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# The Educational Weekly.

TORONTO, FEBRUARY 12, 1885.

WE wish to draw attention (1) to a very important fact in regard to the change in the status of teachers as it is at the present day compared with what it was in times past ; (2) to the causes of such change ; (3) to the responsibilities which this change has entailed upon teachers.

IT is a subject, grave and of wide extent, and one to which but scant justice can be done in the space allotted. It will be impossible to do more than give in outline the change to which reference is made ; to mention, with but brief comment, the cause of such change ; and to point out, rather than to dwell didactically upon, how teachers must adapt themselves to the effect of such change.

1. No reader of history can deny that, in the by no means remote past, educators of youth, as a class, were regarded as being comparatively low down in the social scale. Their existence was a necessity, and children were entrusted to their care in order to be instructed in certain conventional elements of knowledge. They were looked upon as mere machines, or mills, allowed to exist, because society demanded that the mind of youth should receive certain impressions, or be moulded into certain forms.

OF course there were numerous and brilliant exceptions to this. There have been in every age teachers who have risen far above this mere toleration of their profession, have earned alike the esteem and gratitude of society. But even so, this renown has rarely, if ever, been attained by means of their intrinsic merits as educators ; it has often been the result of brilliant scholarship, profound study, wide culture. The possession of each of which is quite compatible with very mediocre instructing abilities.

SOCRATES was perhaps as famed a teacher as he was philosopher ; Dr. Arnold, of Rugby, will be remembered as a wonderful educator ; and Froebel has made his name immortal by his theories of education. But not many names could be added to these.

THE exceptions to which we have adverted, do not by any means overturn our position—rather they strengthen it. It would be possible to cite numberless examples in

support of this low esteem in which the ordinary teacher was held. To come down to within a few years of our own generation, may we not point to Squeers of Dickens' *David Copperfield* as not altogether a caricature ; to the social standing of the much-abused usher ; above all to Lamb's well-known essay, which draws no unfaithful picture of the comparatively unsympathetic treatment to which the school-master was subjected ?

TO-DAY, however, if there are anywhere any evidences of such social exile, they are rapidly disappearing. The teacher, as such—from the very fact of his being a teacher, a person to whom the cultivation of the most important part of our children's natures is entrusted—is greatly looked up to, and highly esteemed, as, indeed, it is right and proper he should be. Parents recognize the fact that their children spend the most important part of their lives in the school-room ; that the bent which their mental powers, and, indeed, we may add, their characters, are to receive, is the outcome of the intercourse between the pupil and his master ; and that during the period in which these powers and this character is most amenable to education and moulding, they are wholly under the influence and governance of their instructors. No wonder then, that, with the recognition that these so grave functions are almost entirely in the hands of the teacher, parents should at the same time recognize the necessity of regarding such teacher, not as a mere instrument, but as one who powerfully aids them in the proper bringing-up of their children.

2. It would be impossible to point to the many influences that have tended to bring about this change. It were best to mention what, perhaps, is the most important of them, viz., the change in the character of education itself.

THE change in the education which we at the present day bestow upon our children, is perhaps even more noticeable in the methods adopted than it is in the subjects taught. Indeed, to say that the differences in the latter followed, and were merely the result of, differences in the former, would be no rash assertion.

THE day is long past when children went to school merely to go through a certain course of mental training under a "gerund grinder," who, with the aid of a rod, instilled

a certain number of rules and paradigms into unwilling pupils.

WE do not teach in any hap-hazard way now. We have brought science to bear upon our methods of tuition. We have gone to the principles of psychology ; we have discussed the nature of the mental faculties ; we have studied the child's mind while in the act of reception ; and we have adapted our methods to the knowledge we have thus obtained.

MANY of the greatest thinkers of the day (e. g., Bain, Calderwood, Matthew Arnold, Herbert Spencer, Canon Farrar, James Sully) have thoughtfully attempted to elucidate both the theoretical and practical sides of tuition ; and there is throughout the whole civilized world a keen and lively interest taken by all classes upon the subject of the cultivation of the minds and characters of children.

PEOPLE now see that the teacher is not to be considered merely as the agent by which certain facts are taught ; not as one who doles out knowledge at so much per head per hour ; not as an instrument by which rules are conveyed from a book into the learners' brains ; but as one who influences his learners ; one who, by the contact of mind with mind, by the influence of life and character and culture, stimulates ambition, excites wonder and thought, and so truly develops the minds and characters of those whom he leads rather than rules. This is the change that has come over the spirit of education, and this is the secret of the higher esteem in which teachers are held.

