour in education, as in other spheres of human endeavour, obtains the best results and is economical. So we have schools for various purposes and of different grades, and schools with classes and departments.

A variety of schools implies a grouping of students, and economy requires that the grouping be according to purpose and capacity. The normal schools constitute one small department of the educational agencies. They exist in several forms. Sometimes the normal school has no special connection with any other school. Sometimes it is the highest of several schools loosely associated under one management. It may be a department in a system of schools having organic relation to one another. In any case there is need of a careful selection of students to avoid waste of time and effort. The different modes of existence may lead to different applications of the principles of selection; but will not require different principles.

The following principles seem sufficient for our guidance in admitting students to the normal school:

1. The students admitted to a normal school should be persons who desire to prepare to teach, and who are willing to do all the work required in a normal school.

2. The students admitted to a normal school should be persons able with ordinary diligence to gain a fair mastery of the subjects studied there in the time assigned to them.

With respect to the first principle, it is not necessary that all students admitted to a normal school intend to teach. Decided advantages may arise from the presence of students who, without the intention of teaching, are willing to make the teacher's preparation. Well established normal schools may receive students to partial courses or to selected studies, but the proportion of such cannot be large without impairing the tone of the school. For the rest, if the school is held well to its purpose the first principle will be naturally complied with.

With respect to the second principle; difficulties arise here because very often neither the applicant nor the teachers know whether he can enter with profit upon the work of the school. To leave that fact always to be determined by trial after admission would often occasion loss of time and labor to many besides the deficient student, and to him would bring little but ill-requited hardship and consequent discouragement. Some method of ascertaining the fact of fitness or unfitness is certainly desirable.

The development of mankind is so far uniform that fitness for a particular stage of

educational work may be partly determined by age, a minimum being fixed, below which, save for evident special reasons persons may not be admitted. Then, good health and good moral character having been found, the knowledge possessed and available at call will furnish an approximate measure of mental power. The possession of sufficient practical knowledge may be ascertained by the normal school from suitable testimony when that is available. Certificates from schools of well-established character, and teachers' certificates of some grades may be received as evidence of the requisite ability. When such testimony is not available there remains the test of examination to be applied for the mutual enlightenment and profit of student teachers.

With the purpose of the examination so before us there need be little question as to its general scope and method. As a means of determining present ability it should be upon matters already studied by the candidate and in terms and methods not unfamiliar to him. The questions should be prepared as well with reference to the instruction given in the schools from which the candidate comes, as to the proper order and proportion of the parts of the subject itself, and the course upon which he proposes to enter. Ample time should be allowed to the candidate, and his answers should be written. Then, in doubtful cases, which will sometimes occur, a candidate may be admitted on probation.

An examination implies a standard, but no common standard can be set for all normal schools. The city normal school whose students are high school graduates preparing to teach in the city, and the country normal school whose students come mainly from the ungraded schools of the rural districts, with the expectation of returning to the same schools as teachers, must have different standards of admission and different courses of study. But the normal school should everywhere be an agency for the improvement of all schools. Its standard should be so high that its graduates will be sought for by the better half of the schools about it, and that they will be able to improve those schools.

This paper so far has direct reference to normal schools only. But the first principle applies equally to all schools for special training, and the second to all schools, except that a written examination is not always practicable, and in the lowest the oral examination is to determine the classification rather than the admission of the pupils.

A somewhat extended experience in schools admitting students without examination, followed by a longer experience with examinations for admission, convinces me that the former plan entails great loss which the other avoids. And all my studies of the

subject lead to the opinion that the examinations should be made by the teachers themselves of the schools concerned, or by persons thoroughly familiar and in sympathy with the aims and work both of the schools whence the candidates come, and with those of the schools to which they go.—*New York School Journal.*

IT WILL PAY.

THE schoolroom should be neat and clean. Make it all sunshine. Make it a model of neatness, and teach by example. Have a place for everything, and see that it is always in that place. Pupils should be required to arrange their books properly and place them in their desks before each intermission. Each pupil should be held responsible for the state of the floor under his or her desk.

The basis of good government in the schoolroom, and out of it, is authority. The pupil who complies with the teacher's requests, simply to please, has not yet learned to obey. Obedience to appointed and rightful authority is the foundation of government. The neglect to instil subordination to the one who rightfully demands it is a most unwholesome and unfortunate omission; the child will surely suffer; in a few years it is probable he will become a member of a gang of "roughs," a body from whom spring the sports, thieves, burglars and murderers.

Do not neglect your duty! Obtain and spread all the educational light you can; build up your profession, render it *worthy to stay in and stay in it*. This will demand your untiring devotion. There is more for you to do than to get a place and get a salary.—*C. E. R., in the New Brunswick Journal of Education.*

NOW-A-DAYS our little masters excel chiefly in skill of covering emptiness; in brilliancy of gilding; in pomposity of exposition. Burning thoughts are scarce, although loud words are ready. We ask for "the news"—a new idea—but we are answered by an old tale dressed up in glaring toggery. At best, we find one theme; a *leit motif* spun out to "heavenly length" of prolixity. The torturing of a phrase, the readjustment of its skeleton framework, the lengthening of this sinew, the tightening of that ligament, gave a ghastly semblance of rejuvenation to a worn-out vitality, a painfully galvanized imitation of the action of life. At first the trick looked clever—most tricks do till you understand them. It excited the interest of students absorbed in analyzing the mysteries of constructive artifice the secrets of the workshop; and it appeared to promise an added strength, a fresh expansion of boundaries, a pulsational force previously almost untried, and certainly unexhausted. But familiarity begets a dangerous progeny.—*Dr. Hiles in Quarterly Musical Review.*

TORONTO:

THURSDAY, JANUARY 6, 1887.

UNIVERSITY FEDERATION.

At a time when the people of the Province, and the members of its Legislature, are wholly taken up with a Provincial election and the change of the membership of the Legislative Assembly, it is hardly to be expected that any of the subordinate branches of the various administrative departments should receive even a passing attention, from either the Government or the electors. But this does not alter the fact that changes of Governments, or of members of Assemblies, should not allow us to lose sight of the principles which ought to govern all parties in their administration of the people's affairs. With us, as the medium for the expression of opinion, the department of Government of most interest is always, of course, that which has to do with the education of the country in its various branches. This department has in the past been given so large a share of government attention, that we have, in our Public and High Schools, a system of education which has for years been our greatest boast, and the admiration and envy of countries of vastly greater experience and wealth. It is our earnest hope that this may continue so; and that it may ever be recognized by our legislators that our system of education ought ever to be governed and directed upon fair and liberal principles, independently of individual interests, of change of parties or supporters or opponents, and of misdirecting external influences.

Among the questions which have necessarily dropped from public attention for the time, is that all important one of University Federation, which has been for the past four years so fully discussed, and the discussion of which has not yet ended; for it cannot end until some settlement of the question is arrived at. Those most interested in the question will continue its consideration, and the new Parliament, however changed its membership, will have still before it as a duty of prime importance, the settlement of the system of higher education which this Province is to recognize and support. But it will have the matter before it with important modifications from the position it assumed when first it came before the notice of our legislators not many years ago. These may be briefly adverted to, as showing the present state of opinion with regard to Universities in the Province.

