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JOURNAL OF EDUCATION,

Upper



Canada.

VOL. XIX.

TORONTO: AUGUST, 1866.

No. 8.

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GREAT SCHOOLS OF ENGLAND.* HARROW.

Harrow School is a Grammar School, founded in 1571, by John Lyon, a yeoman living in the hamlet of Preston, within the parish of Harrow, "for the perpetual education, teaching, and instruction of children and youth of the same parish." The Governors are a Corporation by Charter.

The Founder possessed several small estates situated at Harrow, and at Preston and Alperton, both hamlets in that parish, at Barnet, at Malden in Bedfordshire, and at Paddington and Kilburn in the parish of Marylebone. He conveyed these lands to the Governors by separate conveyances, and directed that the whole profits of the lands at Kilburn should be employed in repairing the highways from Edgware to London and from Harrow to London, and that the whole profits of the Marylebone estate should be likewise devoted to the Harrow and London highway. The profits of his other estates were dedicated to the School, and to the maintenance of two Scholars at Oxford and two at Cambridge. The manner in which the rents were to be applied to these several purposes was left to the discretion of the Governors; but it does not appear that they were invested with any power to vary the purposes themselves, or to apply to one of them money which the Founder had appropriated to the other. The repair of highways was an object constantly associated in the sixteenth century with religious and educational trusts, and the

value of the lands devoted to this purpose by the Founder appears to have been less than one-third of that of the lands given to the School. These proportions are now reversed. The present yearly value of the School estates is a little more than 1,000*l.*; that of the road estates is about 3,500*l.* The proceeds of the road estates are, under several Acts of Parliament passed within the present century, paid over by the Governors to the Commissioners of the Metropolis Turnpike Roads north of the Thames, and are applied partly to the paving of Oxford Street, and partly to the repairing, watching, and lighting of other Metropolitan roads. There can be little doubt that the appropriation made by the Founder of the rents of his different estates has led to a result which he never contemplated, and which is probably very remote from his intentions.

Beside the rents of the School estates, there are the dividends on a sum of 1,494*l.* 17*s.* 2*d.* Consols, which is held by the Governors in trust for the School. The total income, therefore, which the School derives from its endowments is less than 1,100*l.* a year, and this is charged with some small payments to local charities. The Governors hold also 9,724*l.* 5*s.* 7*d.* Consols on special trusts for Scholarships, Exhibitions, Prizes, and other like purposes connected with the School.

GOVERNMENT OF THE SCHOOL.

Under the Charter there are six "Keepers and Governors," who are empowered to fill up vacancies in their own body by the election of "fit and discreet persons" (or, according to the Founder's Statutes, "honest and substantial inhabitants") within the parish of Harrow. The Bishop of London is authorized to nominate to any vacancy which is not filled up within six weeks. By the Founder's Statutes the Governors are directed to meet once a year. They have the management of the property and expenditure of the foundation: they appoint the Head Master, and the Second Master or Usher; and have power to remove either of them for unfitness or misconduct. They are empowered also to admit boys on the foundation with the consent of the Head Master, to elect to John Lyon's Scholarships at the two Universities, "to see that the Schoolmaster and Usher do their duties, and that the scholars be well taught and used," and to determine all doubts and controversies relating to the School. Whenever they are equally divided, the question is to be referred to the Archbishop of Canterbury.

* Abridged from the Report of the Public Schools Commissioners.

It has been the practice of the Governors of Harrow to leave the administration of the School entirely in the hands of the Head Master. "The Head Master at Harrow," says Mr. Butler, "is completely unshackled by any superior administrative authority, and consequently it is open to him, and must therefore be his duty, to make such changes from time to time as may appear to him at once desirable in themselves and opportune in respect of circumstances." He appoints all the Assistant Masters, gives permission to open boarding-houses, and "is responsible for the financial arrangements of the School.

EMOLUMENTS OF HEAD AND LOWER MASTERS.

The Head Master receives from the Governors a small annual stipend, and an allowance for coals, making together 50*l.* a year. He receives also a small annual payment (2*l.* 10*s.*) from every boy on the foundation; and 5*l.* from every member of the "English Form," a phrase which will be explained hereafter. His emoluments, however, really arise from two principal sources—from the annual payments and payments on entrance made by boys not on the foundation, and from the profits of a large boarding-house, which holds 63 boys when full. From the first of these sources he derives, when the School is full, between 8,000*l.* and 9,000*l.* a year; from the second, about 1,400*l.* His total gross receipts, assuming the number of non-foundations to be 450, are calculated by himself at about 10,000*l.* a year.

His gross receipts, however, far exceed his net income. By various charges and deductions enumerated in Mr. Butler's answers to the Commissioners, the 10,000*l.* is reduced to 6,288*l.*, and the income which he can really consider his own is practically, it is said, even less than this. There is no building-fund at Harrow; the revenues of the foundation are inconsiderable; and it has been usual for the Head Master to subscribe largely to those new buildings and improvements which the growth of the School has demanded, whilst the expense of maintaining them (which there are no funds to meet) falls on him alone.

The Second or Lower Master, the "Usher" of the old Grammar School, has at Harrow no specific powers or duties other than those of the Assistant Masters. He is supposed to have charge of the Lower School, that is, of the Fourth and Third Forms, but it does not appear that he exercises in practice any peculiar control over it. He is, however, appointed and removable by the Governors alone, and receives from the income of the foundation a customary stipend of 49*l.* 8*s.* 4*d.* He receives also a capitation payment of 3*l.* on account of every boy not on the foundation; and, under a recent arrangement, pays 300*l.* a year to a Master who takes a division of the Fourth Form.

The number of Classical Assistant Masters, exclusive of the Lower Master, is 14. Their emoluments consist of a stipend of 150*l.* a year paid to each of them by the Head Master, (it was originally 60*l.*, and was raised to its present amount by Dr. Vaughan) of the payment (15*l.*) which they receive as tutors from each private pupil, and the profits of boarding. The number of pupils whom each tutor is allowed to take is limited to 40, a restriction which has not been extended to some of the older tutors. The profits of a boarding-house are variously estimated. A Master who has a house of 50 boys, the largest in Harrow, estimates his profits on board alone at 15*l.* per head, and the same estimate is adopted by other Masters having 41, 36, and 28 boys respectively. Another, who has 35, calculates it at 18*l.* The payment for board, &c., exclusive of tuition, in these houses is 84*l.* or 85*l.* Mr. Bradby, who had 16 boys, and whose charge was 90*l.* for board, estimated his profits on each at 29*l.* The profits of a small house (where the charge for board is 135*l.*) are said to range from 10*l.* to 50*l.* per head, as the number of boys varies from five to seven. The Head Master, whose house holds 63, and who charges 68*l.*, states his profit at 20*l.* It is evident that these various calculations do not assume a uniform estimate of the average cost of a boy's maintenance, or of the saving of expense which attends a large as compared with a small number. In addition to the yearly payments, an entrance fee of 6*l.* is received from each boarder in a large house; but it is stated that in a small house no payment for entrance is made. One Assistant, who has a small number of pupils, receives 210*l.* from the Head Master, and another, who has none, 300*l.*

FOUNDATION BOYS.

The Founder's main object, as stated in the Charter, was the education of children and youth of the parish of Harrow. The Statutes direct that "a meet and competent number of scholars, as well of poor to be taught freely for the stipends aforesaid, as of others to be received for the further profit and accommodation of the Schoolmaster," should be "set down and appointed by the discretion of the Keeper and Governors from time to time;" and, under the Rules and Orders, the Master is to "take pains with all indifferently, as well of the parish as foreigners, as well poor as rich."

From "foreigners" he was allowed to take such stipends and wages as he could get, unless they were of the kindred of the Founder. The Founder, therefore, contemplated the reception of two classes of boys—poor boys belonging to the parish, who were to be taught gratuitously; and "foreigners," who were to pay for their schooling, and whom he expected to be a source of profit to the Head Master. The number of each class was to be fixed by the Governors at their discretion from time to time.

A foundation boy is exempt from the annual payments for public tuition (15*l.*); for mathematics (4*l.*); for French and German (2*l.* 5*s.*); and half the fee (5*l.*) for "school charges." He pays annually 15*l.* for private tuition, 2*l.* 10*s.* for school charges, and 7*s.* as a fee for the bathing-place, making 17*l.* 17*s.* in all; whilst a home boarder who is not on the foundation pays for the same advantages 41*l.* 5*s.* "Private" tuition having become a part of the regular system of teaching at Harrow, a foundationer receives it as a matter of course, and is expected to pay for it. If payment were refused, "some arrangement," says Mr. Butler, "would probably be made by the Head Master and the tutor for bearing the expense."

Harrow was almost exclusively a parochial school till about the middle of the 17th century, when the great increase in the number of non-foundations began. At that time there were only five or six boys on the foundation. During the 18 years prior to 1863 the number varied from 16 to 37; the average was 27. Since 1849 they have hardly increased at all. It does not appear that the Governors have ever refused an application, or thought it necessary to limit the number. The average number of the home-boarders during the 18 years has been 10. This class has increased at a greater ratio than the foundationers.

The present foundationers are the children of parents belonging to the higher classes, many of whom have come to live in the parish for the purpose of obtaining this advantage for their sons. "In many instances," says Mr. Butler, "they are the sons of widow ladies who come to reside in Harrow, who, having, previous to their husband's death, been moving in affluence, are now in comparatively reduced circumstances."

NUMBER OF THE SCHOOL.—ADMISSION AND COURSE OF STUDY.

The number of boys in the School was, in January 1862, 481, of whom 32 were foundationers and ten others home boarders. It has fluctuated considerably. In 1842 it was 114; in 1844 it had fallen to 79. It rose in the three following years to 314, and afterwards steadily increased till it was 492 in 1861.

No boy is admitted after completing his fifteenth year, "except for reasons which the Head Master may deem to be of peculiar urgency." The majority of those who come have attained fourteen; hardly any are under twelve. The Remove, about half-way up the School, is the highest form in which a boy can be placed on entrance.

There is an entrance-examination, conducted by the Head Master and some of the Assistants, in Greek and Latin, and in Latin composition, prose and verse.

The course of study consists of Classics, Arithmetic and Mathematics, French and German. Natural Science is not taught; but there is a periodical examination in it, which is voluntary, and success in which is rewarded by prizes.

The School is arranged as follows for classical teaching:—

Sixth Form	{ Monitors and Upper Division. Lower Division.
Fifth Form	{ First Division. Second Division. Third Division. Fourth Division.
Remove.	{ First Division. Second Division. Third Division. Fourth Division.
Shell	{ First Division. Second Division. Third Division. Fourth Division.
Fourth Form	{ First Division. Second Division. Third Division. Third Form.

There are thus 14 ascending Divisions, including the Remove, which is not subdivided, and counting the Third Form and the third Fourth, which are heard together, as one. In 1861 the average number of boys in a Division was 35, the highest 37, the lowest 21. It is understood that in future 35 is to be the maximum. This limit was fixed about five years ago. For a short time before the limit had been 40. The highest Division is taught by the Head Master, each of the others by an Assistant Master.

SYSTEM OF PROMOTION.

The system of promotion is thus described by Mr. Butler:—

Each Division throughout the School is considered to have a maximum number. When, at the beginning of a new School quarter (of which there are three in the year), it is found that the numbers in each or any Division have fallen below the maximum, the vacancies are filled up by promoting boys from the Division below. In regulating the promotions, two-thirds of those promoted are selected by merit, the remaining third of the vacancies being reserved for any boys who may have been in the Division below for three quarters. Even in this latter case a boy would be refused his remove if he had been "grossly idle—notoriously idle—ostentatiously so," as Mr. Butler elsewhere explains. In general, he says, the number of boys who have thus remained for a whole year in the same Division is very small, so that practically, except in the lowest two Divisions of the School, nearly all the promotions are given by merit.

The merits of the boys are ascertained as follows:—Marks are given throughout the quarter for each lesson, whether in classics (including divinity, history, and geography), mathematics, or modern languages. These marks are added together at the end of the quarter, when there is an examination for each Division. The sum of the marks of the quarter, and the marks gained in the examination, determines the new position of each boy in his Division, and the order in which he is promoted to the Division above. Except in the Sixth Form, where the marks of the quarter count as something more than one paper in the examination, the marks of the quarter and the marks of the examination have an equal influence in fixing each boy's final position. In the Upper Sixth places are not changed. A boy once placed in it retains his position till those above him leave the School.

The marks given for each lesson serve another purpose besides that of contributing to the quarterly promotions. Besides these, there is a weekly or fortnightly placing within the several Divisions, according to the marks of the week or fortnight. This extends to the entrance of the Sixth, and includes about 88 per cent. of the School.

Again, in addition to a weekly placing, the boys in the lower part (about 40 per cent.) of the School take places during the lessons.

Two printed lists of the whole School are published each quarter. One of these shows the places of the boys in their several Forms, the other shows how they have done in the quarterly examination.

"PRIVATE" TUITION.

Every boy has a tutor, and the relation between tutor and pupil is in principle the same as at Eton. As at Eton also, the work done with the tutor consists of preparation of lessons for School, of composition, and of what is called at Eton "private business." In the Sixth Form two hours, and in the Fifth Form and Shell one hour, a week are given to private reading with the tutor, the subject being chosen in the former case by the Head Master, in the latter by the tutor himself. In the Fourth Form there is no private reading. At Harrow, as at Eton, all the compositions are looked over and corrected by the tutor before they are shown up to the Form Master, except in the Upper Sixth Form. And in the Shell and Fourth Form the composition is not only looked over by the tutor, but done in pupil-room in his presence, and, if help is wanted, with his help.

At Harrow, as at Eton, it is the custom for all the boys in the lower part of the School to prepare in pupil-room the lessons which they are to construe in School, the kind and amount of assistance which they obtain from the tutor being left, in great measure, to his discretion. But in practice the Harrow and Eton systems differ materially from each other. At Eton only the first two Divisions are exempt from construing in pupil-room: at Harrow, the first six Divisions (the whole of the Sixth and Fifth Forms) are exempt from it, except that one or two tutors require such of their pupils as are in the lowest division of the Fifth to attend for preparation. Again, it does not appear to be usual for those who do prepare their lessons in pupil-room to construe them to the tutor before going into school. The practice of the different tutors varies in this respect. Some hear particular pupils construe, or hear particular lessons, or portions of them, construed.