3. WE come now to the increased responsibilities which this change has enforced upon all teachers. None are exempt. From the pupil teacher in the model school, to the president of a college, all now are trusted by the parent, as being the proper leaders (not instructors merely) of youth. And what does not this entail ? It may be summed up in a sentence from Ruskin : "And give them lastly, [he is speaking more particularly of our girls] not only noble teachings, but noble teachers." If our teachers recognize the true aim of tuition, and if they strive conscientiously to attain that aim, they will find that, in this nineteenth century, a mere acquaintance with the subjects to be taught, and a mere theoretical knowledge of the way in which these should be taught, are but a small, a very small part of the requisites for a true guider of youth.

## Summary of News.

THE Egyptian news has again this week absorbed all attention. It has been of a most alarming character, culminating on Wednesday morning with a confirmed report of the death of General Gordon.

The latest news which it was possible to insert last week was a telegraphic despatch to the effect that Khartoum had fallen and Gordon was made prisoner. The magnitude of the calamity was the theme of every newspaper, and the most sedate and sober journals discussed in no measured terms its influence upon England's enemies.

A Cabinet council was called at which it was decided to telegraph to India for the despatch of troops to Suakim, the garrison of which port also was to be immediately reinforced by drafts from England and the Mediterranean. The Ministry, it is asserted, were in favor of strong and vigorous measures, and determined to sanction any demand that Lord Wolseley might make.

Lord Wolseley himself, in his despatches to the Government, wrote in no sanguine mood, and averred that it was impossible that he could reach Khartoum before the expiration of five weeks.

London naturally was in a state of great excitement, and many remarks on the blameableness of Mr. Gladstone were expressed.

Gen. Wilson, who, it will be remembered, was despatched with three steamers, reached Khartoum on the 28th ult. He was attacked by the rebels; lost two boats; but succeeded in reaching Gubat with but the loss of a few men. On the 7th inst, Lord Charles Beresford with twenty picked marksmen from the Royal Rifles, started to attempt the relief of Col. Wilson's party. Despatches received in Canada on Wednesday last, gave the news that this expedition was successful.

A stormy meeting of the Cabinet was again held on the 9th, and lasted four hours. It is understood that orders were given during this session for the despatch of 10,000 troops for the Soudan. The number of reinforcements already ordered to Egypt is 8,000. Preparations have been completed for the transport of the commissariat and ordnance. Vessels are already loading at Woolwich. The Grenadier Guards have been ordered to hold themselves in readiness for foreign service.

Among the various suggestions was one that Lord Charles Beresford and his naval brigade, now at Gubat, be employed to make a dash on Khartoum for the purpose of cutting out the Mahdi's steamers.

We come now to the reports of the death of General Gordon. Although it has been said that these are authentic, it is difficult not to indulge the hope, that there may, after all, be some mistake. The *London Standard* has, however, accepted them as true, and on Wednesday morning, appeared in mourning. It publishes the following from Gakdul:—"The natives who escaped from Khartoum say Gen. Gordon was killed while leaving his house to rally the faithful troops. The latter were cut down to a man, and for hours the town was the scene of a merciless slaughter, not even women and children being spared. All the notables were killed except the treacherous pashas and their followers."

Details of the death of General Gordon, as received by telegram, are as follows:—On the day of the capture, which is variously stated as the 26th and 27th of January, General Gordon's attention was attracted by a tremendous tumult in the streets. He left the so-called palace or Government building, in which he had made his head-quarters, to ascertain the cause. As he reached the street he was stabbed in the back and fell dead. The tumult was caused by the Mahdi's troops, who had gained access to the interior of the town through treachery, and who were soon in complete possession of the place, including the citadel. A fearful massacre of the garrison followed.

Among all this melancholy news, it is pleasant to hear that Lord Charles Beresford succeeded in rescuing Gen. Wilson. He has returned to Gubat bringing Gen. Wilson and party. The rebels on the river banks kept up a constant fire. Shortly after the party had embarked a bullet pierced the boiler of the steamer, which rendered it necessary to anchor under fire and make repairs. The British fire, however, took effect, and the rebels were repulsed.

**GEN. GORDON'S defence of Khartoum ended on his 52nd birthday.**

**BIRTI, Feb. 10.**—Gen. Earle's advance to Berber commenced yesterday.

**THERE** has been a further fall of the Nile of three feet at Gubat, and navigation is dangerous.

It is believed that Gen. Roberts will command the Indian contingent ordered to Wolseley's relief.

**KORTI, Feb. 10.**—Wolseley started tonight to cross the desert to Gubat. Portions of two regiments remain here.

THERE are ten thousand British troops at the stations in the Mediterranean available for service in the Soudan.