When formerly the question of University Confederation was a matter of general public discussion, one great difficulty in the way of a solution, and of a recognition on the part of the Government of its clear duty in the matter, was the doubt as to what was in reality the opinion and desire of the various Universities whose interest had to be consulted. This difficulty may now be said to be almost, if not quite, removed. The Government having expressed a willingness to consider any scheme that the various Universities might themselves agree upon, steps were soon taken to attempt the settlement of some such scheme by general consent. In the negotiations necessary to the advancement of some united proposal, the views of the Universities were announced, and that unequivocally; and we are now no longer in the dark with regard to them. What may be said to be the (state) scheme, was that a confederation of all the Universities should be formed, with one Arts University, and as many theological, denominational colleges in connection therewith, as the denominations themselves desired to establish or retain. This is undoubtedly the proposal most generally favoured. It was at first most bitterly opposed by sectarian and local interests. Victoria, Queen's and Trinity, demanded the retention of their University powers, and their local, denominational existence. Had the proposal been agreed to by all, there can be no reasonable doubt that the way would have been immediately opened to a governmental assistance to University education in this Province such as the many differences in interests and influences do not now allow. But it was not agreed to, and there the efforts of those who worked for union and consolidation apparently ended in failure.

But only apparently. The Methodist body, recognizing the importance of the question, still considered it with long and thorough discussion; and at last came to a conclusion which embodied the recognition of the fact that the Methodists of the Province can expend their means and energies in University education better by a connection with an enlarged Arts department, and the attendant possibility of better attention as a religious body to theological training, than by an unnecessary expenditure of wealth and talents in the support of a department of training avail-

able to them in a better equipped condition elsewhere. So Victoria has decided to come to Toronto; a site has been chosen; plans of building are under inspection; and the first step has been taken, and that a most important one, in the direction of University Federation.

MEANWHILE, what is the outlook elsewhere? Queens has announced her determination to live alone; and until a change of opinion takes place in her, she must be left out of any consideration by the Province of state recognition of University Federation, and of the support which the Province can give to it. Trinity also stands aloof. But while her Convocation utterances appear strong and unyielding, her counsels are divided, and many of her best men would like to see Trinity a part in a liberal scheme of University union. We hope it may not be long before better counsels shall prevail in her midst. For the tendency among us now is, undoubtedly, towards a Federation, recognized and aided by the Province, and giving a University education which would be a fit completion of that education which our Public and High Schools afford. In one direction, certainly, a sign of reaction has appeared. It is desired to obtain a University charter for the Baptist College, Woodstock, and thus to establish another degree-conferring University of a denominational character. It will be interesting to see if the principle involved in such an establishment will be recognized. If the Province is in favour of University Federation, no such charter as that now asked for should be granted. In our opinion it would be a hard blow to the scheme which the Province is supposed to favour.

THE duty of the Government of the Province at this juncture depends upon the view to be taken of the action of those Universities which refuse to join, as component parts, a Provincial University. Is the view to be taken that, unless all our Universities can among themselves agree upon a union, no Government aid can be given to any? Or is the Province to recognize the existence of a University, which is a Provincial University, sadly in need of funds, now greatly strengthened by the affiliation of a powerful college, and consequently more in need of funds than ever, and to recognize, at the same

time, that it is the duty of the Province to maintain its University in a fit state of equipment? The latter is the view which we have always thought ought to obtain.

THE question of the character of our University Education is of ever-increasing importance, as, with increasing wealth, the demand for such education steadily grows. Are we to have a University which can give that thorough education which it is now considered the duty of a University in any country to give? Or are our best men to be encouraged to leave the country for the training which they know they can obtain elsewhere, but cannot obtain here? The question in our view, so far as Government duty is concerned, narrows itself to this: can Ontario support more than one first-class University? If not, is it not the duty of the Province to see that that one is properly equipped?

PRINCIPAL GRANT, of Queen's, in a Christmas article the other day, considered the position of Canadians "in the realms of mind and soul." "What love of learning for its own sake is there," he asks, "what likelihood of a literature, or art racy of the soil, what signs of a class of men devoted to thinking, to research, to culture?" What is his answer? It is such as might have been expected from a University man of Principal Grant's ability and enthusiasm. "The best answer" he finds "is the number of students in arts in our universities." In our opinion the answer is to be found more completely in the character of the education in arts which those students obtain.

REVIEWS AND NOTICES OF BOOKS.

OLD and out-of-the-way books will be treated of by Mr. Gosse in a series of articles in the *Independent* next year.

TENNYSON'S new poem, "Locksley Hall Sixty Years After," has been cabled in full to this week's *Independent*.

JOHN B. ALDEN, New York, gives notice of his withdrawal from the wholesale book trade, proposing hereafter to sell at retail only.

THOMAS Y. CROWELL & CO. announce that the sixth thousand each of Mrs. Sarah K. Boulton's "Poor Boys who Became Famous" and "Girls Who Became Famous" is now on press.

HARPER & BROS have brought suit against the Franklin Square Library Co., a Louisville, Ky., corporation, to recover \$10,000 damages. The Harpers claim an infringement of their trademark.

MR. WHITTIER'S seventy-ninth birthday was celebrated at his home, Oak Knoll, Danvers, Mass., on Friday of last week. Col. Higginson was sixty-three on Wednesday, and Matthew Arnold sixty-four yesterday.

MRS. CUSTER has finished the work she has been at work upon all last summer. It will make a much bulkier volume than her "Boots and Saddles." It will be published by Charles L. Webster & Co., and sold by subscription.

JOHN MORLEY'S English Men-of-Letters Series is to appear in a paper-covered shilling edition in England, where Messrs. Macmillan have heretofore issued it at half a crown. On the whole it is an admirable series of biographies, though the merit of the volumes is by no means uniform.

R. BENTLEY & SON have in press the second volume of the late Prof. Max Duncker's "History of Greece," translated by Dr. Evelyn Abbott and Miss S. F. Alleyne. It carries the story from the death of Cimon to the death of Pericles, beyond which the author did not live to continue it.

MR. FROUDE'S trip to Australia a couple of years ago resulted in the publication of his "Oceana," which has reached a sale of 100,000 copies. He has just started on another tour, in quest of the material for another book, this time on the wreck of the Spanish empire. He goes first to the West Indies.

MR. GEORGE W. CHILDS has contributed \$500 to the Hayne-Wilde Memorial Fund. This assures the proper sepulture of the two poets—Richard Henry Wilde, who died nearly forty years ago, and Paul H. Hayne, who has not been dead six months—and the marking of their graves with suitable monuments.

THE John Hopkins University Publication Agency will publish early this year the second extra volume of their "Studies." It will be a "History of the Government of Philadelphia," based upon the Acts of Assembly, the city ordinances, the State Reports, and many other authorities, by Edward P. Allinson and Boies Penrose.

WALT WHITMAN will contribute to the next number of the *Critic* a paper on Tennyson, with special reference to his new poem, "Locksley Hall Sixty Years After," and W. J. Rolfe will reprint an old poem of Tennyson's which appeared in a volume of poems by various authors in 1837 and was afterwards incorporated, with many changes, in "Maud."

A REVIEWER in the London *Academy* says of "The Silence of Dean Maitland":—"The episode in which the Dean breaks his silence is that of the confession of Arthur Dimmesdale in 'The Scarlet Letter.' The scene in the cathedral where the Dean recognizes his friend, and stops in his discourse, is that of Gerard seeing Margaret in 'The Cloister and the Hearth.' The business of the interchange is partly that by which the peddler is mistaken for Griffith in Griffith Gaunt."