MATHEMATICS.

The study of Mathematics was first made compulsory at Harrow in 1837. Before that time it had been voluntary; the present Senior Mathematical Master, Mr. Marillier, gave private lessons to such boys as desired it. He had himself been at the School since 1819. When he came there mathematical instruction could only be obtained from a Writing Master (who was then very old), except that the boys in the Sixth Form read Euclid once a week with the Head Master, a practice introduced by Dr. Butler, who had been

Senior Wrangler. There were at first, after 1837, two Mathematical Masters; there are now four.

Every boy learns mathematics during the whole of his stay at School. For mathematical instruction the School is re-arranged upon the same principle as is adopted at Eton and Rugby. The Monitors and Sixth Form—two Classical Divisions, and about 60 boys in all—are sent together into the Mathematical School, and there re-distributed into six Divisions of about 10 boys each; the Fifth Form—four Classical Divisions and about 144 boys—is treated in the same manner, and divided into eight Mathematical Divisions; the Remove and Upper Shell—72 boys—form the third group, and are taught in four Mathematical Divisions; and each of the lower Classical Divisions is a group by itself, and is broken into two Mathematical Divisions.

Every boy above the Fourth Form has three hours a week with the Mathematical School; and every boy in the Fourth, two.

There is a special voluntary examination once a year for four mathematical prizes—a gold medal of the value of ten guineas, founded by the late Mr. Neeld; books worth five guineas, and two other prizes of two guineas and a half each, likewise in books. The first and second prizes are given to those who stand first and second in the examination, the second and third to those who do best in Euclid and arithmetic respectively. The number of competitors ranged from 12 to 40 or 50. The medal is a high distinction, and is said to be as much prized as any other in the School.

The position and powers of the Mathematical Masters, in and out of School, are the same as those of the Classical Masters. Their emoluments are derived from the payments made by the boys not on the foundation on account of mathematics (4*l.* a year with 1*l.* entrance), from private tuition, and from boarding-houses. The privilege of keeping boarding-houses they share equally with the Classical Assistants. The aggregate amount derived from these sources, with a stipend of 150*l.* a year paid to the junior by the Head Master, seems to be quite adequate for their suitable remuneration. Nearly 400*l.* of it, however, may be considered to come from private tuition. The Governors pay 16*l.* 13*s.* 4*d.* to one of the Mathematical Masters as Writing Master, but nothing on account of mathematics. The foundation-boys therefore are taught mathematics at the expense of the rest of the School.

MODERN LANGUAGES.

The study of Modern Languages has been compulsory at Harrow, Mr. Butler believes, since 1851. Every boy below the Fifth Form learns French. In the Fifth; if he has acquired such proficiency as to be able to read and translate a French Classic with facility at sight, he is transferred to German, unless his parents specially request that he should go on with French. The time given to modern languages in every Form but the lowest is two lesson-hours a week; in the lowest, an hour and a half; and each lesson-hour is considered to demand an hour's preparation. In classifying the boys for modern languages the same plan is followed as in arranging them for mathematics. There are 21 French and 5 German divisions, the maximum number in a division being 24. A small number (16 or 17 in 1861 and 1862) have private tuition, which gives them two additional hours a week. The proportion in which modern languages are allowed to contribute to promotion in the School has been stated above.

Two prizes, of the value of 10*l.* and 5*l.* respectively, are given annually, each of them for French and German in alternate years. For the French prize there are generally about 20 candidates, for the German not so many.

HISTORY.

In the Upper Sixth Form the boys give one hour a week in school to some portion of History, ancient or modern, which they have read during the week. This practice was introduced by Mr. Butler. He mentions Guizot's History of the English Revolution, and Hallam's Constitutional History of England, as books of which parts had been thus read with him. In the other Forms, there are separate lessons in ancient history, and up to the Upper Fifth in geography, which take two or three hours in the week. The boys are examined in portions of books of history, the substance of which they have committed to memory. For the "holiday-tasks" it has been usual to divide English History into three periods, extending from the Saxon times to the Battle of Waterloo. A cycle of reading is thus arranged, which carries a boy over the whole of the ground in three years. This cycle is applied to the whole School. All the Forms, therefore, are reading at the same time the same period of history, but in different books suited to their respective ages and capacities. The holiday-tasks of 1860—1861, comprised the period from the Wars of the Roses downwards. The examination is conducted on paper on the first day after the boys have returned to school, each Master examining the boys of his own Form.

NATURAL SCIENCE.

"No direct instruction is given, private or otherwise, in Natural Science." There is, however, in each of the School quarters, a voluntary examination, open to the whole School, in some one branch of this study. "Those who do well are rewarded, and to the boys who come first and second in the aggregate of the three quarterly examinations are awarded two prizes of books given by the Head Master, of the value of five guineas and three guineas respectively." This examination is conducted by some two of the Assistant Masters. "We have a considerable number of Masters who are interested in Physical Science." "At the end of each School quarter a subject is announced for examination in the course of the next quarter; a certain number of pages out of some elementary treatise is fixed, and in that elementary treatise the boys are examined on paper." The subjects during Mr. Butler's Head-Mastership have been Geology, Botany, Chemistry, and Electricity. The number of boys who go in has fluctuated. He has been told that at first it was as high as 90; of late it has been about 20, or less. These examinations were introduced a few years after the incorporation of mathematics and modern languages into the work of the School.

Mr. Butler is not prepared to say that he thinks Natural Science could not be introduced with advantage into the regular studies of the School; he "distinctly guards himself against an assertion of that kind," but he is of opinion that the number of collateral studies which can be profitably pursued must always be confined within somewhat narrow limits.

MUSIC AND DRAWING.

Music and Drawing are taught as extras, and out of school hours, by resident teachers. The number of boys learning music was 18 in 1860; the number learning drawing was from 60 to 70. The Drawing Master reckons the average number of his pupils at about 50. The drawing taught is chiefly landscape drawing, with the principles of perspective. Geometrical drawing was formerly taught by a Military Drawing Master, but the number of his pupils appears to have been too small to make it worth his while to attend.

SCHOLARSHIPS, PRIZES, ETC.

A part of the income of the foundation was by the Founder's directions to be employed in maintaining two Scholars at Oxford, and two at Gonville and Caius College in Cambridge. Each was to have 5*l.* a year. Two "John Lyon's" Scholarships are now generally given in each year, of 30*l.* each, tenable for four years at any College in either University. Under the Statutes a preference is given in elections to these Scholarships to the "poor kinsfolk" of the Founder, and to boys born in the parish, "being apt to learn, poor, and meet to go to the University;" but it does not appear that either of these preferences has ever been claimed or enjoyed. Besides these Scholarships the School has others, one of which (the Isabella Gregory's) is worth 100*l.* a year, is tenable at either University, and becomes vacant every fourth year. The Scholarships are given to the boys who do best in the ordinary terminal examinations. The number of smaller prizes given, in the shape of medals or books, for performances in special subjects, is very considerable. Among the voluntary examinations there is one for the Beaumont prizes, five of which are given for knowledge of the Bible. There is another lately established, which is confined to boys below the Fifth Form, and the subject of which is some specified branch of English literature. The candidates are examined in two or three standard English books, of which notice is previously given.

PUNISHMENTS.

Mr. Butler has described very fully his system of punishments. The liability to be flogged ceases on entrance into the Sixth Form, but "it very rarely happens that I decide to flog any boy in the Fifth Form; in other words, any boy from the first 200 boys in the School." Since Mr. Butler has been at Harrow the number of floggings has been, he thinks, about 20 in each school term. "Speaking generally," he says, "punishments are a given number of written Latin lines, varying from 50 to 500." A punishment of more than 500 lines is rare. Boys in the Sixth Form, when punished for minor offences, have commonly lines set them to learn by heart. "Extra School," which is peculiar to Harrow and of recent establishment, consists in sending a boy into a school-room on the afternoon of a half-holiday, to sit there for an hour and a quarter writing out grammar in the presence of a Master.

The Head Master never punishes without previous communication with the tutor, unless the tutor has himself sent up the boy's name for punishment, or counter-signed the "send-up paper."

The difficulty of selecting a good form of punishment for minor offences is much felt. The subject has been constantly discussed, and it is admitted that the practice of setting impositions to be

written out is not free from evils. But it is thought to be the best on the whole.

TIME GIVEN TO WORK, GAMES, ETC.

The time given to work varies, of course, in the different Forms. Speaking generally, about four hours and a half are spent in School on a whole school day, and about two hours on a half-holiday, of which there are three in every week, and an extra holiday occurs once in every three weeks, or oftener. Including the time devoted to preparation, we are told that about six hours, or rather more, are given to work on a whole school day, "if the work is honestly done." A witness, who distinguished himself highly, worked, "in an ordinary way," not more than six hours a day during his last term at School. The average time given to cricket is estimated at about fifteen hours in the week; "a boy who took every opportunity" would make it twenty. That the importance assigned to games in the estimation of the boys is somewhat greater than it should be, is admitted by a witness who was for two years captain of the eleven. But it is frequently the case, at Harrow as elsewhere, that diligent and distinguished cricketers are also diligent and distinguished in school work.

EXPENSES OF A BOY AT HARROW.

The yearly charges and expenses of a boy at Harrow, including tradesmen's bills, vary from 150*l.* to 200*l.*

The boarding-houses are now kept as a rule by Masters only. It rests with the Head Master to give leave to keep a boarding-house, and it is for him to fix the maximum number of inmates. There are two classes of boarding-houses, the "large" and the "small" houses. Of the former the Head Master's holds 63, and the others, generally speaking, 36 or 37 (one had 41 and another 50 in 1861); the small houses contain six or seven boys apiece. There are six "large" houses besides the Head Master's, and 10 "small." Another, which belongs to neither class, holds 16.

The difference between a large and a small house, as regards the cost to the parent, is about 50*l.* a year. The higher charge is considered to be necessary in order to give a reasonable profit to the keeper of the small house. In return for this, the boy is supposed to enjoy, and probably does receive, more of the personal supervision of the Master than at a large house; and Mr. Butler thinks these houses useful for boys whose health and temperament are such as to render them unfit for the rougher discipline and more bracing atmosphere of the large ones. They meet cases in which parents, with or without sufficient reasons, desire for their sons this special protection and care. A boy at a small house has in fact, to a limited extent, the advantages, and the disadvantages also, of being at a private tutor's; and, whilst he partakes equally in some of the benefits of a great public school, there are others which he shares imperfectly.

The rooms in the Harrow boarding-houses are not, as at Eton, single-bedded, but commonly hold from two to five. Mr. Butler's opinion of the working of this system, which he approves, will be found in his evidence. Some of the senior boys, however, have single rooms. The upper boys sit and prepare their work in their bed-rooms; the Fourth Form boys, as we have already seen, theirs in pupil-room, under the tutor's eye.

There is no sanatorium at Harrow, and Mr. Butler thinks it very desirable to have such a building for the reception of boys ill with infectious complaints. He states, however, that every boarding-house has sick rooms, distinct from those commonly occupied by the boys, and that in these cases the sick rooms are in a separate building.

THE ENGLISH FORM.

None of the farmers or tradesmen of Harrow now send their sons to the School. The altered character of the School in this respect was in 1810 made the subject of a complaint to the Court of Chancery. Sir W. Grant, then Master of the Rolls, in a well-known judgment, which has since been often referred to, held that there was no sufficient ground for the interference of the Court. For the benefit, however, of the classes above-mentioned, Dr. Vaughan established a separate day-school, which still exists, and is called the "English Form," and where a commercial education, including French, is given by a teacher or teachers appointed and paid by the Head Master. The Head Masters examine the boys periodically, and they are also examined by one of the Modern Language Masters, and the Senior Mathematical Master. A fee of 5*l.* a year is paid for each boy. The aggregate amount received from this source is about half of the total salaries of the teachers employed. The number of boys attending was 24 in 1862. It had diminished since the English Form was first established. The boys who attend are chiefly sons of tradesmen in Harrow and its neighbourhood.—*English Educational Times*.

II. Papers on the Atlantic Cable.

1. HISTORY OF THE ATLANTIC CABLE.

Our columns furnished on the morning the news of the Atlantic Telegraph success arrived, a brief history based on close attention to the movement of the attempts and failures since the first essay, in 1857, to lay the cable. The following, from the New York Herald of Monday, while going over much of the same ground, gives several additional particulars.

THE ORIGINAL PROJECT.

The project of an Atlantic cable was originally conceived in 1853, when the magnetic telegraph had been in existence but ten years. The original projectors were American capitalists, and the directory of the company embraced such New Yorkers as Peter Cooper, Cyrus W. Field, Moses Taylor, Marshall O. Roberts, and others, including Professor Morse. This company succeeded in building the line from St. John's across Newfoundland, and under the Gulf of St. Lawrence to the main land. They also obtained subsidies from the English and American governments; but these have since expired.

THE CABLE OF 1857.

The first attempt to lay the cable across the Atlantic was made in 1857. On August the 5th the shore end was laid with imposing ceremonies in Valentia Bay, Ireland. On the 11th of August, about four o'clock in the morning, the cable parted in over two thousand fathoms of water. The cause of the calamity was the application of the brakes at a time when it was almost fatal to use them.

There was a pretty heavy swell on, and as usual under such circumstances, the stern of the vessel was elevated or depressed as she rose on each wave. It was while her stern was down that the brakes were put on, so that in addition to the strain produced by its rising again, the cable had to bear an additional strain of three thousand pounds, as marked upon the indicator. This was more than it could bear, and the consequence was that it parted, as has been stated. The moment the brakes were used the wheels stopped, and when the stern rose again she remained immovable, so that, between the strain brought upon the cable by the vessel and that caused by the application of the brakes, it had to bear more than it was ever calculated to sustain. The indicator showed a strain of three thousand pounds; but it is impossible to calculate the strain by which it was broken. Had the brake not been applied, there is no doubt whatever that the cable would have remained perfect to the end, unless very great stress of weather had rendered it necessary to cut it. The circumstance, to say the least of it, was most unfortunate; but, if the enterprise failed, the expedition proved one thing beyond all possibility of doubt—the practicability of laying a submarine telegraph cable across the Atlantic between Ireland and Newfoundland.

THE CABLE OF 1858.