**PARIS, Feb. 6.**—The Government organ says that the fall of Khartoum is a matter of concern to all Europe. Should England continue powerless to restore order in the Soudan the powers must do it.

**SUAKIM, Feb. 10.**—Five piers have been erected for landing troops and supplies for the Berber expedition. Three will admit large steamers. A railway has been built from the piers to the Italian British camp, two miles inland.

THE War Office and Admiralty have issued a number of important orders looking to the relief of the troops in the Soudan. It is reported an army corps of 10,000 men will be sent to Khartoum *via* Abyssinia, accompanied by a siege train.

**LONDON, Feb. 8.**—The Turkish Government has sent a formal protest to each of the powers which signed the treaty of Berlin against the occupation by Italy of Egyptian territory on the Red Sea coast. Turkey demands that the Italian troops sent to Assab and Massowah be withdrawn.

**GEN. NEWDEGATE** will command the Suakim expedition. Col. Greaves will be his chief-of-staff. The Suakim campaign will open about the 8th of March. Orders have been sent throughout the country bordering on the Red Sea for the purchase of camels for the expedition.

## Notes and Comments.

A SCIENTIFIC knowledge of many natural phenomena is quite possible of attainment, even with very young children. The only requisite is an enthusiastic and wise instructor, with a love of nature, and a habit of observation, and possessing, too, a little tact in directing the observations of children. Mr. C. C. James, of C.bourg Collegiate Institute, an enthusiastic student of science, is preparing for the WEEKLY a series of papers which shall be helpful to teachers who wish to inspire their pupils with a love of nature. The series will comprise short conversational chapters on (1) Pebbles; (2) Snowflakes; (3) Ice; (4) Ice-rivers and Ice-bergs; (5) Rivers; (6) Temperature; (7) Effects of Temperature on Air and Water; (8) Formation of Sandstone; (9) Formation of Limestone; (10) Formation of Soils.

THE cleverest "hit" of the season in book-making is *The Buntling Ball*, a piece of satiric verse in mock heroic Græco-English phrasing.

The author is unknown; almost every important writer has been named as the only one who could have written the book:—Holmes, Boyesen, Dr. Hammond, Everett Hale, and so on. The interest in the unknown authorship is increased, of course, by the fact that publishers offer a cash prize of \$1,000 to the person who shall correctly guess the name of the writer, who is said to be one of the best-known of American authors.

WE have in preparation a series of notes explanatory of the twelve lessons in the Fourth Reader which have been selected by the High School inspectors as subjects for the next examination for entrance into High Schools and Collegiate Institutes in July next. Further announcements will be made next week.

THE magazine from which we have taken Richard Grant White's "Why we Speak English" is the *Chautauquan*, a monthly magazine devoted to the promotion of true culture—the organ of the Chautauqua Literary and Scientific Circle; Theodore L. Flood, D.D., editor. Each number may be called a small book, containing, as it does, more than sixty pages of reading matter of excellent quality and varied interest. The name, Richard Grant White, is, of course, enough to stamp the magazine as one of the highest standard. To those to whom it is not known, an example of the contents may be interesting; in a number taken at hap-hazard we find: Studies in Kitchen Science, and Art; Sunday Readings; Glimpses of Ancient Greek Life; Greek Mythology; Temperance Teachings of Science; A Trip to the Yosemite; The Hospitalities of Nature; Alone with my

Conscience ; Government Employment for Women ; Geography of the Heavens ; The Merciful Institutions of Pennsylvania ;—in addition to much interesting news of the Circle. The *Chautauquan* is perhaps the best periodical published on the continent, in its especial feature: the consecutive and logical treatment of scientific and literary subjects in a style that can be understood without difficulty by the general reader.

OUR namesake, *The Educational Weekly*, is published at Indianapolis. It is, as its motto declares, "crisp, impartial, decided." A paper in a late number from which we have derived much benefit, and which want of space alone prevents us from transferring to our own columns, is *The Library in the School*, by James Baldwin, Ph. D., who, by the way, is the author of the *Book-lover*. Public School libraries are unfortunately few in Ontario, although at one time their support and encouragement were main considerations with the Education Department. If we had teachers with Dr. Baldwin's enthusiasm and patience, libraries would soon be not rare ornaments of, but necessary adjuncts to, the school-room. His plan of dealing with the school library strongly reminds us of Dr. Arnold's method of teaching history.

ONE of the most valued of our educational exchanges is the *Ohio Educational Monthly*. The February number just received contains an excellent paper on *Primary Arithmetic*, which we hope to reprint for our readers next week.