WALTER SCOTT, the London publisher, is about to issue a series of monographs entitled Great Writers. It will be edited by Eric S. Robertson. Each biography will contain a full bibliography of the author's works, by J. P. Anderson, of the British Museum. The writers who have arranged to furnish the first year's issues are William Rossetti,

Hall Caine, Richard Garnett, Frank T. Marzials, William Sharp, Joseph Knight, Augustine Birrell, Prof. D'Arcy Thompson, R. B. Haldane, Austin Dobson, Colonel F. Grant and the editor.

A DILIGENT reader of current fiction, as well as of *The Critic*, writes:—"Mrs. Oliphant's last book, 'The Son of his Father,' has taken some of us by surprise, and is another illustration of her wonderful versatility and resources. A new plot, a new plan, new characters, new developments; and with odd turns of expression, that you want to mark, on almost every page. Some of Mrs. Oliphant's work of late has been rather unequal, as if her historical labors had clogged her fancy, but there is no falling off here; and you are introduced to an entirely new circle of friends, and to new examples of those who are not friends."

THE Leonard Scott Publication Company, Philadelphia, has made arrangements for the exclusive control of the American issue of *The Scottish Review*, which will, in its general tone and character, cover much of the ground lately occupied by *The British Quarterly*, which was discontinued with the number for April, 1886. *The Scottish Review* has been in existence four years, and has won for itself a recognized position as an independent organ for the expression of literary and public opinion. It is the only Scottish quarterly, and considerable space is therefore devoted to peculiarly Scottish questions.

IN the *Mail and Express* and a number of out-of-town papers Mr. Joel Benton published last Saturday a description of the Jardin des Plantes, Paris, which he attributes to Emerson, though he has been unable to find it in any edition of Emerson's works. It must have been written, he thinks, at the time of the essayist's first visit to Europe, fifty-four years ago. It concludes in this wise: "Whilst I stood there I yielded to a singular conviction that in all these rich groups of natural productions which surrounded me, and in all the vast system, which they represented, not a form so grotesque, so savage, so beautiful, but is an expression of some property in man the observer. I felt there is an occult relation between the crawling scorpion, the flowering zoöphyte and man. I was moved by strange sympathies. I said: 'I will listen to this invitation; I also am a naturalist.'"

IN January, 1887, will be published from the office of *Science* the first number of a new monthly magazine entitled *The Swiss Cross*. This periodical will be devoted to spreading among the people a love and knowledge of nature. The existence of a large class of persons deeply interested in the study of nature is proven by the Agassiz Association, which, made up of earnest workers of all ages united for the purpose of original investigation, has attained a membership of many thousands, and is rapidly growing. The connection between the Agassiz Association and the *St. Nicholas Magazine* having been dissolved by mutual and friendly agreement, *The Swiss Cross* will be hereafter the official organ of the Agassiz Association, and will be edited by its President, Mr. Harland H. Ballard. Though of a scientific nature, *The Swiss Cross* will be popular in style, and will number among its contributors many of the best writers.

Methods and Illustrations

QUESTIONS ON NITROGEN.

I BEG to submit ten questions on Nitrogen, and in reference to them would like to append the following queries:—From the present treatment of the subject of chemistry in our schools how many pupils could give clear intelligible answers to the questions? How many teachers? Should not every farmer's son be thoroughly acquainted with the processes referred to? Is there anything in them which every student should not know? Is it not more important to know the origin of Nitrogen, its affinities and changes, than to know the origin of a word, its relationship to other roots, etc? Could not the present course in chemistry be broadened and developed to include such treatment of the subject as will be needed to understand questions like these appended? Would not part of the demands and rights of the farmers be met by giving the sciences (Chemistry, Botany, Physical Geography, Meteorology,) an equality with classics or mathematics, thus enabling application to be made of the principles of these sciences to agriculture and the various other arts? Is it not about time such advertisements as this ceased:—"Wanted; a graduate to take charge of the fourth department (or fifth) and teach science; salary \$600.—Specialist in science preferred?"

1st. How many lbs. of N. are there above every acre of land?

2nd. How many lbs. of that N. are received by the soil per acre each year through the rain?

3rd. What chemical changes are concerned in its removal from air to soil?

4th. In what form or forms is his N. absorbed by the plant?

5th. State the process through which insoluble Nitrogen compounds pass before being rendered soluble for the food of the plant.

6th. Give the percentage of Nitrogen compounds in wheat, straw, bran, flour, bread.

7th. Explain how the Nitrogen compounds of vegetable goods are changed into the Nitrogen compounds of animal bodies.

8th. Name the leading Nitrogenous foods available for man and beast.

9th. What becomes of the N. after being eaten as food?

10th. State the form and in which the process by which the N. may ultimately be returned to the atmosphere.

C. C. JAMES.

Mathematics.

PROBLEMS IN MATHEMATICS.

[THE following problems are selected from recent numbers of the *School Visitor*, a school magazine published by John S. Royer at Gettysburg, Ohio. Each number contains new problems and solutions by many of the best mathematical minds of the Northern and the Eastern States.]

1. Equal weights of gold and silver are in value as 20 to 1, and equal volumes are in value as 1284 and 35. A certain volume is composed of equal weights of gold and silver. Find how many times more valuable the same volume would be were it composed of gold.

SOL.—Assume that there is one ounce of each, the gold worth \$20 and the silver \$1. Again, the cubic contents of silver necessary to be worth \$1, $1284 \div 35 = 36\frac{4}{5}$, to which add \$20, gives $56\frac{4}{5}$ value of mass of silver and gold. Therefore its value is $56\frac{4}{5} \div 21 = 2\frac{7}{15}$ times as much.

2. A, delivered daily for a period of 42 days, 4 letters more than on the previous day. The aggregate delivery for the last eighteen days was the same as that for the first 24 days. How many letters did he deliver altogether?

SOL.—Let a = number delivered the first day, $d = 4$, $n = 42$, and $b = a + (n - 1)d = a + 164$. Then $s = \frac{1}{2}n(a + b) = 21(2a + 164) = 42a + 3444$, the whole number delivered. For the first 24 days we have $b = a + 92$, and $s = 24a + 1104$. For the last 18 days we have $a + 96$ = first term, $d = 4$, $n = 18$, and $b = a + 164$. $\therefore s = 18a + 2340$. By the conditions, $24a + 1104 = 18a + 2340$, whence $a = 206$, and $42a + 3444 = 12096$, the number required.

3. A sold goods which cost him \$300 to B at a certain rate of profit. B sold the goods to C at the same rate of profit. If C paid \$432 for the goods, what did B pay?

SOL.—Let r = rate of profit. Then A sold for $300(1 + r)$, and B for $300(1 + r)^2 = 432$, or $(1 + r)^2 = 1.44$. Extracting square root of both members of last equation, $1 + r = 1.2$; hence $r = .2 = 20\%$. Ans.—\$360.

4. A wins 9 games out of 15 when playing against B, and 16 out of 25 when playing against C. How many games out of 118 should C win when playing against B?

SOL.—Since A wins 9 to B's 6, the skill of B is $\frac{3}{4}$ that of A; and in the same manner we find C's skill is $\frac{8}{5}$ of A's. B's and C's are therefore as 3 to 4, or as 32 to 27, and C wins $\frac{27}{55}$ of the games with B, or 54 out of 118.

5. A tinner makes two similar rectangular oil cans whose inside dimensions are as 3, 7 and 11. The first holds eight gallons, and the second being larger requires four times as much tin as the other. What are the dimensions of the smaller and the contents of the larger?