The success attained on the first effort, although not complete, was considered encouraging, and in the following year the cable fleet rendezvoused at Plymouth, England, and began in June. Two unsuccessful efforts were made on 25 and 26, the line parting. On June 28 the work was again resumed; one hundred and forty-five miles were paid out when it again broke. A fourth attempt was then made and succeeded. The cable was laid from shore to shore, the signals were pronounced perfect and news was actually transmitted over the wires.

Telegrams from London of August 27 and Alexandria of August 9 were received on the following day, but these were the last. They were received with the wildest demonstrations of joy. New York went into ecstasies over the "fixed fact of the century," and on September 1 the citizens engaged in a celebration which had had no parallel, and which was almost equal to some of the displays made during the war. The officers of the British vessels, Gordon and Indus, Cyrus W. Field and the officers of the Niagara were the heroes of the occasion, and were toasted and feted in Gotham's grandest style. Imposing ceremonies were held at Trinity church, in which nearly two hundred clergymen participated and an immense choir engaged. Broadway was decorated as Broadway never had been before—with hundreds of banners and hundreds of mottoes. The military, the trades, the professions of the city, soldiers and sailors of the nation, and all creation generally took part in the procession. David Cudley and Cyrus W. Field, and Mayor Tiemann made grand addresses in the Crystal Palace; but all this time the telegraph under the manipulation of DeSauty said never a word. The people began to smell a mice early in September, and the press began to demand its European news. It then began to leak out that the cable would not work, and the press said as much. At last DeSauty was forced to open his mouth, and, since the cable

could not say it for itself, he was induced to say on September 24 that "Nothing intelligible had been received from Valentia since September 1!" Every effort at restoring the insulation failed, and at last the cable came to be considered a failure. Before the attempt could be renewed the American people became engaged in a war which absorbed all their energy and interest, and the efforts at a renewal of the attempt to lay a third cable have not been watched with that intense interest which they would otherwise have commanded.

THE CABLE OF 1865.

This failure served only to dampen the enthusiasm of the projectors of the cable; they did not abandon the enterprise, but shared their interest in the war with their interest in the scheme of a submarine cable. The United States public could not be expected to fully share their feelings, and the directors have endeavored to obtain more particularly the aid and countenance of our trans-Atlantic cousins, and in this last project England has the lion's and the controlling share.

During the year or two following the failure of 1858, great improvements were made in the construction, laying and working of submarine telegraphs, and it was finally concluded by a board which was appointed to enquire into all such work and improvements, that there was no reason why a cable should not be a success. Early in 1859 a committee was appointed by the London Board of Trade to investigate the subject.

They declared that the difficulties of laying and working a wire had at all times been overrated, and another attempt was resolved upon. The proposition of Glass, Elliott & Co., to manufacture a suitable cable was accepted. The copper wire was completed as early as April, 1864, and the work of covering it with layers of gutta percha was begun on April 14. The wire was not coupled, however, until July, 1865, and it was only stored on the Great Eastern about the middle of that month. On July 19 the Great Eastern and her convoys rendezvoused at Valentia. On the 22nd of June the shore end was laid, and on the 23rd splice made with the main cable on board the Great Eastern. On the morning of the 24th the vessel was fairly under way, when a defect in the insulation was discovered and she had to haul in about eighty miles of the cable to repair it. On the 29th of July, when seven hundred miles of cable had been laid, insulation again suddenly ceased. The ship was stopped and the cable transferred to the picking-up gear, which commenced hauling in. After picking up two and a quarter miles of cable the fault was found to be the presence of a stout piece of wire which had been driven through the cable. Two and a quarter miles of cable were recovered from a depth of nineteen hundred fathoms. The defect being repaired, the work was resumed and continued until August 2, when, after one thousand three hundred and twelve miles had been paid out, the insulation again ceased.

The ship was soon afterwards stopped, and the cable transferred to the picking-up gear at the bows. The operation of hauling in commenced. By noon the engine used for picking-up stopped for want of water for a considerable time. Two miles had been recovered, and the cable was cut to see whether the fault had come on board. At about half-past twelve p.m. the cable caught and chafed on the mouth of the "horse pipe," and was with considerable difficulty removed, and at twenty-five minutes to one it parted on board where it was injured, just behind the stoppers, and in a moment the end disappeared in the water.

After three unsuccessful attempts to raise it by grappling, the Great Eastern, with the remainder of the cable on board, returned to Sheerness on the 11th. It seems there was no difficulty in grappling the cable, even at the great depth of water of two thousand fathoms; and the object of the return of the Great Eastern was to obtain stronger grappling gear, that on board having broken three times.

The place at which the cable had sunk was buoyed and the vessels abandoned the attempt for the year.

THE CABLE OF 1866.

It was settled that the next attempt should be crowned with success. The history of that attempt and how it succeeded is given in the Herald of this morning, in the diary of Cyrus W. Field, and the telegrams of our correspondent at Heart's Content. The Great Eastern has yet another duty to perform in the attempt to be made to raise the cable of 1865 and finish it to Heart's Content, and this stupendous work may yet be a success.—*Montreal Gazette.*

2. THE QUEEN'S MESSAGE TO BRITISH AMERICA.

LEGISLATIVE ASSEMBLY.

Ottawa, August 2nd, 1866.

Hon. Mr. McDougall brought down a message from his Excellency, signed by himself, which was read as follows:—

"The Governor General transmits, for the information of the Legislative Assembly, a copy of a telegraphic message which the Secretary of State for the Colonies has sent to him by command of Her Majesty the Queen:—

"OTTAWA, August 2nd.

"By telegraph from London, England, August 2nd., 1866, to Viscount Monck.

"I am commanded by the Queen to convey to the Governor General of her North American Provinces, Her Majesty's congratulations on the completion of the Atlantic Telegraph and the strengthening thereby of the unity of the British Empire. Her Majesty includes her ancient colony of Newfoundland in these congratulations, and to all her faithful subjects.

"(Signed) CARNARVON."

The reading of the despatch elicited a round of enthusiastic cheers.—*Hamilton Spectator*.

3. MESSAGES BETWEEN THE QUEEN AND PRESIDENT JOHNSON.

ASPBY BAY, July 30.

The Superintendent of the Newfoundland line arrived here at 9 o'clock this morning, with a message from the Queen of Great Britain, to the President of the United States.

LONDON, July 27.

To the President of the United States, Washington:—

The Queen congratulates the President on the successful completion of an enterprise which she hopes may serve as an additional bond between the United States and England.

To which the following reply was sent:—

EXECUTIVE MANSION, WASHINGTON,
July 30th., 11:30 a.m.

To Her Majesty the Queen of the United Kingdom of Great Britain and Ireland.

The President of the United States acknowledges with profound gratification the receipt of Her Majesty's despatch and cordially reciprocates the hope that the cable which now unites the eastern and western hemispheres may serve to strengthen and preserve peace and unity between the Governments of England and the Republic of the United States.

Signed ANDREW JOHNSON.

—*Ottawa Weekly Post*.

4. SUBMARINE CABLES.

The Atlantic cable is the fifty-fifth submarine telegraph now in working order. The first line was laid in 1851 between Dover and Calais, and has worked without any trouble or renewal for 15 years. The line from Dover to Ostend has been working for thirteen years. The Atlantic cable is the longest submarine telegraph in existence, being 1866 miles in length; the telegraph from Malta to Alexandria, forming part of the connecting link between Great Britain and her Indian Empire, is the next, being 1535 miles long. It is laid in three sections, and has been at work for five years without any expense being incurred for repairs. The following is a list of the lines now in operation.

Laid.	Places connected.	Length.	No. of years in Condr. Opera'n.	
1851	Dover to Calais.....	27	4	15
1853	Denmark—across Belt.....	18	4	13
1853	Dover to Ostend.....	80½	3	13
1853	Frith of Forth.....	6	4	13
1853	Port Patrick to Donaghadee.	25	6	13
1853	Across River Tay.....	2	4	13
1854	Port Patrick to Whitehead...	27	6	12
1854	Sweden to Denmark.....	12	3	12
1854	Italy to Corsica.....	110	16	12
1854	Corsica to Sardinia.....	10	6	12
1855	Egypt.....	10	4	11
1855	Italy to Sicily.....	5	3	11
1856	St. of Canao to Cape Breton	1½	3	10
1857	Across Norway Fiords.....	46	1	9
1857	Across Mouths of Danube ...	3	1	9
1857	Ceylon to India.....	30	1	8
1858	Italy to Sicily.....	8	1	8
1858	England to Holland.....	140	4	8
1858	England to Hanover.....	280	2	8
1858	Across Norway Fiords.....	16	1	8
1858	So. Australia to King's Island.....	150	1	8
1858	Ceylon to India.....	30	1	8

Laid.	Places connected.	Length.	No. of years in Condr. Opera'n.	
1859	Alexandria.....	2	4	7
1859	England to Denmark.....	868	4	7
1859	Sweden to Gothland.....	64	1	7
1859	Folkestone to Boulogne.....	24	6	7
1860	Across rivers in India.....	10	1	7
1859	Malta to Sicily.....	60	1	7
1859	England to Isle of Man.....	30	1	7
1859	Suez to Jubal Island.....	229	1	7
1859	Jersey to Piron, in France...	21	1	6
1859	Tasmania to Bass's Straits...	240	1	8
1860	Denmark—Great Belt.....	26	9	6
1860	Decca to Pegu.....	116	1	6
1860	Barcelona to Mah'n.....	180	1	6
1860	Minorca to Majorca.....	36	2	6
1860	Iviza to Majorca.....	74	2	6
1860	St. Antonio to Iviza.....	76	1	6
1861	Norway across Fiords.....	16	1	5
1861	Toulon to Corsica.....	105	1	5
1861	Holyhead to Howth.....	64	1	5
1861	Malta to Alexandria.....	1535	1	5
1861	Newhaven to Dieppe.....	80	4	5
1862	Pembroke to Wexford.....	63	4	4
1862	Frith of Forth.....	6	4	4
1862	England to Holland.....	130	4	3½
1862	Across River Tay.....	2	4	4
1863	Sardinia to Sicily.....	243	1	3
1863	Persian Gulf.....	1410	1	2
1863	Otranto to Aviona.....	60	1	1½
1865	La Calle to Bicerte.....	97½	1	4
1865	Sweden to Prussia.....	75	3	1
1865	Bicerte to Marsala.....	7½	1	1
1865	Corsica to Tuscany.....	161½	1	10 mos.
1866	Valentia to Newfoundland...	1866	1	11 days.

Total miles..... 8677

Several cables of shorter length, not included in this table, are in operation in different parts of the world, but they are of minor importance, and their working does not materially affect the problem of deep sea telegraphy.—*Hamilton Spectator*.

5. THE NORTHERN OVERLAND TELEGRAPH.

This telegraph line will be a gigantic one, extending through British America, 1,200 miles; through Russian America, 900 miles; across Behring's Straits, 184 miles; across the Gulph of Anadyr, 210 miles; and thence overland to the mouth of the Amoor River, 1,800 miles,—or a total of 4,294 miles. At the Amoor it is to be continued by a Russian line connecting it with Irkoutsk, through Western Siberia, communicating with Nijni Novgorod Moscow, and thence to St. Petersburg. The capital involved amounts to \$10,000,000.

III. Papers on the Needle Gun.

I. THE PRUSSIAN NEEDLE-GUN INVENTED IN CANADA.

The Paris correspondent of the *Liverpool Journal* narrates as follows the toils and disappointments of the inventor of the needle-gun:—"If the Peace Society had offered a reward for the invention of the best means of putting a speedy end to the war, the prize might certainly be claimed by the inventor of the needle-gun, which evidently proves to be the secret possessed by Bismarck, and to which he has so often alluded as ensuring a successful termination of the struggle with Austria. The news of the complete defeat of the latter, after a terrible combat in which the whole forces of both parties were engaged, has filled with dismay even those who had hoped for this very result; for it is owned that neither to superior bravery nor skill, neither to superior numbers nor advantage in ground, is the victory owing, but simply to the employment of the needle-gun. The arm which has shown itself equal to the task attempted in vain by philosophy and religion that of staying the combatants and arresting the progress of the war has a history exactly similar in all points to that of every other invention. It is well known to be the produce of the long study and perseverance of an English officer who, while stationed at a solitary outpost in Canada, amused his leisure hours with experiments in the rough construction of a substitute for the rifle which he had damaged by letting it drop down a precipice while in pursuit of a bear. It was almost by accident that the discovery became palpable to the solitary hunter in the woods. But no sooner did it become manifest to his senses than he resigned his commission in the army, returned to

Europe, and as a matter of course, hurried to the War Office with his invention, certain of its adoption in the English army, from its evident superiority over the old fashioned weapon in use. For more than a year was the inventor kept in suspense. The Enfield rifle met him at every turn. He was handed about from one official to another during all this time merely to be told at last that Government did not feel disposed to alter the principle of the arms employed.—It was then that in disgust he brought his invention to Paris and met even more a bitter mockery of fate than at London. He obtained an interview with the Emperor, who listened with the greatest interest to the description of the gun, examined the plans and sections bro't by the officer, much questioned the superiority of the invention over others which had been laid before him, declared it seemed to him liable to the great objection of being too delicate for field use, and abruptly sounded the little gong which stands upon his bureau, and, slightly rising when the usher entered at the summons, dismissed the visitor to admit other importunates. It was then that, with the undaunted perseverance of inventors in general, he betook himself, armed with his needle-gun, to Holland, whose Sovereign had always manifested great interest in the advancement of gunnery, and who had first become the purchaser of a steel caulker to repair instantaneously the damage caused by the enemy's shot in ships' sides, which, being the invention of a poor carpenter's journeyman, had nevertheless found its way into the Royal presence, and had been accepted without the slightest attempt at bargaining. But, when arrived at the Hague he found that his resources had dwindled away to such an extent that he was compelled to delay his presentation to the King for want of proper costume to appear in. Meanwhile, he became accidentally acquainted with one of the gentlemen attached to the Prussian Legation at the Hague, and to whom he recounted his bitter grievances. This time he was listened to with interest. The brother-in-law of his new friend held some appointment at the Court of Berlin. War and revolution were already floating through the air. He saw at once all the advantage which might accrue from being the first to present a new and valuable instrument of destruction to Bismarck, so determined to destroy, and he lost no time in repairing with the Englishman, to Berlin. Here the way was open—the hour had come, the needle-gun was tried, examined, and accepted in the shortest space of time, the inventor handsomely rewarded, and encouraged to establish himself in Prussia. We have seen the result in this terrible encounter with the Austrians, where courage, skill, prudence and valour were of no avail against the needle gun, which for a long period served as the laughing stock to every *etat-major* in Europe, and which has now become an object of envy to all. The Austrian cavalry, which by sheer interpidity managed to break one or two squares of the Prussian infantry in spite of the needle gun, did so at an enormous sacrifice of life, and proved beyond all doubt that both cavalry and infantry have found their master in the terrible weapon employed by the Prussians in this war. The odds in favor of the needle gun are easy enough to calculate. The Prussians can fire three rounds a minute; if four minutes march be the usual time allotted for a bayonet charge, the Austrian foot soldier must have stood four-and-twenty shots before he could have had a chance of meeting the enemy hand to hand; and should he give way to take his full spring forward, he must of necessity have been struck down. With such certainty of destruction as that provided by the needle gun, all question of right and justice becomes unnecessary.

2. THE SNIDER AND NEEDLE GUNS.

The mighty effect of the Prussian arm of 'precision' does not seem to have arisen from completeness and effectiveness, as compared with other breech-loading rifles, but only in so far, as it is far superior to the weapon in use by the Austrians. The following, from the *Pall Mall Gazette* is quite reassuring, so far as England is concerned—The *Gazette* says:

'The arm is well known to our War Office authorities, and the trials which have been made with it in this country have been very unsatisfactory. For anything like long range shooting it is absolutely useless, while its shooting qualities at shorter ranges are very much below the standard which we have adopted. For a breech-loader it is a slow arm, its rapidity of fire not being quite one-half of the Snider-Enfield, and little more than twice that of a handy muzzle-loader—The escape of gas at the breech, after the arm has been in use for any time, is said to be excessive—so great, in fact, that the Prussian soldiers prefer to deliver their fire from the hip. The needle and trigger arrangements require very careful cleaning, and the employment of a spring as a material element is very objectionable. The needle itself is much exposed to injury, as if bent or broken the arm is rendered useless.

'The ammunition is open to numerous practical objections; among which its susceptibility to injury from damp and other causes is very prominent. In short, it is no exaggeration to say that of

the various breech-loading rifles which have been submitted to the Select Committee, the Prussian needle-gun, with some recent improvements is one of the most defective. Its defects indeed were so conspicuous that it was thought unnecessary to carry out with it any extensive experiments. A committee of French officers, we believe, came to a precisely similar conclusion. And yet it is with this arm that the great battles in Bohemia have been fought and won, and with which the overthrow within a few days of one of the mightiest military nations in the world has been in great part accomplished. To us this should be a source, not of anxiety, but of satisfaction—We are not, as is sometimes incorrectly represented, behind hand in this matter. Neither France, nor Italy, nor Austria, nor Russia, has taken any decided steps towards arming her troops with a breech-loading rifle; and Prussia is the only nation of any importance in Europe whose armies are so equipped.

'We, on the other hand, are now actively engaged in the production of an arm superior to the Prussian needle-gun at all points, and one of which the efficiency in every respect has been laboriously and conclusively established. The final report of the Select Committee has, we understand, been presented, and is even more satisfactory than the preliminary reports, on the faith of which the partial conversion of Enfield rifles was commenced. It now only rests with the authorities to determine at what rate the conversion shall proceed. Our means of production are practically unlimited, and we trust that General Peel will inaugurate his reign at the War Office, by so applying those means as to ensure our army being furnished throughout, within the present year, with a breech-loading rifle at present without its equal as a military arm in Europe.'

IV. Papers on Practical Science.

1. THE TREES AND THE WINDS.

Philosophers tell us that the winds gain velocity by unobstructed travel; and the fact is verified by the dreadful hurricane on the ocean, the raging tempest on lake, and sea, the awful simoom on the African desert, and the furious tornado on the American prairies—all which strew their paths with desolation, because their are no trees to check the violence of the winds. Even our sudden gusts in summer, when the air becomes too much rarified by heat, are often destructive to life and buildings.

All these besoms of destruction would be greatly modified could trees be planted in their paths. The trees getting the first strokes, and being flexible, would bend before the blast, breaking its force and making it pass harmlessly over buildings or other stationary objects. The electric fluid, so destructive of life and property, also is attracted by trees, and conducted into the ground; and, in fact, trees are the best protectors against all the natural destructive agencies with which man has to contend.

Another consideration as to the value of growing trees is a fact that a park of any size is warmer when belted and grooped with trees, in winter, and cooler in summer, which has been demonstrated by practical experience for centuries. Many fruiting and ornamental plants flourish when so protected, that would not live if exposed to bleak winds. Domestic animals, too, grow faster, thrive better, and give better returns if sheltered and protected by trees. Much better is it also to rest under their broad branches on a hot summer's day or to be enlivened by their cheering green when all else is dull and cheerless.

A feeling of admiration and awe comes over me when I think of the wonderful wisdom shown in the forms or natures of trees to suit our various wants. If we plant trees with naked stems and branchy heads to shut out unsightly views, the work is only half done, as we can see through and under the branches; but when we plant evergreens, whose largest branches are near the ground, they fill up the gap and the work is complete. With fruit trees the same beneficence is manifested. We have to climb up trees to pick the large fruits, which when green are unfit for eating; while it would be tedious to pick the thorny gooseberry and blackberry, did they grow upon trees.

We say, therefore, plant trees for shelter and shade, for embellishments to your grounds and adornment to the landscape; they are grand and ennobling to look upon, and their fruits and timber in a few years growth will be as valuable as gold.—*Gardener's Monthly*.

2. WATERS OF THE ST. LAWRENCE.

It is said the St. Lawrence river carries by Montreal 50,000,000 cubic feet of water per minute; and in the course of one year bears 143,000,000 tons of solid material, held in solution in the sea.

3. MISCELLANEOUS STATISTICS OF CANADA.

We are in receipt of a blue book, Part 1, of Miscellaneous Statistics of Canada for the year 1865, issued from the office of the Minister of Finance. The auditor, Mr. Langton, in the preface, makes a very gratifying announcement, viz: "the table of railways which appears this year for the first time, and which, in spite of the financial difficulties which almost all of these undertakings have experienced, exhibits the satisfactory results, that the gross receipts of all the railways have been nearly \$11,000,000, whilst the working expenses, including renewals of rails, bridges, &c., have barely exceeded \$7,000,000, leaving a net profit of \$3,782,576 on a total capital expended of \$121,543,189." The second part of the statistics, containing the municipal returns, will, it is expected, be ready for distribution before the close of the present session.—From the book before us, we compile the following interesting statistics:

LANDS SOLD—

Number of acres disposed of by sale and free grant, to December 31st, 1866, in Upper Canada, 21,488,342; in Lower Canada, 19,089,355.

POPULATION—

In 1852 the population of Upper Canada was 952,004; Lower Canada, 890,261. In 1865, that of Upper Canada was 1,655,022; Lower Canada, 1,266,840; and the ratio of annual increase being, for Upper Canada, 4.34 per cent, and for Lower Canada, 2.50.

IMPORTS AND EXPORTS—

Total value of exports for 1863, \$41,831,532. For 1865, \$54,219,759. Total value of imports, 1863, \$45,964,493; for 1865, \$44,227,822. Total duty, 1863, \$5,169,173; for 1865, \$5,617,811.

RAILWAYS—

Great Western Railway, 1865—Road open for traffic, 345 miles; number of engines owned, 94; number of first-class cars, 83; second-class do, 97; freight cars, 960; number of tons of freight carried during the year, 455,073; total receipts for year, \$3,370,637; total working expenditure, \$1,305,267; number of persons employed working the line, 2851; number of persons accidentally killed during the year, 15. Amount paid during the year for interest, dividends, &c., \$1,805,752.

Grand Trunk Railway, 1865—Road open for traffic, 1377 miles; number of engines owned, 293; first-class cars, 145; second-class, 72; number of freight cars, 2,718; freight carried, 1,001,687 tons; total receipts, \$6,470,998; total working expenditure, 3,857,806; number of persons employed working line, 5,370; persons accidentally killed, 38. Amount paid during year for interest, dividends, &c., \$1,538,320.

London and Port Stanley Railway—Road open for traffic, 24½ miles; number of engines owned, 2; number of first-class cars, 3; number of second-class, 6; number of freight do, 28; freight carried, 23,291 tons; receipts for year, \$33,191; total working expenditure, \$26,044; persons accidentally killed, 1; amount paid during the year for interest, dividends, &c., nothing.

Welland Railway—Length of line, 25½ miles: receipts for year, \$100,016; working expenditure, \$69,746.

Northern Railway—Length of line, 97 miles; receipts, \$506,748; working expenditure, \$275,941.

We also find returns from the remaining eastern Canadian railways but omit the same as of no particular interest to Upper Canadian readers.

TELEGRAPHS—

Montreal Telegraph Company—Length of line opened, 4,326 miles; number of stations opened, 331; number of messages sent during the year, 444,878.

CORONER'S INQUEST—

Number of inquests held in Upper Canada during 1865, 659; coroner's fees, and expenses, \$7,019. The verdicts returned were, murder, man-slaughter and infanticide, 18; suicide, 16; results of intemperance, 17; found dead, cause not stated, 27; natural causes, visitation of God, 306; burned or scalded, 14; drowned, 264; killed by falling of trees, 10; killed by railways, 8; killed by horses or carriages, 5. Total 659. Other accidental deaths upon which no inquests were held number 100.

V. Papers on Drawing.

1. BLACKBOARD DRAWING.

How to keep busy little fingers out of mischief, how to keep bright little eyes wide open, and how to make amusement a means of introducing useful ideas into inquisitive little heads, are among the many *hows* which constitute the knotty problems for the teacher's solution. A familiar picture is that of a country school on a summer's day. A dozen pairs of eyes bent on the lesson; some intense and eager; some with a curious blending of disgust and determination, which

says in the language of eyes. "I hate you sincerely, but I am used to obedience; and besides, the harder I study the sooner it will be over." Others, with fewer scruples, cast furtive glances through the window, and vary their "Examples for Practice," by the introduction of practical problems running this way:

"Given the time of day, nine hours, forty-five minutes, thirty seconds A. M., to find the exact time which must elapse before recess; that event occurring at ten hours, thirty minutes A. M.

Others, and our teacher counts their number with a little nervous apprehension, are as oblivious to the duty of intellectual culture as the birds singing their songs among the branches of the great maple by the door, either dreamily gazing around and out, or in dream-land proper, contemplating things as remote as possible from school-house and spelling-book.

To lessen the frequency of these periods of inattention and idleness, to clear the cloudy brows and awaken interest and enthusiasm, is the result for whose attainment the teacher's ingenuity is constantly exercised.

Among the many expedients resorted to, drawing on the blackboard is a very successful one; and combining, as it does, pleasure with great profit, it should receive considerable attention.

With children, the habit of observation, and the faculty of distinguishing outline, form and colour, need careful culture. This exercise is admirably adapted to this end: and, by increasing in youth the activity of the observing faculties, its advantages are felt through life. Aside from this, the acquired skill of hand and accuracy of eye will always be of great service. How many of these little boys and girls who play every day in the woods could tell you the shape of a maple leaf! Pick up two or three that have blown near the door, and show them how all the stems are nearly the same length; how in each leaf they diverge into five parts, called veins, because, like the blue veins which can be traced under the skin, carrying the blood to the heart, to be purified and sent through the body, they carry the sap up into the beautiful green blade, where the fresh air and warm sunlight convert it into nourishing food for the growth of the tree. Show them how regularly the margin forms a point at the extremity of each vein; and between each vein curves inward towards the base of the leaf, dividing it into three distinct and five distinguishable lobes, there being another point midway between the extremity of the veins and the deepest curve of the margin, and each leaf so nearly resembling the rest that one description will answer for all. Then, if our school room is provided with sufficient blackboard surface, as all school rooms should be in this enlightened nineteenth century, arm each little scholar with a leaf and a chalk pencil, and proceed in this way, illustrating by using the chalk yourself during the whole exercise, just as you instruct them.

Let each one look carefully at the leaf he holds, and estimate with his eye the distance between the extremity of the middle vein and the base of the leaf. Then make light dots on the board for these points. In the same way, fix a light point for the end of the stem, estimating carefully the distance and direction from the first two points. Now, draw the middle vein and the stem in one line—straight, if it be so in the leaf—curving or angular, if it be so there. In order to represent it naturally, begin at the extremity, and, merely resting the chalk on the board, draw it lightly in the proper direction, gradually increasing the pressure, until, near the base of the leaf, the line is as distinct as can be made. Next, fix points for the extremities of the outside veins, observing carefully the angle of the form with the middle vein at the base of the leaf. This is usually a little less than a right angle. Then, beginning at the extremities, draw them in the same manner as the other; observing, always, that, just at the extremity, they should be scarcely visible, but should gradually increase in strength, until, near the base, they have become as decided as they can be made. They divide the angles formed by the middle and outer veins equally, and extend nearly as high up as the middle one. Now, the framework is complete, and we are ready to represent the margin. Look carefully at the leaf, and determine the position of the points which mark between each vein the nearest approach of the margin to the base of the leaf; these, being equally distant from the base of the leaf, and the veins on each side, are easily placed. Then, proceed to draw the left half of the margin first, so that in drawing the last half you will be able to see what is finished, and make the two sides correspond. Observe this in all drawings. Begin at the extremity of the middle vein. As in blackboard drawing it is principally facility in outlining, and not shading, that is acquired, nearly all lines are to be made distinct, and by bearing on firmly with the chalk. The exceptions are veins, and some familiar lines that are not outlines. Observe then in drawing the margin, to make firm, decided lines. You will notice that the points are all very sharp, and the curves between them very rounding; that the margin, between where it curves nearest the base of the leaf, and the point midway between this and the extremity of the vein, is a line, parallel with this vein,

and not standing, in the least, towards the next one; and between this point and the extremity of the vein it approaches so near that the end of the lobe looks long, narrow, and pointed. Do not take off the chalk until the left side is finished. Draw the right in the same way, beginning at the middle. There are, usually two points in the margin on the outside of the outer veins. Make the number always correspond to that of your specimen.

In drawing the red maple leaf, begin in the same way; but to draw the margin, first draw a straight dotted line, indicating its direction, and then draw the finely-notched margin right over it; but be very careful to make the dotted line so faint that it will be visible only to the person drawing it, otherwise, the beauty of the drawing will be spoiled. Never attempt to make as many or so large notches with chalk as you find in the leaf, or the number and size will appear exaggerated.