SOL.—In 8 gallons there are $8 \times 231 = 1848$ cub. in. Assuming the dimensions of the can to be 3, 7 and 11 in., then the contents would be $3 \times 7 \times 11 = 231$ cub. in. By similar solids, the ratio of the required dimensions to those assumed is $\sqrt[3]{(1848 \div 231)} = 2$; hence the dimensions are 6, 14 and 22 inches, respectively. Since the second can requires 4 times as much tin, by similar surfaces, its dimen-

sions are $\frac{1}{4} = 2$ times the first. Hence its capacity is $2^3 = 8$ that of the first, or $8 \times 8 = 64$ gal.

6. A cylindrical vessel 1 foot in diameter was $\frac{3}{4}$ full of water, and by dropping a ball into it the water rose to the brim; find solidity of ball.

SOL.—Assuming that the ball is just submerged, it is plain that the volume of the ball is $\frac{1}{4}$ the volume of the cylinder. By geometry we have volume of sphere = $\frac{4}{3} \pi R^3$, and volume of circumscribed cylinder, $\pi R^2 \times 2R = 2\pi R^3$; hence volume of sphere is $\frac{2}{3}$ of the circumscribed cylinder. The diameter of the ball equals the diameter of the cylinder, and its solidity is $12^3 \times .5236 = 904.7808$ cubic inches.

7. An agent sold flour for me. After deducting his commission he invested the proceeds in bank stock at 4% discount. After selling the stock at 30% premium, he remitted balance due me, charging 4% commission in each transaction. What was my rate of gain on value of flour?

SOL.—Put 100% = value of flour, and 96% = proceeds of first sale; $96 \div 1.04 = 92\frac{1}{3}\%$, amount invested in bank; $.92\frac{1}{3} \div .96 = 96\frac{2}{3}\%$, face value of stock, and 130% of $96\frac{2}{3}\%$ = 125%, amount for which stock sells; 4% of 125% = 5% commission on last sale, and $125 - 5 = 120\%$ is the amount remitted. Hence the rate of gain is $120 - 100 = 20\%$.

8. My agent sold corn at $2\frac{1}{2}\%$ commission. After increasing the proceeds by \$8.20, I ordered him to purchase wheat at the same commission; after which wheat declining 5%, my whole loss was \$48. What was the value of the corn?

SOL.—Let 100% = value of corn. Then $97\frac{1}{2}\%$ = proceeds, and $97\frac{1}{2}\% + \$8.20$ = amount to invest in wheat; $(97\frac{1}{2}\% + \$8.20) \div 1.02\frac{1}{2}\% = 95\frac{1}{4}\%$ + \$8, value of wheat; and $(97\frac{1}{2}\% + \$8.20) - (95\frac{1}{4}\% + \$8) = 2\frac{3}{4}\%$ + \$.20, commission on wheat. The loss in decline of wheat 5% of $(95\frac{1}{4}\%$ of \$8) = $4\frac{1}{4}\%$ + \$.40. Hence $2\frac{3}{4}\%$ + $4\frac{1}{4}\%$ + \$.20 + $4\frac{1}{4}\%$ + \$.40 = \$48, or $9\frac{1}{2}\%$ = \$47.40, and 100% = \$492.

9. A tailor bought 40 yards of broadcloth $2\frac{1}{4}$ yards wide. After sponging, it shrank $3\frac{1}{3}\%$ in length, and $6\frac{1}{4}\%$ in width. He desires to know how many yards of flannel $1\frac{1}{4}$ yards wide he must buy to line the broadcloth, provided the flannel will shrink $6\frac{1}{4}\%$ in length, and $2\frac{1}{2}\%$ in width.

SOL.—We have $40 \times 2\frac{1}{4} = 90$ sq. yards of cloth, but by shrinkage it becomes $90 \times \frac{27}{28} \times \frac{11}{12} = 25\frac{1}{2}$ sq. yards. One yard of the lining contains $1 \times 1\frac{1}{4} = 1\frac{1}{4}$ square yards, which reduces by shrinkage to $1\frac{1}{4} \times \frac{11}{12} \times \frac{27}{28} = \frac{33}{14}$ sq. yds. Hence $25\frac{1}{2} \div \frac{33}{14} = 71\frac{1}{2}$ yards is the quantity of lining required.

10. If A walk 9 hours a day, and if, under like conditions, B walks 20% faster than A, how many days can A walk down hill a distance which B accomplished up hill in 5 days; supposing a man's rate is increased by $\frac{1}{2}$ in going down hill, and decreased by $\frac{1}{4}$ in going up?

SOL.—Since B walks 20% faster than A, their rates are as 5 to 6, and the distance gone by A in 9 hours may be represented by $9 \times 5 = 45$, and B in 5 hours by $5 \times 6 = 48$. Now B's distance on level ground in 5 days would be $5 \times 48 = 240$, but up hill it is $\frac{3}{4}$ of 240 = 180. A in one day down hill goes $1\frac{1}{2} \times 45 = 60$, and to go 180 it will take him $180 \div 60 = 3$ days.

Educational Intelligence.

GANANOQUE BOARD OF EDUCATION.

THE regular meeting of the Gananoque Board of Education was held on December 6th. Present: Messrs. Ormiston, Chairman, Brough, Rogers, Turner, Sheppard, Heaslip, F. Britton, Ross, K. Taylor and Dr. Merrick.

The following letter from the head master was read, reporting suspension of pupils:—

"GENTLEMEN,—On the 25th ultimo, I suspended from the privileges of the school two pupils, Arthur Gracey and Samuel McKenzie, for violent opposition to authority. As they gave me assurance of future good conduct I reinstated them in their position in the school.

"W. K. T. SMELLIE, H.M.I.S."

Moved by Mr. Brough, seconded by Mr. Turner, That the action of the Headmaster in reference to the attendance in Miss Colton's and Miss Randall's classes for the winter be approved of by this board.

Moved in amendment by Mr. Britton, seconded by Mr. Rogers, That while no fault be found with the headmaster in his action as to dismissing some of the pupils in the forenoon and some of them in the afternoon, this board does not approve of the movement, and directs that the attendance of the pupils be at the usual hours.

The amendment was put and declared lost, and the original motion was then put and carried unanimously.

Mr. McNaughton addressed the board in reference to the difficulty between the assistant master and his son, a pupil of the high school. Mr. Taylor, by request of the board, replied, explaining the manner in which the difficulty arose. Mr. Smellie, by request, also made a statement of his knowledge of the matter.

After some discussion it was moved by Mr. Brough, seconded by Mr. Rogers, That this board when it adjourns do adjourn until Friday evening next, 10th inst., then to meet at the Town Hall, to hear the charges preferred by Mr. McNaughton against Mr. Taylor, and that all necessary witnesses be summoned. Carried.

The following teachers were re-engaged for the ensuing year, at the salary opposite their respective names: Mr. Smellie, \$1,000; Mr. Taylor, \$600; Mr. Cook, \$700; Miss Turner, \$300; Miss Stevens, \$250; Miss N. Hiscocks, \$300; Miss Mitchell, \$200; Miss Bews, \$200; Miss J. Hiscocks, \$175; Miss Colton, \$150; Miss Randall, \$150.

D. Byron's salary as caretaker was raised to \$300 with additional duties to perform.

BROCKVILLE SCHOOL BOARD.