For the size, when as small and sharp as in the red maple, they are best expressed by simply drawing the chalk back a little with a greater pressure, and proceeding to the next one in the same direction. In the chestnut, where they are larger, after dotting a straight line for the margin, make *very* small, sharp notches when you draw it, and notice that the curve between them is long and flat. Draw the notched margins in a continuous line; never make a line first and draw the notches afterward; and they must all point toward the end of the large vein, and not outward. When the small veins are as prominent as in the chestnut, they may be drawn when the rest is finished. Observe carefully the angle they make with the large vein, and give them all the same slant. In the chestnut, one extends to each point. These must be drawn *very* lightly—so lightly that, at some distance from the board, they can only be distinguished by the general effect they produce.

The greatest difficulty will be to prevent drawing too hastily; and to accomplish this, permit no one to draw a single line until you have given directions. Teach them to practise the greatest exactness in fixing points. It will benefit them far more to outline one leaf with care, than a dozen hastily. Indeed, the latter is only a disadvantage, as it encourages a carelessness which will always preclude accuracy. If required to draw slowly at first, they will soon learn its advantage, and do so from choice.

This article is intended particularly for those who teach young scholars; and any one, even though he may never have been taught the art of drawing, if he only possess patience, neatness and ordinary tact, can, by following these suggestions, acquire sufficient skill to delineate such simple forms, and teach his scholars to do likewise.

Leaves are not the only things that can be copied from the original itself; but they are among the most simple and beautiful, and capable of yielding amusement and profit a whole summer's term. And, when the term is through, every scholar will have gained a better knowledge of the distinctive features of different leaves, than in years of ordinary observation; and will have learned to see with clearer eyes, and feel with keener perception, the beauty of these graceful works of the Creator's hand.—*Normal*.

2. RECEIPT FOR MAKING BLACKBOARDS.

For twenty square yards of wall, take three pecks of mason's putty, (white finish,) the pecks of clean fine sand, three pecks of ground plaster, and three pounds of lamp black mixed with three gallons of alcohol. Lay the mixture evenly and smoothly on the surface to be covered.

Note.—The alcohol and the lamp black must be well mixed together before they are mixed with the other ingredients.

Another.—To 100 lbs of common mortar, add 25 lbs of calcined plaster; to this add twelve papers of the largest size of lamp black, this is to be put on as a skin coat, an eighth of an inch thick on rough plastering, after it has been thoroughly raked and prepared, this should be covered with a coat of paint, made in the following manner. To one quart of spirits, add one gill of boiled oil, to this add one of the largest papers of lamp black after it has been thoroughly mixed with the spirits, to this add one pound of the finest flower of emery, this paint may also be put on boards or canvass, this should be constantly stirred while using, to prevent the emery from settling. If too much oil, or if any varnish be used, the boards will become more or less glazed, and unfit for use. Some prefer to have the boards behind the Teacher green or bronze, which is more grateful to the eye. This can be done by using chrome green instead of lamp black. None but the very best of emery should be used, some prefer pulverized pumice stone to emery.

All stationary blackboards should have a neat frame or moulding at the tops and each end, and a narrow trough at the bottom to hold the chalk or crayons and the wipers, and to catch the dust from above, this should be so made as to prevent the crayons from falling on the floor and breaking.

VI. Papers on Practical Education.

1. THOROUGHNESS IN THE SCHOOLS.

One of the prominent characteristics of the present age is hurry. Progress is the cry. Everybody is rushing on with incredible swiftness. In a right direction or a wrong one, towards the haven of fortune, or the goal of irretrievable ruin, matters but little. The speed is the thing. On they go, helter-skelter, some to honor, some to shame; but one and all animated only by the same eager desire to "get on." Like the Scotch boy of the story, with his reading, they have "nae time to stop." There can be no pause for thought, no opportunity afforded for reflection. Here to-day and yonder to-morrow; the past neglected, the present disregarded, even the future almost unheeded; "onward" is the cry: on, on, on, right or wrong, safe or dangerous, press on regardless of the warnings around, which there is no time to examine; oblivious to the lessons of the past, on which no attention has been bestowed; and heedless of the impending dangers a glance into the future would discover. It is a feverish race, an excited struggle, a random progress, in which order, arrangement, forethought and adaptation are lost sight of; in which man reviews not the course over which he has passed, counts not up his available resources, nor estimates carefully his present position and future prospects, but rushes blindly and hastily along the track into which he has chanced to fall, trusting somehow or other to arrive before long at the summit of his ill-defined anticipations. The age is proud of this characteristic. It is its glory and its boast. You cannot offer a man who has caught its spirit a greater insult than to call him "slow;" not even if you remind him of the good old apothegm "slow and sure." Prudence, cool calculation, a care to make progress secure rather than rapid, these qualities are at a tremendous discount. He who ventures everything upon the chance of becoming suddenly rich, is, until his venture has proved unsuccessful, the man whom the age delighteth to honor.

This spirit of random hurrying, affects, more or less, our whole social system. It has led our merchants and manufacturers into reckless competition, men of property or of talent into insane speculations, too often resulting in ruin and crime. Hence the gigantic failures, and "commercial crises" with which we are every now and then startled. Hence that absence of calm consideration, and constant comparison of means and ends, which every thoughtful person knows to be so prevalent. We are all too much inclined to think more of pushing on further than of ascertaining our actual position, making that secure, and so gaining a stable foundation for future operations. Is it not too true, that in every walk of life, amongst persons of every grade and condition, may be traced a growing eagerness for change, overcoming and casting into the shade the determination to advance surely, if that can only be done by advancing slowly? Is it not to be feared that this same spirit has been at work even in our schools? that there, as elsewhere, may be discovered numerous instances of more haste than speed? Have we not laid less securely and firmly than we should have done, the foundations of knowledge, before attempting to erect a showy and extensive superstructure? Are we not all—parents, teachers, managers, inspectors, aye and even secretaries and vice-presidents of Education Committees of Council to boot—too ready to pass over but too hastily the early stages of instruction, to leave but imperfectly learnt the elementary and fundamental lessons, which look so simple, but are really so difficult and important, in order that young beginners may make rapid progress, instead of taking care to secure that any progress made, whether small or great, shall be real, secure and abiding? Have we not all been affected by the hasty spirit of the age, and must we not put a curb upon ourselves to prevent our scholars becoming the victims of a system of progress too rapid to be secure?

The Revised Code was put forward, ostensibly at least, as a corrective for one manifestation of this evil, an undue regard for "advanced subjects," and too little care for the elementary instruction of every individual scholar. The allegations made by its supporters, exaggerated and onesided though they were, had doubtless no inconsiderable foundation in fact. Music, drawing, chemistry, science, common things, and a heap of other subjects had been made much of. Inspectors and the Committee of Council had been at least as much to blame in this matter as teachers who had only yielded, and that not to so great an extent as was supposed, to the pressure brought to bear upon them. But without inquiring too curiously into who was to blame, we may admit that there had undoubtedly been too much done in the way of building educational "castles in the air." With the short and irregular attendance of children of tender age, it was thought possible to add to the humble teaching of former years an acquaintance with subjects requiring for their mastery the attentive study, and continuous attention of maturer minds. And it was not until it was discovered that the attempt not only failed, but actually left unlearned or badly learnt

what under the despised "humble teaching" had been thoroughly acquired, that educational theorists would listen to the practical educator's protest against being required to erect the superstructure before he had securely laid the foundation. To many a teacher the authoritative announcement that the fundamental subjects of reading, writing and arithmetic, were henceforth to be regarded as of primary importance, came as a great and well appreciated relief, though it was unfortunately accompanied by other regulations and arrangements which could not command his assent. There may be a danger of making teaching too mechanical, of doing too little to cultivate the mind and enlarge the child's mental vision, but the danger of slurring over what is elementary and essential in order to reach more speedily than is prudent to the higher attainments, requires, in this age of general haste, to be still more carefully guarded against.

But we must not suppose that all has been done when we have placed under due restriction the subjects to be taught. This indeed is after all but the smallest part of the matter. The principal must be carried out in the teaching of these, and of all subjects. And here, too, the same temptations exist, and the same caution is needed. The simplest elements need the most careful teaching, the most minute points require a larger share of attention. For to a learner the first steps are always the most difficult, and having failed thoroughly to master them, makes further progress unreal, and often impossible. Rapidity here is sure to defeat its own purpose. Slow, careful, steady progress, frequent repetitions, constant testing, long continued practice are more than ever essential. Do we always provide for this? Do we not rather weary of going over again and again what is so well-known, so simple to us, but with which nothing else can make the learner familiar, and set him free to proceed without leaving an unconquered enemy in his rear? Is it not a fact, for example, that all our series of "School Reading Books" provide far less elementary than advanced reading? the size of the book increasing with the difficulty, as if a child in the fifth standard wanted more practice than one in the First or Second? And in the same way our "Copy-Books" pass over the elementary formations, a fault which seems on the increase rather than otherwise, as a "New Series" recently issued devotes but a single book of twenty-four copies to all the elements and the small letters of the alphabet. It cannot be unnecessary then, to urge teachers to consider the paramount importance of teaching very patiently and thoroughly the primary elements of any subject of instruction.

Among the measures necessary to ensure that adaptation of the instruction given to the capacities and requirements of each of its recipients, which is essential to the pupil's real and steady progress, that of periodical and frequent examinations of every scholar individually ranks as the most important. No school in which this means of checking undue haste, and correcting too unfavourable assumptions as to the work done, is not provided for, can hope to be successful. Such examinations should be searching, frequent and systematic. Everything done should be thus reviewed, tested, and when necessary, supplemented. Nothing has been taught till it has been received, and it is better to find out the weak points, whether arising from defects in the teacher, or the scholar, at an early period, than to leave the Inspector's Examination or the scholar's after-course to bring them to light. This thorough enquiry into the work done may easily be shown to be no less essential than the importation of new knowledge, and the time spent in it should not be regarded as so much deducted from the business of teaching, but as so much devoted to securing the *reality*, as opposed to what might have been only the appearance of progress. In addition to their value in this respect we may also suggest that such examinations, properly conducted, will prepare the school for those examinations at which the "results" have a pecuniary value. For children never do that well to which they are not accustomed, and it becomes therefore very important to make them perfectly familiar with the scene of an examination. On this account, if for no other, it would be well if clergymen and school-managers generally could be prevailed upon to assist the teacher, on some of these occasions, in the discharge of this part of his duties, and so, by making strange examiners no unusual items in the children's experience, prevent that nervous feeling which sometimes seriously impairs the "results" on which the income of the schools so much depends. But whether such help can be obtained or not, every teacher who tests the matter fairly, will soon be convinced that frequent examinations into every child's attainments on all the subjects in which he has received instruction, the results of which are made use of as incentives to renewed efforts on the part of both learners and teachers, and serve also as a guide in the classification of the school, and in the selection and arrangement of the subjects for future instruction, are far too valuable to be dispensed with.—*English papers for the School master.*

2. ERRORS IN THE SCHOOL ROOM.

"To err is human." It is to be expected that some errors will be found in every school. Burke says, "He censures God, who quarrels with the imperfections of men." While it is human to err it is man's prerogative to improve, to investigate, to reflect upon his own errors and to take measures to avoid them. In correcting our errors the first step is to find what errors we commit; the next, to decide upon the means of avoiding them. From conversation with school officers and examination of school reports, we have learned some of the prominent errors of the school room. We herewith present a list that we have compiled, to enable teachers to examine their own operations and avoid all common errors.

1. Want of good order is the error most frequently mentioned.
2. Teachers generally talk too much. In some schools the teacher talks more than half the time. Teachers might just as reasonably attempt to eat for their pupils as to think for them, study for them, or recite for them.
3. Teachers waste time at recitation in asking questions. Some teachers ask long questions and receive short answers—often "yes," or "no." A teacher's questions should be few and short; the scholar's answer should be full and correct, and, as a general rule, nine times as long as the question.
4. There are too many "Is it's." The teacher describes something, or answers a question, and then says "Is it?" "Is it" could very profitably be banished from the school room.
5. Scholars help each other too much, and they get too much aid from the teacher. Three-fourths of all the help which scholars receive from their teacher or school-mates is an absolute damage to them.
5. All scolding, threatening and harshness are errors.
7. Time is wasted in coming to order at morning, recess and noon.
8. Time is lost for want of promptness in coming to, and in going from class, in reciting and beginning to study after a class.
9. Pupils sometimes study in an improper manner.
10. Too many studies, and improper studies.
11. Too many hours spent in recitation, too few in study.
12. Reviews are neglected.
13. Injurious position of body, lack of ventilation.
14. Want of life and interest.
15. Want of object in each exercise.—*Normal.*

3. COMPOSITION AND RHETORIC.

There is no doubt that the practice of writing out passages from good authors is very beneficial as a means of improvement in composition. The frequent reading of such works as are distinguished for purity of style as well as brevity and force of expression is recommended. Macaulay's "Essays," for instance, if constantly read, must tend to improve the style of composition. In both speaking and writing it is certain that, to express one's ideas clearly and well in as few words as possible, is a great perfection. A literary man, whose valuable works are well-known to the world, says that after writing an article he carefully revises it, striking out every unnecessary word, and even substituting a word of two syllables for one of three, or of one for two, wherever it can be done without interfering with the sense and full force of the sentence.

VII. Papers on the Profession of Teaching.

1. IS TEACHING A DESIRABLE PROFESSION?

Many influences help to determine the choice of occupation. A person must live from his labors; then come thoughts of wealth, influence, power, ease, fame, pleasure, duty, &c.

In many of these respects a teacher's life is a desirable one. A teacher, though seldom largely paid for his services, can generally obtain a fair salary. A young man can enter the teacher's profession earlier in life and at less expense than he can other professions. The young physician or attorney ordinarily waits years before his business will give him a support. These professions seem to be more than full. But a young teacher can find immediate employment. Good teachers are in constant demand. In all parts of the country there are more good situations than there are good teachers to fill them. There are commonly several applicants for every good situation, but often some or all the applicants are unfit for the place.

1. Teaching gives one many opportunities to do good. No member of society can be more useful than the teacher. He exerts a direct influence upon the happiness of all the children, and through them, of all the families in the community. He can in a measure, whatever the sources of unhappiness, render the childhood of his pupils bright, sunny and joyous.