AT a meeting of the Brockville School Board the following resolutions were disposed of:—

Moved by Robert Fitzsimmons, seconded by James Logan, resolved, That the Misses Giles and Fulford be engaged as teachers in the public schools of Brockville for the year 1887. Carried.

Moved by James Robertson, seconded by Robert Fitzsimmons, that Miss J. Simpson be promoted to the class taught by Miss J. C. Simpson in Victoria

School; Miss Annie Hutcheson to the Perth Street School; Miss Georgina Carson to Miss Annie Hutcheson's class; Miss Giles appointed to Miss Carson's class in the West Ward School; and Miss Fulford to Miss Wilson's class in the East Ward School. These changes to take place on the re-opening of the schools on the 7th of January, 1887. Carried.

Moved by R. Fitzsimmons, seconded by James Robertson, resolved, That the undermentioned staff of teachers be and are hereby engaged for the public schools of Brockville for the year 1887, at the salaries placed opposite their respective names, viz. Principal, \$900; Mrs. E. Welford, \$700; Misses Fulton, \$400; L. A. Webster, \$400; Mrs. Fox, \$400; Misses A. L. Carson, \$350; A. Schofield, \$350; Jane Campbell, \$330; J. Simpson, \$330; A. Hutcheson, \$300; C. Jack, \$290; B. Ross, \$290; Georgina Carson, \$290; E. L. Boyd, \$290; Giles, \$290; Findley, \$275; Fulford, \$275. Carried.

Moved by F. Hitchon, seconded by J. Logan, resolved, That the Christmas vacation take place from December 23rd to January 7th, 1887. Carried.

Moved by Jas. Robertson, seconded by J. Stagg, resolved, That the resignation of Thos. Eyres, as janitor of Victoria School, be accepted. Carried.

Moved by John Stagg, seconded by Thos. A. Allan, resolved, That William Jackson be and is hereby appointed janitor of the Victoria School for the ensuing year, at \$275 per annum.

Moved in amendment by Jas. Robertson, seconded by Jas. Logan, That W. H. Hutton be engaged as janitor for Victoria School, at a salary of \$275 per annum.

The amendment was declared lost, and the original motion was put and carried.

Moved by F. Hitchon, seconded by John Stagg, resolved, That the resignation of W. R. Murray, principal, be and is hereby accepted. Carried.

Moved by James Robertson, seconded by James Logan, and resolved, That the application of Isaac S. Rowat, to be appointed principal of the public schools of Brockville, be accepted at a salary of \$900 per year.

Moved in amendment by Robert Fitzsimmons, seconded by F. Hitchon, resolved, That Robert Grant be and he is hereby appointed principal of the Brockville Public Schools, at a salary of \$900 per annum.

The amendment was put and declared carried, and the original motion declared lost.

TORONTO NORMAL SCHOOL.

THE theatre of the Normal School, heated almost to suffocation, was well filled on the 17th Dec., the occasion of the closing exercises of the school. Principal Kertland presided, and with him on the platform were Prof. Young, Rev. Dr. Carlyle, Rev. Dr. Kellogg, Rev. Principal Caven, of Knox College, Mr. J. E. Hodgson, Inspector of High Schools, and Mr. Alex. Marling. A pleasing programme was presented, consisting of calisthenics, Kindergarten songs, and a cantata, "The Old Clock on the Stairs," by the students, and readings by Miss Wetherald. Addresses were delivered by Principal Kertland, Rev. Drs. Kellogg and Carlyle, and Prof. Young, who, on behalf of the Minister of Education, unavoidably

absent, presented the Prince of Wales' gold medal to Mr. W. R. Smith, of Port Rowan, who obtained the high percentage of ninety-three in the examinations.

Mr. Hodgson read this list of teachers in training who passed the professional examination:—

Misses Ainsley, Anthony, Armstrong E., Armstrong A., Anthes, Ball, Black, Bale, Burt, Bright, Charlton, Croley, Cleveland, Cruickshank, Cowen, Davidson, Dickson, Dingle, Dingwall, Disher, Dolan, Dobie, Duncan, Downey, Dyer, Elliott, Farrelly, Flaus, Forbes, Frame, Gould, Glenn, Gould, Green, Gregory, Hammill, Hunter, Harris, Johnson, Kirkwood, Laing, Langstaff, Mahony, Maus, Miller, Moir, Moore, Mullin, McCallum B., McCallum Kate, McClung, McBain, McDougall, McFarlane, McKenzie, McLean, McMaster, McNeil, McLeish, McWilliams, Nevills, Osborn, Penwarden, Porter, Pearce, Phillips, Rankin, Robertson, Shain, Smithers, Small, Somerville, Sturrock, Tier, Tighe, Walkington, Wallace, Walton, Watson, Wiggins, Wilson and Zealand; Messrs. Alexander, Amos, Brandle, Burchill, Callander, Currie, Charlesworth, Elliott, Falconer, Galbraith, Graham, Harper, Harvey, Hay, Hinde J., Hinde E., Hutchinson, Ingall, Malone, Miller, Mosgrove, Murchison, Musgrove, McDonald, McEwen, Oliver, Parker, Peacock, Rutherford, Rowan, Saigeon, Scroggie, Silcox, Smith T., Smith W. R., Sproule and Strike.

The following students having obtained over seventy per cent. of the marks awarded for practical teaching and also over seventy per cent. at the different written examinations, were awarded certificates, Grade A.: Misses Bale, Cowan, Duncan, Elliott, Green, Hammill, Maus, Moir, Moore, McCallum B., McCallum Kate, McFarlane, McMaster, Nevills, Penwarden, Somerville, Sturrock, Tier, Watson, Zealand; Messrs. Alexander, Falconer, Harper, Hay, Hinde J., Hutchinson, Ingall, Miller, McEwen, Rutherford, Rowan, Scroggie, Sproule, Strike.

These students, having certificates, Grade A., are entitled to honourable mention: Misses Dickson, Dingle, Farrelly, Gould, McClung, McLean, Osborne, Tighe; Messrs. Burchill, Charlesworth, Silcox. These having certificates, Grade First C. are entitled to honourable mention: Messrs. Callander, Elliott, Graham, E. Hinde and W. R. Smith.

THE WINNIPEG TEACHERS ASSOCIATION.

THE Winnipeg Teachers' Association opened their regular quarterly meeting last month, Mr. D. McIntyre, Inspector, in the chair. Among those present were Mr. J. B. Somerset, Superintendent of Education; Mr. D. J. Goggie, principal of the Normal School; and P. C. McIntyre, chairman of the school management committee.

Mr. J. A. Greig, in a paper on "Penmanship," gave some useful hints as to the cultivation of the useful art, and referred to the necessity of teaching the proper movement at the beginning of school life.

At the conclusion of the paper a class of boys were put through a writing exercise, illustrating the method advocated by Mr. Greig.

Mr. E. A. Blakely, principal of the Central School, read a paper on "Recent Text-books," and

referred to the methods of teaching in the Winnipeg school during the past two or three years. An attempt has been made to abandon the method by which the pupil commits to memory and recites the words of text-books, and to substitute in its place the object and oral method by which the teacher presents objects and subjects for thought to the mind of the pupil, so as not to give him the ideas and thoughts before the written names or works are presented. Hence language is mastered by practice in its use, while grammar is introduced later on in school life. Numbers are learned by exercise in their various operations by means of objects before they are written, etc.; in everything taught the pupil uses the sign only when he knows the thing signified, and always has clear ideas before attempting to give definitions. In fact, definitions and rules are a secondary consideration. Under this improved system a teacher cannot be a mere machine, or the crank of a galling gun. He must come before his class thoroughly prepared. Our text-books may be very good, and they may not, but one thing is certain: no teacher should be satisfied with these alone. He must know more than he teaches, he must read more extensively than his pupils.

Mr. Blakely then enumerated some of the latest text-books, recommending the following: Wentworth & Reid's First Steps in Number, Appleton's Number, illustrated; Appleton's Number, applied by Rickoff; How to Speak and Write Correctly, by Mrs. Knox Heath; Long's Language Exercises, Parts I., II., and III.; Parts of Speech and How to use them, by Mrs. Knox Heath; Tweed's Grammar; Nelson's English Composition. Geographies, besides those in use, Campbell's, Barnes', Swinton's, Scribner's, Longman's, Phillips' and Johnston's. Geographical Readers, Fowle's Young People's History of England.

After some further discussion the meeting adjourned.

The association resumed its session at a later date, when Miss Sharpe illustrated her system of reading lessons, and Mr. Hewitt read a paper on the duty of the teacher in regard to the manners and habits of the children, both of which elicited discussion from those present.

WALLACETOWN is to have a new school house.

MISS E. BECKETT is re-engaged in Peterboro' at \$400.

MR. EVANS, of the Sarina High School, is re-engaged at \$850.

MISS MCPHERSON has been re-engaged in S.S. No. 5, Dunwich.

MR. J. AMOS and Miss Bancroft, are re-engaged in Corinth School.

MR. BRUDER has been engaged in Achil school at a salary of \$450.

MISS MAGGIE MARR is engaged in S. S. No. 4, Bayham, for 1887.

THE school trustees of Corinth have re-engaged Miss Adams as teacher.

MISS MCRAE has been re-engaged at Micksburg school for another year.

MR. KERR, of Hardwich, has been engaged to teach Palmyra school.

MISS COWAN, of Strathroy, is engaged for 1887 in S.S. No. 10, Southwold.

MR. R. MARSALES, of Yarker school, is about to leave for British Columbia.

MR. NICHOL, teacher of the Bexley School, it is reported, is to remain another year.

MISS K. LENNON is re-engaged for 1887 as teacher in the Millington School.

MISS McCLEMENT has been re-engaged for 1887 as teacher of Sharpton School.

MR. JOHN McCOLL, Principal Hanover School, is re-engaged at an advanced salary.

MISS ROBINSON has been engaged at the Sixth Line School, Orono, for another year.

MR. DICKENSON, of Clarendon, is engaged as Principal of Markham Schools at \$500.

MR. W. H. HARTON is re-engaged as principal of the Perth Model School at \$700.

MISS LILLIE MOORE, teacher of Millburn, has been re-engaged at an advanced salary.

MISS GIBSON, of Orillia, has been engaged as teacher of the public school at Lovering.

If circumstances warrant it, a fifth form will be introduced into the Strathroy Public School.

MR. A. B. VET TREES resigns his position in the Vienna High School at the close of the year.

MISS POOK has been re-engaged by the Kendall School for another term with an advanced stipend.

MR. LOUIS FRIERHILLER has been engaged for another year as teacher of Mount Elgin School.

MR. JOSEPH SHORTELL has been re-engaged as teacher at Sydenham school for his third year at \$350.

MR. J. W. LAIRD has been re-appointed principal of the Public Schools of St. Marys, at a salary of \$700.

MR. WEIR, of Windsor, is engaged to teach in S.S. No. 5, Sandwich West, as Miss McCauliff is leaving.

MR. J. H. LONG, B.A., LL.B., has been appointed principal of the collegiate institute at Peterboro'.

ALBERT BUNTING, of the Strathroy Model School takes charge of S. S. 23, Adelaide, after New Years.

MR. OLIVER, of Willoughby, has been engaged as principal in Stevensville Public School for the coming year.

MR. E. WHILES, St. Marys, has been engaged as teacher in S.S. No. 3, East Nissouri, for the ensuing year.

MR. W. J. BLACK will continue to fill the position of teacher at School No. 3, Murray, Trenton, for the ensuing year.

THE trustees of the Belmonte Public Schools have secured the services of Miss Mary Campbell as assistant teacher.

MR. J. R. PATON has been re-engaged by the trustees of S.S. No. 10, Campbellton, at a salary of \$440 per annum.

MISS DRURY had the pleasure to receive a silver jewellery case from her pupils who attend School Section 15 London township.

THE Trustees of Union School Section No. 2, Chatham and Camden, have engaged Miss McNiven as their teacher for 1887.

MISS BLACKWELL, of S.S. No. 2, Adelaide, leaves her present position to take charge of a school in McGillivray, near her home.

MR. JAS. FLEMING has passed the model school and has been engaged to teach at Damascus, Township of Luther, at a salary of \$350.

THE trustees of S.S. No. 1, Westminster, have re-engaged the services of Mr. G. A. Hutcheson for 1887, at an advance in salary of \$50.

MISS E. MAGUIRE, daughter of Charles Maguire, of Morris, has been engaged as teacher at Babylon Line, Stanley, at a good salary.

MR. LEES, of Lindsay has been engaged by the Brampton High School Board for next year. Mr. Lees was at one time editor of the *Advertiser*.

It is stated that Mr. Cairns is about to resign the teachership of Box Grove School, and will be succeeded by Mr. Charles Smith, of Markham.

THE trustees of Union S.S. No. 5, Sombra, and 16 Chatham, have engaged Miss Bessie H. Steele, their efficient teacher, for another year.

THE Ridgetown Public School Board has engaged Miss Butter, at \$325; Miss Hay, at \$250, and Miss Moore, Arkona, at \$250 as teachers.

It is stated that Mr. George Howe has resigned the position of under school teacher at Janetsville, for the more lucrative post of headmaster at No. 4.

THE applicants for headmaster of Dundas Public School were J. A. Hill, Hamilton, and Charles Elliott, Walkerton. Mr. Hill was engaged at \$650.

THE Bolton School Board have conferred the appointment of headmaster upon Mr. J. Jenkins, of Carleton County. There were fifty-one applicants.

MISS REID, teacher of Bannockburn, has been re-engaged for 1887. The Inspector at his recent visit gave a favourable report of the success of the school.

MR. HENRY SCOTT has been engaged as teacher for the new school section at Cottam. The old Town Hall will be converted into a school house.

MR. W. H. LINDCOAT, on resigning his position as teacher of the Thorndale School, London, received a number of valuable presents and testimonials.

MR. A. STEELE, headmaster of the Orangeville High School, was presented with a photograph of the model school students and an address a few days ago.

THE pupils of the Ingersoll Model School at the close of the session for 1886, presented Mr. McDiarmid with an address and a handsome silver fruit dish.

MR. G. W. HURST, of Hales Station, has been appointed teacher at Douglas school in room of Mr. W. Bilton, resigned, who goes to Kingston to study medicine.

MISS M. CLEATOR has been re-engaged as teacher of Paris Plains South School for next year at a salary of \$400. This will be Miss Cleator's sixth year here.

THE School Trustees of Hartley have engaged Mr. Wm. Morgan from Palestine for the ensuing year at a salary of \$375. Mr. McCuaig is retiring from the profession.

MR. FRANCIS WHITE, who has been attending the Lindsay Model School, has been engaged as teacher of the school in Section No. 4, Malden, for the coming year.