2. A teacher can exert great power and influence. Most men love power, work for it, and, if successful, take pride in it. The power of individuals is generally limited in amount and uncertain in duration. A few men in every age, by energy, honesty, virtue and devotion to duty, obtain the confidence and affection of their fellow-men and exert a mighty influence. Accident, wealth or office sometimes gives one a short opportunity for doing good or evil. A teacher has the power of moulding the human mind, of forming character, and developing energies and agencies which may affect the history of the world. Every really great teacher has left behind him an influence which has constantly increased, and affected in a greater or less degree the institutions, modes of thought, and the pursuits of succeeding generations.

3. It furnishes opportunities for self culture. Many occupations dwarf and cramp the faculties, and narrow, or at least do not expand the soul. Teaching gives opportunity for study, reflection and reading. The teacher has time to become familiar with the various sciences, arts and literatures. Out of school, his time, or a portion of it, may be given to such studies as enlarge the mind and fill it with elevated ideas.

4. It brings the respect of pupils and patrons. All really good teachers are loved and held in lasting remembrance by many of their pupils. Old men point with pride to their early instructors and delight to rehearse their sayings and to boast of their virtues.

5. It affords a fine field to acquire fame. The world loves to honor its benefactors, and the world is waiting and longing for some man to make discoveries and improvements in teaching; for some man to reduce teaching to its first principles, to analyze and describe the human mind and the steps and periods of its development; to investigate the adaptation of studies to the various grades of mind and stages of development; to determine the changes which occur in the mind itself from study, and from age without study; and to so investigate and explain the whole subject of education, that its results shall be as definite and speedy as those of the exact sciences and the manufacturing arts. Such a man will in time appear, and he will make for himself a name second to none of the honored names of the earth.

There is then no more promising field of labour than that of teaching. It offers many and some of the strongest inducements which can affect the human mind: competence, speedy employment, opportunities for self culture, for doing good, for acquiring power and lasting fame.

2. A WORD ABOUT SCHOOL TEACHERS.

For the Journal of Education.

The idea that the teacher's office is merely to impart instruction is far too prevalent. Whereas it is their duty to teach the pupils to think for themselves; and to educate the heart as well as the head. The imparting of instruction is the easiest part of the teacher's task: yet this is what a superficial observer is apt to take as a criterion of a teacher's merits.

Men and women, who devote their energies to the education of youth, will have many obstacles to overcome. Parents and children are prejudiced in favour of the system of training and discipline to which they have been accustomed; and, generally speaking, they do not receive improvements in a very friendly manner. Some people there are, but we are glad to say their number is decreasing, who look on the teacher as a mere machine, who performs a certain amount of work for a stipulated sum of money, and who are well satisfied provided the salary is unreasonably low. However, experience proves the best teachers are the cheapest.

We think in these days, when the number of teachers exceeds the demand, that *third* class county board certificates can be dispensed with. The loss would be gain to the public, who generally have no conception of the small attainments necessary to obtain a third class certificate. Any person, with fair ability, could raise themselves from the third to the second class, and the few who could not or would not, might find some employment suited to their capacities and tastes.

M. S.

3. UPPER CANADA TEACHERS' CONVENTION.

The sixth annual convention of the Teachers' Association for Upper Canada took place on the 7th, 8th and 9th inst. The president, the Rev. Dr. Ormiston, of Hamilton, upon taking the chair, requested the meeting to accompany him in prayer for the Divine blessing upon the proceedings of the convention. Prayer being over, the President proceeded to deliver an address. In the first place he took the opportunity of returning thanks to the association for having chosen him as its president. He then referred in pleasing terms to his career as a teacher—a period which he said extended

as far back as twenty-five years. At that time there was no system of teaching as at the present day. If a man were a British subject and willing to take the oath of allegiance that was all that was required of him. Since that time great improvements had not only been introduced into the schools but into every department of labor, and he considered it the duty of the teacher to keep pace with the improvements that were being daily introduced around him. People now spoke to each other by lightning, and brought machinery to such perfection that it was made to do everything but speak. When he was a boy they used to gather potatoes with their hands, but now a machine might be seen passing over the field gathering up the potatoes and sifting the valuable from the useless. And machinery had been carried even so far that a rotary beef steak broiler had been introduced—causing the steak to be not only more palatable, but also more digestible, than that of former days. (Laughter.) His remarks, he said, would be directed to the teachers and to the duties that occupied their attention. In referring to the responsible position in which the teacher was placed by having to train the youth of the country, he said he believed in the use of machines in their proper places, but he did not believe in parrot teaching in a school. Teachers were required that were in the highest degree capable of performing the important duties entrusted to them. Men were wanted that thoroughly understood their business—men who were entire masters of the subject which they attempted to teach. Some men might be very good in workshops, but in schools they would be useless. A man should not only well understand what he was about to teach, but he should be capable of imparting instruction. He might be well versed in Hebrew and might be able to read Sanscrit, but might be nothing better than a parrot in the schools. The learned lecturer then proceeded, at considerable length and with much force and eloquence, to contend that teaching was a profession, and as such should stand second to none in the community. He urged upon those who felt that they were unfit to teach to withdraw from the schools, as the presence of such, he contended, was injurious not only to the pupils placed under their care, but to the country at large. He spoke strongly against the separate school bill recently before parliament, believing as he did that the country would be benefited much more by having the youth of Canada taught in the same schools, instead of separately. By this course of education they would grow up without any hostile feeling towards each other. The lecture of the president was received with loud applause. A committee was appointed to report on the many valuable suggestions contained in the address, and to have it incorporated into the minutes.

The President's address.—The special committee appointed to report on the address of the president, reported. 1st. Pleased that some of the changes proposed by Dr. Ryerson in the mode of conducting the examination of teachers is likely to come into operation. 2nd. Agree with the remarks of the president that the faculties of children are developed at different periods and in a certain order, and think that lessons should be adapted to that order of development. 3rd. The president's opinion that the agitation in regard to separate schools should be deprecated is in accordance with the views of the majority of the people of Upper Canada. 4th. Regard the religious character of the teacher as a qualification of vital importance. 5th. Suggest the publication with the minutes of Dr. Ormiston's address to the convention.

United States Delegate's Report.—The delegate appointed at last meeting to attend the annual convention of the national association of the United States, held in Harrisburg, Pennsylvania, in August last, next presented his report, which was very lengthy. It not only presented a statement of the proceedings at the American convention, but also remarks, views, opinions and suggestions by the delegate himself, on a variety of topics indirectly connected therewith. After the reading of the report it was proposed that the report he received and the delegate thanked for his trouble in preparing it.—To this an amendment was moved and seconded that the statement of facts contained in the report just read be received, but not the opinions and suggestions of the delegate. The amendment was carried.

The proposed reconsideration of the vote on the American delegate's report of the day previous was next moved, and carried by 22 ayes against 16 noes. Mr. McCabe moved, seconded by Mr. Watson, "that the report of the delegate be received and referred to the committee on printing." In amendment, it was moved by Mr. McAllister, seconded by Mr. Seath, "that the vote of yesterday be confirmed." The amendment was lost, and the original motion carried.

Physical Education.—A report on physical education was read by Mr. McGann, chairman of the committee. The report recommended in strong terms the necessity of erecting gymnasiums as a necessary appendage to every common school, and exercises in military drill to be practised on alternate days; also calisthenic exercises for girls, with the view of developing the functional organ-

ization of the youth of both sexes of our country. Mr. Dickson expressed dissent to that part of the report which recommended military drill, as it would tend to foster a military spirit among our youth.—Mr. Cullen said that he would resign his position as a teacher of youth if he were called upon to imbue his pupils with a spirit of military ardour which was inconsistent with the spirit of christianity.—Mr. Preston ascribed his mental activity, cheerful spirit and physical strength to the gymnastic exercises he practised in youth, resulting in giving him the choicest of earthly blessings, health of mind and of body.—Mr. Nelles spoke on the beneficial effects of which these exercises were productive. He advocated the necessity of giving our youth a military as well as an intellectual education, in order that they may be able to stand up at a moment's notice to drive marauders from our land. Mr. Nelles' arguments in favor of physical education was warmly received, and on taking his seat he was warmly applauded.—Messrs. Alexander, McCallum, McNaughton and Ferard spoke in favor of the recommendations of the report.

Professor Robbins, head master Normal School, Montreal, and delegate from the Lower Canada Protestant teachers' association, addressed the meeting, giving explicit views of the working of the educational system of Lower Canada.—The following resolution was then moved by Mr. J. B. Dixon, seconded by Mr. R. Canfield, "That the thanks of this meeting be tendered to Prof. Robbins for his excellent address to which we have just listened, and we cannot refrain from expressing our hope that Lower Canada may before long enjoy the blessing of a national system of education, free from all sectarian tests, and that we deeply sympathise with the Lower Canadian minority, and hope that they may enjoy the privilege of the Upper Canadian minority."—Carried.

Dr. Wickson, on the second day, read an appropriate address, for which the thanks of the convention were unanimously voted him.

Finance Committee.—Mr. McMurchy moved, seconded by Mr. A. McCallum, "that Messrs. McCabe and David Ormiston be a finance committee to examine the treasurer's accounts for the year 1865-66, and report at the first session to-day."—Carried.

Incorporation.—Mr. Anderson moved, seconded by Mr. McCabe, "that a committee be appointed to consider the propriety of having this association incorporated, and the best means of carrying out this object, and that said committee consist of Messrs. McCabe, Alexander Buchanan, and the mover, to report in the afternoon."

Mr. McCabe read and submitted the report of the committee on the incorporation of the association, as follows:—"Your committee recommend that steps forthwith be taken to secure the incorporation of this association, provided this can be done under the general act applying to Mechanics' Institutes and Literary Associations. But, if on due inquiry it be found that this cannot be accomplished, your committee would recommend that we ask the legislature for a special act, provided that, after due consideration, the association do not consider the expense attending the passage of such an act too great." After a somewhat lengthy discussion the report was received. Mr. J. C. Buchanan presented the report of a minority of the committee, which was also on motion received. This minority report was in the shape of a petition to the legislature for an act to incorporate the local teacher's associations of the province. As the principal features of such an act it was suggested that all the legally qualified teachers of grammar and common schools in each electoral division for a representative in the legislative assembly of Upper Canada, be a body corporate under the name of "The Local Teachers' Association of—" and as such have a perpetual succession and a common seal; that each of the local associations shall annually elect a delegate to represent it in the general association; that the delegates so elected be a body corporate under the name of "The General Association of the Teachers of Upper Canada;" that the associations, both local and general, have power to frame by-laws for their government, to impose fines, &c; that the common and grammar schools of Upper Canada be entitled to send a member to represent them in the legislative assembly, such member to be elected by the general association. The minority report did not receive the approval of the convention, and the majority report was adopted on motion of Mr. Scarlett, seconded by Mr. Alexander. Mr. Young moved, seconded by Mr. W. Watson, "That Messrs. McCabe, McCallum, David Ormiston, Alexander and Buchanan be a committee to take into consideration the feasibility of carrying into effect the report of the committee on the act of incorporation and report at the next meeting." In amendment it was moved by Mr. McAllister and seconded by Mr. Seath, "That Messrs. McCabe, Rev. Dr. Wickson and Anderson be a special committee to carry out the wishes of the association as expressed in the report of the committee on incorporation"—which was carried. Moved by Mr. McAllister, seconded by Mr. David Ormiston, "That a committee be appointed to draft a by-law defining the duties of standing com-

mittees, which committee shall consist of Messrs. D. Ormiston, McCabe and the mover."—Carried.

Vagrant Children.—The following topic was introduced, viz:—The consideration of what means can be adopted, in connection with our system of education, for ameliorating the condition of the vagrant children of our cities and towns. In connection therewith, it was moved by Mr. McNaughton, seconded by Mr. Scarlett, "that in view of the great and growing evil of irregularity of the attendance in our schools, this convention would recommend the following as a remedy: That every child in a school section shall be required to attend school at least four months in each year, in default of which the parent, or guardian, shall pay 25 cents for each pupil for each month during which he fails to comply with the above requirement; that for the non-payment of fines, the proper authorities shall have power to punish by imprisonment for a term not exceeding two months, and that no month shall be counted in which the pupil has been absent more than five days." In amendment it was moved by Mr. J. Carlyle, seconded by Mr. Seath, "that this association fully recognize the importance of regular attendance, and hope that ere long measures will be adopted to compel the attendance of all children at school for at least four months of each year." There was a lengthy discussion upon both the resolution and the amendment, in which several of the members took part. On a division, there appeared for the amendment 19 ayes and 15 noes, and it was consequently pronounced carried, and the resolution lost. It was moved that the second topic (viz: The consideration of the present system of granting certificates of qualification to teachers), be the first order of business this morning.—Carried. It was afterwards moved that the third topic (viz: The advisability of appointing township boards of trustees in the rural sections), be considered immediately afterwards.—Carried.

Reception of Delegates.—The following delegates were then received and addressed the convention, viz: Messrs. William Watson of York; Edward Scarlett of Northumberland; William Meredith of the North Riding of Ontario; J. Seath of Peel; Robert Alexander of the North Riding of York; J. C. Buchanan of Waterloo; A. J. Campbell of Wentworth; Thos. Frood of Wentworth; H. Reazin of North Ontario; Arch. Dewar of Huron; W. W. Nelles, M.A., of Huron, and Charles McCartney of Wentworth. Their remarks were principally upon the workings of the school system in the respective localities which they represented.

Interests of the Association.—The report of the committee appointed for the purpose of suggesting the best means of advancing the interests of this association was presented and read by the chairman, Mr. Wm. Anderson, as follows:—

"Your committee having met and taken into consideration the question submitted to them beg leave to recommend: 1st. That a secretary be appointed in each county whose duty it shall be to advocate the formation of associations within the limits of their respective counties, and report annually the result of his labors to the provincial association through its secretary; 2nd.—That a committee be appointed to prepare a circular letter to be addressed to the teachers of the province, upon the importance and advantages of teachers' associations; 3rd.—That in order to facilitate the attendance of teachers at the annual conventions, the summer vacations throughout the rural sections as well as in cities, towns and villages, consist of four weeks, commencing not later than the middle of July; 4th.—That in the opinion of your committee the incorporation of the association would be attended with decided advantages." The report was considered clause by clause, the first and second of which were adopted unanimously and without discussion. The third clause occasioned considerable discussion, and the following was substituted in its place: "That in the opinion of this convention the holding of local and provincial conventions is of great importance to the interests of education and the improvement of the teachers, and that since the present holiday regulations necessitate the holding of local conventions during the sitting of the provincial association, the authorities be respectfully requested to grant the last two weeks in July and the first two weeks in August as a summer vacation for common schools in general, and that all teachers availing themselves of the two weeks additional vacation be obliged to spend at least one week each year in attending either the local or provincial conventions during said vacation." The health of both the teachers and pupils was dwelt upon by several of the speakers as an urgent reason why the four weeks' vacation, as in the cities, towns and incorporated villages, should be extended to the rural sections. The fourth clause was unanimously adopted, and did not call forth any discussion.