MISS ANDERSON, of Bornholm, teacher of S.S. No. 6, Logan, was the recipient of a silver cake-basket, a china cup and saucer, and a Christmas card, at the hands of her scholars.

THE vacancy in the St. Catharines Collegiate Institute caused by the resignation of Mr. Gamble, has been filled by the appointment of Mr. Wm. Burns, of the Brampton High School.

THE trustees of Union S.S. No. 15, Dunwich, and No. 13, Aldborough, have secured the services of Miss Maggie Taylor, of Aylmer, to teach the school, at a salary of \$350 per annum.

MR. GEO. PETERS, steward of Woodstock College, formerly of this city, prior to leaving on a trip to England, was presented by the students and staff with an address and a silver tea set.

MR. C. F. MAXWELL, teacher in the Central School at St. Thomas, who has resigned to enter the law office of Mr. J. McLean, received an address and a present from his pupils.

THE Orono correspondent of the *Canadian Statesman* writes that Miss Robinson will teach the 6th line school next year, Miss Linton at Clarke Union, and Miss Poole at Kendall.

THE present teacher of the Brunswick School, Mr. H. Hart, has been re-engaged for the ensuing year at a salary of \$440. Mr. Hart has filled his position in this school for the past three years.

MR. S. NETHERCOTT, principal of the Mitchell Public School, has been presented with a handsome gold cane and an address, by the teachers of the different schools and the model school pupils.

MAYOR McLEON, of Picton (N.S.), has offered a gold medal to be awarded to the student taking the first place in the graduating class of the Picton Academy at the terminal examinations in April next.

MR. C. B. BALDWIN, principal of the Mount Vernon Public School, passed with honours at the recent examination of the Ottawa Normal School. He will continue at Mount Vernon for another year.

MISS MCKEEVER has resigned her position in the New Edinburgh School, and Miss Stacey has been promoted to fill the vacancy. Miss McGregor has been appointed to fill the place vacated by Miss Stacey.

MR. ALEXANDER C. BATTEN, of No. 7 West Gwillimbury school (Fisher's Corners) has been presented with a toilet case and a copy of Wordsworth's Poems, together with an address, on the part of his pupils.

MR. T. T. BOWER, teacher of Joyceville school, has been re-engaged for another year at a salary of \$400; and was lately the recipient of a handsome silver napkin ring, also a valuable watch, at the hands of his scholars.

AT the close of the term just completed the students of the Picton Model School presented their teacher, Mr. R. F. Greenlees, with three handsome pieces of silverware, viz., a cake basket, a butter dish and a pickle jar.

THE *Essex Liberal* under the head of news from Olindo, says: "We understand that M. Palmer is to take charge of the Olinda school after vacation, instead of Miss Rose, who has been teaching here for the past year."

DR. M. S. KELLY, Inspector of Public Schools for Brant County, has been appointed, in conjunction with High School Inspector Hodgins, Examiner in the recently established Training School for High School matters.

THE following is a complete list of the teachers for 1887 of the Carleton Place schools; J. R. Johnson, D. E. Shepherd, J. A. Goth, Misses Girouard, Burke, McCallum, Moulton, Garland, Cram, Suter, Lowe, McKerracher.

MISS AGGIE HENDERSON, of Goderich, formerly of Exeter, has secured a school near Toronto, in which she will teach next year at a salary of \$400. Miss Henderson some months ago acquired a second class professional certificate.

AN item from Glenora, in the *Canadian Post*, Lindsay, says that the trustees of S.S. No. 9, Fenelon, have engaged Miss Bella Spence, of Hartley, for the ensuing year, as successor to Miss Alice Birmingham, the present teacher.

THE Picton (Nova Scotia), school committee recommended that \$50 be added to each of the salaries of Messrs. Mellish and Gammell, from from November 1st, which on motion of Mr. Henderson, seconded by Mr. Hislop, was adopted.

LAURA CLARK and Maggie McColl are the new teachers of Sarnia Public School. Their salaries amount to the princely sum of \$175 apiece. The salaries of Mr. Johnston and Miss Pottinger have been augmented \$50; they now receive \$600 each.

MR. M. S. CLARK, B.A., of the Georgetown High School, has been presented by the pupils of the Strathroy Collegiate Institute, on the occasion of his departure from the latter school, with a silver water pitcher, together with an appropriate address.

ON the 14th December the students attending the Walkerton Model School presented the principal, Mr. Telford, with an elegantly framed photograph of the entire class, numbering 35. Mr. Walker in a few well chosen words made the presentation on behalf of the class.

AT Victoria school, Brockville, on the 15th December, a very pleasing event took place, namely, the presentation by the pupils of a crystal set, including salver, jug, and coloured glasses, to Mr. Murray, the principal of the school. Accompanying the souvenir was an address.

MR. HUFF, who taught in Orillia Public School some ten years ago, has been re-engaged for teacher of the third department in that town. Mr. Huff's place as teacher of the Edgar Public School will be taken by Mr. Samuel Long, who in turn will be succeeded by Mr. J. C. Macpherson, now of Warminster.

AT the last meeting of the Guelph Board of Education a communication was read from Jennie Davidson, tendering with regret her resignation, which was accepted; from Minnehaha Clarke and five other female teachers drawing attention to the smallness of their salary, and asking for an increase.

THE *Orillia Times* says under the heading of news from "Jamieson's Corners," that of twenty-eight applications for the position, Mr. C. Lehmann has been chosen to "wield the birch" and "teach the young idea how to shoot," at School No. 2, Orillia. Miss McKinnell leaves at Christmas for a term at the Normal School at Ottawa.

MR. E. ODUM, late principal of the high school, Pembroke, leaves shortly for Tokio, Japan, to take a position in the Methodist college there. His successor has not yet been found. Mr. Williams retains his position in the high school, and Mr. Murphy, of Renfrew, succeeds Mr. O'Hagan as modern language master in the same school.

MR. R. GRANT, who has been the principal of the model school at Welland for the past nine years, has tendered his resignation, that he may accept the position of principal of the Brockville schools, at an increased salary. During Mr. Grant's occupancy of the principal's chair at Welland two hundred teachers have received professional training.

AT a meeting of the Board of Trustees of Forest Model and Public School, the following teachers were re-engaged: C. S. Falconer, Principal, at \$700; Miss C. F. Sutherland, first assistant, at \$340; Miss R. J. Dickey, second assistant, at \$320; Miss Livingston, third assistant, at \$300; Miss Kirkland, fourth assistant, at \$275. There are twenty-seven teachers in training this term.

PRINCIPAL BROWN, of the Whitby Model School, was delightfully surprised on Tuesday evening by a visit from some of the teachers-in-training. Before leaving Mr. Brown received a complimentary address, and was presented on behalf of those present with a handsome silver milk pitcher. Mr. Brown replied in feeling terms, and gave some of his past experience in the profession.

THE Carlton County Council has granted the petition of the Perth Model School pupils who asked a refund of their five dollars for the entrance fee to that school. The county authorities have refunded the money to several of the applicants, while the fee is withheld from others until they clearly establish their claim by showing that they themselves or their parents have been ratepayers in the county.

AT the examination in school section No. 18, Westminster, Miss Kate Garnsey, the present teacher, who is resigning the position which she has held with so much success during the past six years, to take charge of the junior department of the Fingal schools, was presented with a handsome copy of Worcester's Dictionary by the children, accompanied by an address, expressing their appreciation of her labours in their behalf, their personal regard, and their regret at the loss they will sustain.