Mr. J. C. Buchanan moved, seconded by Mr. J. Hunter, "That the board of directors appoint, in each County of Upper Canada, secretaries in counties or parts of counties to attend to the interests of this association."—Carried.

Recording Daily work in Schools—System of Merit Cards.—The chairman, Mr. McCabe, presented the report of the special

committee, to which the consideration of a uniform method for accurately recording the daily work of the schools, was referred. The following is a synopsis of each clause: 1st. The visit of the late President, Dr. Wilson, to Upper Canada College; 2nd. The committee had several methods under consideration, from schools in Canada and the United States; 3rd. Recommending two distinct plans, one for classes below the standing of the fourth book, and the other being a modification of the plan followed in the Upper Canada College for classes in our common schools above the third national reader, and for the classes in our grammar schools. The first method is as follows: To distribute daily to each pupil present at the opening of the school, one of the small tickets for punctuality, published by the department of education for Upper Canada, and at the close of the school for the day, a similar ticket for perfect recitations, conduct and diligence during school hours. The second method, is: records of these tickets might be made monthly, or otherwise, and would form a good basis for the distribution of prizes, in those schools in which that system exists. It is also suggested, in this connection, that a short abstract, shewing the standing of the pupil in the above particulars, might be furnished monthly, or otherwise, to parents or guardians. 5th. Applicable to the higher classes in our common schools, and to all grammar schools; to keep three books, viz., one for attendance, the ordinary register, and one for punctuality and deportment. A report of the conduct and scholarship should be furnished monthly to each parent, or guardian, to secure his co-operation.

A detailed lengthy statement of the manner in which classes should be managed, was submitted by the chairman, and a class of teachers, as pupils, formed by Mr. Chesnut, which went through with their lessons, some intentionally making mistakes, in order that the practical working of the scheme might be better understood by all present. It was then moved by Mr. Young, M.A., Brighton, seconded by Mr. Watson, "that the report of the committee on the best means of recording the standing of pupils, be adopted and printed in the minutes, for the benefit of the convention."—Carried.

On direction of the board of directors, Mr. McCabe submitted the usual motion, viz: that a special committee be appointed to nominate officers for the ensuing year, to consist of the following gentlemen: Messrs. Alexander, Scarlett, McMurchy, Dickson, Nelles and Young, to report this morning. Two amendments were offered, but failed to carry.

Deputy Superintendent.—J. G. Hodgins, LL.B., Deputy Superintendent of Education, was then introduced to the convention and delivered a short address. He expressed the pleasure it afforded him to meet with them and to know that their association was growing and prospering. The educational system under which they worked, from the common school up to the university, was growing in the affections of the people, and had acquired a degree of strength and influence which was very gratifying. Even in distant parts of the world it was well known and appreciated, and its main features adopted. Mr. Hodgins went on to say that one of the most difficult subjects the teacher had to deal with was to determine exactly the *status* of each pupil in his school and to award prizes in a satisfactory way. The question of awarding prizes had long been an open one, but the general vote so far had been in their favour. The difficulty was, however how to award these prizes satisfactorily. To obviate this difficulty in some degree the series of cards issued by the Department of Education had been prepared. He produced some of the cards and explained their practical working, showing that they were not issued to a pupil because he was better than his neighbour, but because he came up to a certain standard, thus preventing some of the dissatisfaction and jealousy attendant on the usual modes of deciding the standard of the scholar. The Deputy Superintendent then proceeded to speak briefly in favour of military drill in our schools, which the general patriotic feeling of the country was in favour of.

It was then moved by Mr. W. H. Metcalf, and seconded by Mr. W. H. McCabe, "That a vote of thanks be presented by this convention to J. G. Hodgins, deputy superintendent of education, for his very interesting and instructive address." The President complimented Mr. Hodgins and conveyed the thanks of the convention to him. Mr. Hodgins then thanked the convention for the honor conferred upon him.

System of granting Certificates to Common School Teachers.—Mr. Seath moved, seconded by Mr. McAllister, "That in the opinion of this association the present system of granting certificates to teachers by county boards of examiners is injurious to the interests of education and unjust to the teachers; and this association would recommend the appointment of a central board of examiners, the certificates granted by whom would be valid throughout Upper Canada, the examination papers of which board to be distributed amongst sub-boards appointed in each electoral district to conduct the examination and forward the answers to the central board for

adjudication." In amendment, it was moved by Mr. Dixon, seconded by Mr. Young, "That this meeting reaffirms its opinion of last year in regard to the mode of granting certificates." It was further moved in amendment by Mr. Chestnut, seconded by Dr. Carlyle, "That this association, while approving of the original motion presented by Mr. Seath, deems it most prudent to take no further action on this question, in view of the changes proposed to be made in deference to the views already expressed by this association, till sufficient time has elapsed to bring these changes into operation." The amendment proposed by Mr. Chestnut was lost, as was also the original motion and the amendment proposed by Mr. Dixon was declared carried.

Substitution of Township Boards for School Section Trustees.—Mr. Frood moved, seconded by Mr. Dewar, "That this association considers that the substitution of township boards of trustees would be an improvement on the present system, and would obviate many of the difficulties under which teachers in rural sections at present labor." In amendment it was moved by Mr. W. Watson, and seconded by Mr. J. C. Buchanan, "That in the opinion of this convention the contemplated change in the school law, relating to the appointment of township boards of trustees instead of section boards, as at present constituted, would be detrimental to the interests of education throughout the province." In amendment to the amendment it was moved by Mr. D. McLean, and seconded by Mr. D. Johnson, "That it is expedient for this association at the present time to express any opinion on the question of superseding boards of school trustees for sections by township boards." The amendments moved by Mr. McLean and by Mr. Watson, after considerable debate, were put and lost. A supplementary amendment was then moved by Mr. Chestnut and seconded by Mr. Hunter as follows: "As the various municipalities have power, as the law now stands, to establish township boards, but as this provision is rendered practically inoperative by the manner in which that change is to be effected; it is, therefore, the opinion of this association that the legislative action most advisable in the circumstances is such as would remove the obstructions and afford the greatest possible facility to those who make the change from section to township trustees." This amendment was carried by a large majority, and the main motion was lost.

On motion of Mr. Nelles, seconded by Dr. Hunter, the subject of township instead of school section trustees was taken up and discussed with much spirit, the feeling being unanimous in supporting township trustees, as better calculated to promote the welfare of teachers and establish a more uniform system of making provision for the maintenance of a higher order of education than that existing under present arrangements in school sections.

Treasurers' Report.—Mr. McGann read his annual report, showing that the sum of \$180, with \$10 accruing interest to date, was placed in the bank to the credit of the association for the year ending August 6th, 1866. The Treasurer having urgently requested the board of directors not to place his name on the list of officers for the ensuing year, expressed his sincere thanks to the members of the association for the confidence reposed in him for a series of years, and concluded his admirable report by a fervently expressed desire that unity of sentiment and harmony of action may characterize the future proceedings of the association. The report was received and adopted.

Object Lesson Teachers.—It was moved by Mr. McCabe, seconded by Mr. Hodgson, that the Association instructs the special Committee on Primary Instruction, appointed yesterday, to procure and examine the publications issued by the Home and Colonial Infant and Juvenile Training school of London, England, and to visit by delegates or otherwise the City of Oswego, and report upon the practical working of the English system as practised in the Primary Schools of that city.—Carried.—Mr. McCabe in making the motion read an extract from the address of C. T. Richardson, President of the Board of Education of the city of Oswego, published in the 8th Annual Report of that body, explanatory of the system of teaching, known as Pestalozzian, the basis of which is Object Lessons. The name originated with Pestalozzi, a Swiss philanthropist of Italian extraction, who first, about one hundred years ago, introduced its distinctive characteristics among the children of Switzerland. The central ideas of the system are as follows:—1st. That all education should be according to the natural order of development of the human faculties.—2nd. That all knowledge is derived, in the first instance, from the perception of the senses, and therefore that all instruction should be based upon the observation of real objects and occurrences.—3rd. That the object of primary education is to give a harmonious culture to the faculties of the mind and not to communicate technical knowledge.—The development of the faculties of the mind in the natural order, is in this wise; first, the power to receive impressions; after that the power to conceive thought; after that, the power to reason. In other words, the senses, the understanding, and the reason. The

proper method, then, consists in presenting to the child's mind the quality of knowledge suitable to its state of development. The ordinary method disregards this principle, and is frequently just the reverse of this practice. In arithmetic, for example, children are taught to repeat rules. Now a rule is a generalization from many simple facts, and to a child ignorant of these facts conveys no idea whatever, although it may repeat it by an effort of memory. By the new method, the idea of number is made familiar to the child by appealing to the faculties that are already developed, that is, by showing them objects—marbles, pebbles, &c. When the idea of concrete number is attained, they are led to dispense with the objects and deal with figures which are symbols, and with rules which are abstract.

Miscellaneous Resolutions.—It was moved by Mr. Young, and seconded by Mr. Watson, that Messrs McCabe, McMurchy, and Dr. Ormiston, be a committee to provide for the publication of the minutes, addresses, &c.—Carried.

Agricultural Chemistry.—It was moved by Mr. Flood, and seconded by Mr. Hodgson, that in view of the great importance of a practical knowledge of Agricultural Chemistry in our Schools, we recommend that a bonus of \$5 be given from the Educational Fund to purchase books or apparatus for every school in which a class is efficiently taught in this respect.—Carried.

School Drill.—Moved by Mr. H. Reazin and seconded by Mr. McCabe, "That in the opinion of this convention the government should afford facilities by which the grammar school masters may, during their vacations, gain a knowledge of military drill to enable them to give a course of military instruction to their pupils."—Carried unanimously.

Military Training.—It was moved by Mr. Frood, and seconded by Mr. Anderson, that whereas this Association has recommended the introduction of military training into our common schools, be it resolved that we recommend that a bonus of \$10 be given by the Government to each school in which a squad of ten or more male pupils are efficiently trained in primary military movements.—Carried.

It was moved by Mr. Young, and seconded by Mr. Buchanan, that the travelling expenses of the Board of Directors to the preliminary business meeting usually held at New Year's, be paid.—Carried.

It was moved by Mr. McGann, and seconded by Mr. Young, that Rule of order No. 8 be amended as follows:—That after the word "personalities" the following words be added: "And any member once reprimanded for indulgence in improper language, and persevering in an expression of such remarks, be liable to public censure or expulsion, as the Association may determine.—Carried.

Mr. McAllister gave notice of motion that article 8 of the Constitution be amended by putting "three" in place of six Vice-Presidents.

It was moved by Mr. Young, and seconded by Mr. Anderson, that we recommend that worn-out teachers should be placed on the same footing as pensioned servants in the civil service.—Carried.

Election of Officers.—The following gentlemen were elected to fill their respective offices, viz:—President, the Rev. Dr. Ormiston, Hamilton; first vice-President, Mr. Wm. McCabe, L.L.B., principal of the grammar school, Oshawa; 2nd do, Mr. Robert Alexander, principal of common school, Newmarket; 3rd do, Mr. Anderson, principal of the Park Street school, Toronto; 4th do, Mr. J. B. Dixon, M.A., principal of the united grammar and common school, Colborne; 5th do, Dr. Carlyle, principal of the Provincial Model School, Toronto; 6th do, Prof. W. W. Nelles, M.A., principal of the Union School, Clinton; Recording Secretary, Mr. A. McMurchy, B.A., mathematical master of the grammar school, Toronto; Corresponding Secretary, Mr. D. Ormiston, B.A., principal of grammar school, Berlin; Treasurer, Mr. A. Macallum, M.A., principal of central school, Hamilton; Councillors: Rev. Dr. Wickson, principal grammar school, Toronto; Mr. Hunter, principal common school, Stratford; Mr. Campbell, Ancaster; Mr. D. Johnson, principal central school, Cobourg; and Mr. J. C. Buchanan, principal central school, Preston. This completed the list of officers for the current year.

The Rev. Dr. Wickson, at the request of the chairman, closed the Convention with prayer.

THE TEACHER'S CONVERSAZIONE.

The Teachers' Association held a conversazione in the evening in the theatre of the Normal school buildings. In the unavoidable absence at Hamilton of the president, Dr. Ormiston, whither he was necessitated to proceed in the afternoon, the chair was occupied by the Rev. Dr. McCaul. On the platform were seated Rev. Dr. Ryerson, Rev. Dr. Wickson and Rev. Dr. Lillie. The attendance of ladies and gentlemen was numerous and highly respectable. Mr. J. D. Humphreys presided at the piano, and conducted the musical department with his well-known and acknowledged ability. The

proceedings of the evening were opened by the Rev. Dr. Ryerson in a brief address in which he alluded to the importance of the duties of the teachers and their laborious task, and heartily welcomed them to the city. After paying some well deserved compliments to the chairman, and the musicians, the Rev. doctor took his seat amidst applause. The following is the programme of the evening, as carried out:—1st. A short introductory address by the Rev. Dr. Ryerson; 2nd, a duett "I would that my love," by Miss Clayton and Mr. Humphreys; 3rd. Song, "Beautiful Dreamer," by Miss Gunn; 4th. Recitation, "Bernardo del Carpio," by Mr. J. B. Dixon, M.A., (with a brief introduction); 5th. Song by Miss Clayton, in the absence of Miss Gunn, "Thy voice is near." A recess was here taken, during which the assembly visited the several rooms in the building, and viewed the large and valuable collection of paintings, statuary, &c. After the recess, the following programme was observed:—6th. Song by Mr. J. D. Humphreys, "Dame Margery;" 7th. Address by the Rev. Dr. McCaul, delivered in his usual eloquent style, and containing much practical advice to teachers; 8th. Song by Mr. Archer, "Beautiful Leaves;" 9th. Song by Miss Clayton; 10th. Cornet solo, by the Sergeant of the Band of the 17th regiment; 11th. Song by Miss Clayton, "I've wandered in my dreams;" 12th. "God save the Queen," by Miss Clayton and Mr. Humphreys. The singing, the cornet solo, and the recitation were particularly good, and Miss Clayton and the Sergeant of the Band were enthusiastically encored. Shortly after ten o'clock the party separated, apparently highly gratified with the proceedings of the evening.

VIII. Miscellaneous.

1. LORD PALMERSTON AS AN EXAMPLE TO PUBLIC MEN.

I believe they are mistaken who attribute to the Providential blessing of a good constitution the ability of Lord Palmerston. While out of doors he performed the laborious duties of his high office, to set indoors and younger men the example of indefatigable attention to the public business. I am convinced it was the force of will, the sense of duty, and the determination not to give in that enabled him to make himself a model, for all of us who yet remain to follow him with feeble and unequal steps in the performance of some of the duties which it fell to his lot to discharge. His, I may add, was a force of will which did not so much struggle against the infirmities of old age, as repel them and keep them at a distance. One other quality there is which Lord Palmerston possessed which I may mention without the smallest risk of stirring up a single painful emotion, upon which it is most delightful to dwell, and which is the last I shall mention. It is this, that he had a nature incapable of enduring anger or resentment.—*Mr. Gladstone.*

IX.—Papers on Meteorology.

1. THE WET WEATHER AND THE CHOLERA.

Replete as the whole of this season has been with atmospheric and meteoric phenomena, we cannot but think that the seemingly unseasonable weather has been productive of much good, in preventing the generation of the seeds of cholera, lateut among us, and only awaiting heat to develop themselves in their strength. Such a wet summer as we have been favored with has not occurred since 1831, but if we may judge from analogy, during a series of annual observations, the autumn of this year will be unusually long and fine, and the winter comparatively mild. The early part of the summer and the spring were characterized by continuous displays of the *Aurora Borealis*, and a cold chilliness remained in the air till nearly the middle of June. Maury says that "the object of storms is to restore the disturbed equilibrium in nature;" hence doubtless the great amount of thunder which has occurred during the summer. Reasoning from analogy again, we may expect towards the close of October and in the early part of November, vast quantities of meteors or falling stars, a wet summer being usually the precursor of these phenomena. The crops in the west, generally speaking, have been safely housed, but the greater part of the harvest in the Lower Province is yet uncut. How the wet will affect the potato crop, yet remains to be seen, though there are not wanting croakers, who affirm the "blight" is already in the plant. Taking, however, everything into consideration, and remembering the drought which nearly dried up our streams and springs last fall, as compared with this season, we have much cause for thankfulness, and we would bid those who are continually finding fault with the clerk of the weather for his vagaries, to remember the promise of old, so vividly recalled by the late beautiful rainbows, whose arch has been displayed twelve afternoons successively.—*Ottawa Citizen.*

2. ABSTRACT OF MONTHLY METEOROLOGICAL RESULTS, compiled from the Returns of the daily observations at nine Stations for JUNE, 1866.

OBSERVERS.—Barrie—Rev. W. F. Checkley, B.A.; Belleville—A. Rurdon, Esq.; Cornwall—A. Macellum, Esq., B.A.; Hamilton—A. Macellum, Esq., B.A.; Peterborough—Alfred McClatchie, Esq., B.A.; Peterborough—Ivan O'Beirne, Esq.; Simcoe—Rev. J. G. Mulholland, M.A.; Stratford—C. J. Macgregor, Esq., M.A.; Windsor—A. McSweeney, Esq., M.A.

Table with columns: STATION, Barometer at temperature of 82° Fahrenheit, Temperature of the Air, Tension of Vapour, and MONTHLY MEANS. Includes sub-tables for HIGHEST, LOWEST, DAILY RANGE, and WARM-EST DAY.

* On Lake Simcoe. † On Lake Ontario. ‡ On the St. Lawrence. § On the Ottawa. ¶ Near Lake Erie. ** On the Detroit River.

Table with columns: STATION, Humidity of Air, Winds, Number of Observations, MOTION OF CLOUDS, RAIN, and A U R O R A S. Includes sub-tables for SURFACE CURRENT, MONTHLY MEANS, and CLASSIFICATION.

Velocity is estimated, 0 denoting calm or light air, 10 denoting very heavy hurricane.

R E M A R K S.

Barrie.—On 1st, frost; 5th, heavy fog in morning; 6th, thunder and lightning, 30 minutes; 12th, thunder and lightning in morning and at night; 13th, lightning at night, no thunder; 16th, thunder storm and heavy rain; 21st, first appearance of fire fly; 26th, thunder storm, with violent wind, 4.30—5.30 p.m. BELLEVILLE.—On 6th thunder, lightning and rain, commencing at 1 p.m. 13th, thunder for a few minutes about 8 p.m. with occasional flashes and few drops of rain, the wind for 40 hours previously was E, and for the next three days W and SW; 26th, severe thunder storm, with much forked lightning for two hours at 6 p.m., passing from W or NW towards SE; afterwards the horizon illuminated by sheet lightning; barometer 29.565 at 1 p.m.; 29.391 at 9 p.m.; 29.303 at 7 a.m. next day; but little rain on change of temperature during storm; frequent showers in the night, rain from 6 p.m. to 9 a.m. being .580 in. High winds towards North. 29th, thunder, lightning and rain. The blossoming of the potato (Solanum tuberosum) first observed on 29th. The heat and moisture of the latter part of the month occasioned very rapid growth of plants. PETERBOROUGH.—On 5th and 6th, fogs, 4th, lightning, thunder and rain, 16th, thunder and lightning, 21st, lightning alone, 25th, storm of wind, 26th, thunder, lightning and rain, 27th, thunder and rain or hail, 29nd, shooting star, altitude 70° NE. Vegetation rapid during month, yet two weeks late. Health generally good, crops not very promising. PEXTERBOROUGH.—On 1st, hear frost, last of season, the forest leaves only now fully out, 7th, acacias and other late trees only just out in full leaf, 9th, lightning and thunder at 5.30 a.m. 13th, lightning alone at NE horizon at 9 p.m. for 10 min. 14th, lightning, thunder and rain at 3 a.m. 19th, indistinct lunar halo, 26th, thunder, wind and rain storm; a meteor of ordinary size and brilliancy, seen falling from zenith at about 5.30 p.m.; dense cloud at NW horizon rose very slowly, wind S.

cloud at 6.22, extended along horizon from SW to NE, the lower part being at a height of 25° and intensely black; at 6.30 sudden darkness and rain, with strong wind from W, continued till 7.12 p.m. with much thunder and lightning; at 7.30, splendid rainbow, double at southern end, with frequent forked lightning to southward.

SIMCOE.—On 1st, frost. 5th, fog; thunder, lightning and heavy rain at night. 8th, lightning alone. 12th, lightning during evening; thunder storm with vivid lightning and heavy rain began about 11 p.m. for two hours. 15th, thunder, lightning and shower began at 9 p.m. 21st, thunder, lightning and rain. 25th, heavy storm of thunder, lightning and rain for about two hours, preceded by oppressive heat. 27th, thunder, lightning and rain. 29th, thunder, lightning and very heavy rain for three hours.

STRATFORD.—On 1st, frost. 5th, lightning and thunder with rain. 8th, lightning. 12th and 13th lightning. 15th, thunder, lightning, hail and rain from 8.30 to 9.10 p.m. 16th, thunder, lightning and rain. 17th, rain from 4.45 p.m.; high SE wind during night. 22nd, indistinct lunar halo at 9.30 p.m. 25th, thunder and lightning with few drops of rain at 1.35—8.20 p.m. 26th, at 7.45 a.m., thunder; at 4.20 p.m., thunder; at 9 p.m. lightning at horizon. 29th, lightning at south to west horizon. Average rain in June for four preceding years, was 2.6065 inches; rain in June 1866, 2.7162 inches; excess 1.1097 inches.

WINDSOR.—On 12th, 13th, 15th and 30th, lightning alone. 21st, lightning, thunder and rain. 23rd, severest thunder storm of the month, lightning struck a building within two miles of station. 25th, thunder storm came up suddenly from SW with slight rain and ended in heavy gale of wind, velocity 8, lasting 12.30—1 p.m. 26th, high wind, velocity 7 at 11.50 p.m. 27th, strange appearance of clouds in NW at 7 p.m., and afterwards, changing from light blue to orange; high cirri cumuli moving from SW, lower strati rapidly from NE. 30th, thunder cloud threatened to storm at 6.50 p.m., a few drops of rain fell; storm cloud passed from SW to NE; clouds of NE beautiful orange tint; double rainbow observed in NE at 7.30 p.m.

X. Educational Intelligence.

— **EXAMINATION OF NEWBORO' VILLAGE SCHOOL.**—On Friday, the 3rd, inst., the Common Schools throughout this Province closed for the summer vacation. At Newboro', this day was signalized by a public examination of the village school, followed by a distribution of prizes among the more deserving pupils. The Local Superintendents for North and South Crosley were both present, and conducted the examination. More than ordinary attention had been drawn to the school during the half-year just preceding, in consequence of the reputation which the teacher, Mr. Arthur Brown, enjoyed for thoroughness and devotedness to his work; and partly on this account, and partly because it was known that an award of prizes would be made at the close of the examination great numbers of the citizens were present throughout the entire day. After a thorough and rigorous inspection of the classes, the examiners expressed their decided belief that the state of the school amply justified the reputation which Mr. Brown had earned. The distribution of prizes was made on the basis of a system of credit marks, embracing a record of the pupils' standing in classes for the half-year ending June 30th. In one however—an Algebra Class—the prizes were given to those of its members who stood most successfully the test of examination. Of the four thus awarded, the best was given to Miss Hattie Hopkins, a young lady who received five prizes in all. There were also two prizes given for good conduct. These the pupils were themselves permitted to award by ballot, and they were assigned by an almost unanimous vote to Miss Hattie Kilborn and Miss Ellie Hopkins. The total value of the prizes distributed amounted to about \$60; and they were principally in books. The fact ought not to be overlooked that these prizes were procured by the exertions of the teacher himself, out of the proceeds of an Exhibition given by the school on the Queen's Birthday. So highly is Mr. Brown held in the esteem and affection of his pupils, that they were unwilling to allow such an occasion to pass by without giving him some tangible proof of their regard. Accordingly, after the prizes were all distributed, two young ladies came forward and presented their teacher with a handsome copy of Worcester's Dictionary, together with a nicely-worded address expressive, on the part of the pupils, of their appreciation of his efforts for their good. Towards the purchase of this book, all or nearly all the pupils had contributed; and, what is better still, it was done at the suggestion of one of their own number, and with entire hearty good-will. After a few remarks by Mr. Brown, expressing the pleasure he felt at learning what a place he had in the affection of his pupils, and also at the unexpectedness and value of the gift presented to him, Benj. Tett, Esq., late M.P.P. for South Leeds, was called upon for a speech. Mr. Tett spoke briefly on the importance of children making the most of the educational

advantages afforded them, and dwelt particularly on the value to every one of being able to read well and especially of possessing a clear and distinct articulation. He illustrated his remarks by reciting one of Cowper's Poems: "Pairing Time Anticipated;" and concluded by proposing three hearty cheers for Mr. Brown—a proposal which was responded to with tremendous and deafening effect. School was then dismissed for the holidays.—*Communicated.*

XI. Departmental Notices.

PUBLIC LIBRARY BOOKS, MAPS, APPARATUS, AND SCHOOL PRIZE BOOKS.

The Chief Superintendent will add *one hundred per cent.*, to any sum or sums, *not less than five dollars*, transmitted to the Department by Municipal and School Corporations, on behalf of Grammar and Common Schools; and forward Public Library Books, Prize Books, Maps, Apparatus, Charts, and Diagrams, to the value of the amount thus augmented, upon receiving a list of the articles required. In all cases it will be necessary for any person acting on behalf of the Municipal or Trustee Corporation, to enclose or present a written authority to do so, verified by the corporate seal of the Corporation. A selection of Maps, Apparatus, Library and Prize Books, &c., to be sent, can always be made by the Department, when so desired.

☞ Catalogues and Forms of Application furnished to School authorities on their application.

* * * If Library and Prize Books be ordered, in *addition* to Maps and Apparatus, it will be **NECESSARY FOR THE TRUSTEES TO SEND NOT LESS THAN five dollars additional** for each class of books, &c., with the proper forms of application for each class.

☞ The *one hundred per cent.* will not be allowed on any sum less than *five dollars*. Text books cannot be furnished on the terms mentioned above: they must be paid for in full, at the net catalogue prices.

POSTAGE REGULATION IN REGARD TO GRAMMAR AND COMMON SCHOOL RETURNS.

All official returns which are required by law to be forwarded to the Chief Superintendent, or a Local Superintendent, and which are made upon the printed blank forms furnished by the Educational Department, *must be pre-paid*, at the rate of one cent, *and be open to inspection*, so as to entitle them to pass through the post as printed papers. No letters should be enclosed with such returns. A neglect to observe this regulation has repeatedly subjected this Department to an unnecessary charge of 14 cts. and 21 cts. on each package, including the Post-office fine of nearly *fifty per cent.* for non-payment.

COMMON SCHOOL MANUAL FOR UPPER CANADA.

A copy of the last edition of the Common School Manual for Upper Canada, is supplied gratuitously to all new School Sections in Upper Canada. To other Sections the price is thirty-five (35) cents, inclusive of postage, which is now payable in advance.

All Local Superintendents retiring from office, are required by law to hand over to their successors the copies of the School Manual furnished to them by the Department, and all other official school documents in their possession. Extra copies of the Local Superintendent's Manual can be furnished for fifty (50) cents, including postage.

SECRET ADVERTISEMENTS inserted in the *Journal of Education* for 20 cents per line, which may be remitted in postage stamps or otherwise.

TERMS: For a single copy of the *Journal of Education*, \$1 per annum back vols., neatly stitched, supplied on the same terms. All subscriptions to commence with the January Number, and payment in advance must in all cases accompany the order. Single numbers, 10 cents each. All communications to be addressed to J. GEORGE HODGINS, 11 B. Education Office, Toronto.