AT a meeting of the Markham High School Board, held on Thursday, the 9th inst., the secretary read a communication from Mr. C. R. Gunne, B.A., in which he tendered his resignation as head master of Markham High School, he having decided to remain in California. Mr. J. Simpson, B.A., who has been acting as head master during Mr. Gunne's absence, having made

an offer to continue his services at \$900 per annum, it was moved by Mr. Reesor, seconded by Mr. Silvester, that Mr. Simpson having given satisfaction, be permanently engaged at the salary mentioned.

The following is the staff of teachers in the Petrolia schools at present: S. C. Woodworth, principal; Misses Langton, Dibb, Harley, Dawson, Ross, Reynolds, Hayhurst, McRobie, Cameron, Buchanan, McRobie. Misses McRobie, Reynolds and Cameron propose attending the normal school during 1887, Miss McDougall has resigned her position and made an engagement to teach at Winnipeg at a salary of \$500 for the next year. The following teachers have been engaged to fill the vacancies thus created: Misses Dibb, L. McRobie, Nellie McRobie, Ellen Sanson, Sinclair and McWhorter. The rest of the teachers will retain their present positions.

On the 20th the Brockville East Ward School was the scene of another presentation. Miss Wilson, who has taught the juvenile classes for the past five years is about to leave the teaching profession, and was presented by the pupils and teachers with a very neat willow rocking chair and music stand, accompanied by an appropriate address. In the same school the present and former pupils of Miss J. C. Simpson's class and the teachers of Victoria school assembled in the large room and presented her with a token of esteem in the shape of a handsome rattan rocking chair and a drawing-room satchel of pale blue satin, ornamented with pearl maple leaves.

The Enniskillen Board of Trustees (Lambton County) have engaged teachers for that township for 1887 as follows: For school section No. 1, Miss McDougall, salary, \$400; No. 2, J. M. Dawson, \$375; No. 3, Miss A. Bax, \$300; No. 4, Miss S. Weston, \$275; No. 5, A. A. Dewar, \$400; No. 6, Edwin Karr, \$375; No. 7, Miss E. Horne, \$375; No. 8, P. McS. Brown, \$400; No. 9, Miss E. S. Hinde, \$275; No. 10, Miss Brebner, \$300; No. 11, Mathew Holmes, \$400; No. 12, W. J. Robinson, \$500; No. 12, Miss M. Brown, \$225; No. 12, Miss M. Lowrie, \$225; No. 13, Hugh Beaton, \$500; No. 13, Miss Grace Christian, \$275; No. 14, J. J. Matthews, \$425; No. 15, Miss Annie Hamilton, \$275; No. 16, Miss D. Ferguson, \$275; No. 17, Miss Park, \$275; No. 18, Miss Maggie Stapleton, \$275; No. 19, Miss Nellie Stapleton, \$275; No. 20, F. J. Cowan, \$375.

The Shelburne Public School closed for the Christmas vacation on Friday, the 18th December. After 2.30 p.m. the scholars spent the time till 4 o'clock in singing and giving recitations. Revs. H. G. Moore and T. J. McClelland and a number of visitors were present. All three teachers being about to sever their connection with the school, the following presentations were made: To Mr. McEachern, principal, a beautiful dressing case; to Miss Wright, a fine pair of gold bracelets; to Miss Craigmill, a handsome photograph album. Accompanying each was an address and a beautiful Christmas card. Mr. McEachern replied, thanking the pupils for the kind words contained in the address, and for their valuable present. Rev. Mr. Moore made reply for Miss Wright and Miss Craigmill. Mr. McEachern, we understand, is about to enter the medical profession, and will

attend the Harriston High School for the next term. Miss Wright has given up teaching for the present, and Miss Craigmill has secured a school in Peel township. The teachers engaged for 1887 are: Mr. McMaster, of Honeywood, principal; Miss K. Sutherland, first assistant. The second assistant has not been engaged yet.

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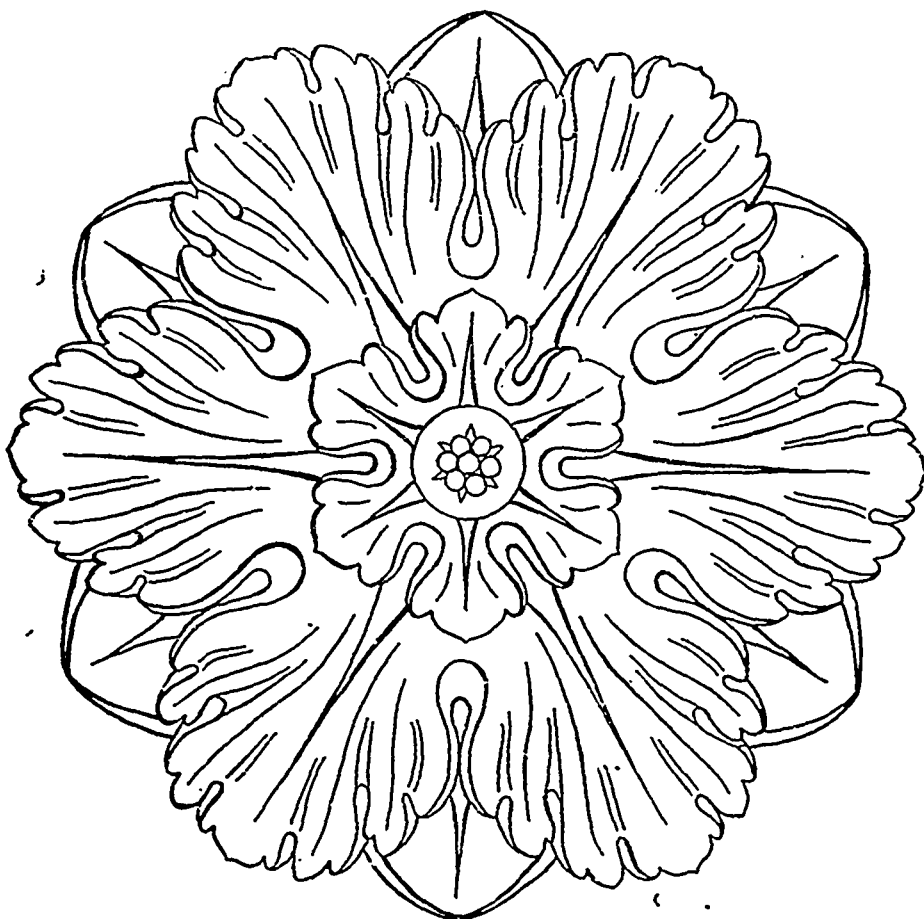
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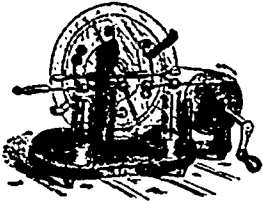
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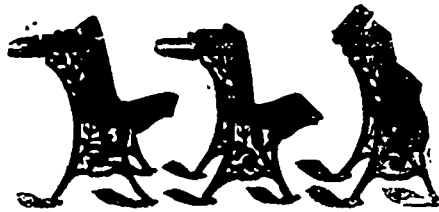


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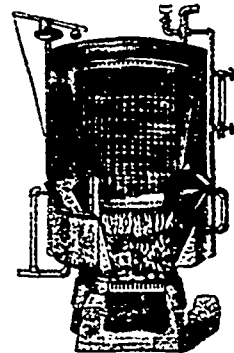
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