WE acknowledge the receipt this week of the January number of *Latine*, (New York : D. Appleton & Co.; Edgar S. Shumway, Editor.) We hope in our next issue, not only to give a review of this unique little half Latin half English magazine, but also to give our readers a few choice excerpts from its columns.

THE *'Varsity* in its fifth year, is decidedly in its best. Its articles are opinion-making, no small merit in these days of ubiquitous newspaperdom. We should like to know that every Toronto graduate was a subscriber to it.

M. GUILLEMOT, says the *Pall Mall Gazette*, denouncing the growing tendency of authors, dramatists, and artists to thrust themselves and their private life before the public, traces the origin of the malady to America. American journalism and reporting strengthen this tendency to pry into the private life of public characters, and France has eagerly taken up the evil habit.

THE series of papers on "How can Thoughtlessness of Pupils be Removed?" which we continue this week, is, as will be seen, from the pen of N. A. Calkins, LL.D., Assistant Superintendent of Schools in New York. They are being published from week

to week in the *New York School Journal*, from which we reproduce them. They contain valuable information from one whose opinions are valuable, and should be read with care and thought, together with a determination to use in the daily routine of teaching such hints as Dr. Calkins suggests. His excellent combination of theory with practice will also be found of great benefit in applying to particular cases the rules he lays down.

THE *Chicago Telegram* says "there should be a society organized for the prevention of cruelty to the English language." It waxes very wroth over the French, Latin and Italian words and phrases that are commonly used on our invitation cards, prescriptions, musical programmes, etc. We do not see the force of this ourselves. We should prefer to see a society formed for the purpose of putting an end to the really detestable words coined by the class of papers of which the *Chicago Telegram* is a type—such words as "funnyism," "shorthand," "suicided," "cablegram," "dude," "dudine." The two last occur in the very paragraph we quote from.

DR. MCLELLAN delivered at Peterborough, on Thursday last, a lecture on National Education, which was replete with thought. A point upon which he laid stress and to which he more than once reverted, was that Canada was peculiarly happy in having formed a high ideal of what a national education should be. Education was not here, he asserted, limited to a few, or to a class, but by the co-operation of the State was free to all. Theoretically Canada possessed, he thought, the best educational system in the world, yet it was far from perfect. The Doctor referred to the visit of the British Association, and believed that its members carried away with them a high opinion of our system.

WE have much pleasure in acknowledging the receipt, monthly, of an excellent sixteen-page sheet, entitled, *Musical Items*. The issue for February contains, amongst many other interesting matter, a portion of an essay on Brahms, by Ehlert; critical reviews of songs, song-books, hymn-books, etc.; a long account of the chief musical events which occurred in New York in the preceding month; and home and foreign notes of a varied character, conveying a large amount of musical news in paragraph form. We confess to be much indebted to *Musical Items*.

THE February number of *The American Teacher* (Boston: the New England Publishing Co.) contains some most pithy sentences in the "Editorial Notes" with which it commences its columns. We hesitate to cull from it too largely, for, like an excess of rich food, it may surfeit our

readers, and thus fail to be of benefit; there are a few thoughts, however, which we cannot forbear reproducing:—

The intellect is the power which lies behind action.

Skill to handle the concrete from an appreciation of the abstract is \* \* \* the aim of the aspiring teacher.

Get the pupil to put his heart into his work as far as possible.

Put the scholar at ease in recitation.

Be not impatient because the child does not love his lessons; it is your business to make him love them.

The teacher, above all others in the world, needs to care for her nerves.

Encourage such freedom in thought and expression as shall cultivate individuality.

All men think; some men take pains with their thinking.

Good instruction demands a graduation of teaching to meet varieties in the characteristics of the different branches.

WE have received from Mr. Crockett, who lately succeeded Dr. Rand as Chief Superintendent of Education for New Brunswick his last *Annual Report*. There is much in it which will form the subject of future notes, but the following remarks from the learned superintendent show how practical and objective the method of instruction must be which corresponds with his ideal:—

"Whatever may be the primary aim of education, the subjects embraced in a common school course must be in line with the spirit of the age. The instruction must take cognizance of the influences and tendencies of the times. The pupil who goes to our schools is the child of the nineteenth century. He lives in an age of productive industry and whatever sphere in life he may be destined to fill, his sympathies should be trained in the direction of industrial work and workers. In all stages of his progress he should be taught some industrial knowledge and manual dexterity. His lessons in industrial drawing should do more than acquaint him with many forms; they must give him a facility in reproducing forms not only by the pencil or pen, but by the knife or scissors in cutting them out from paper or cardboard. (Forms may be moulded where practicable.) He must not only be able to bisect lines, angles, lay down plans of houses, &c., but through these exercises acquire facility in manual movements in connection with pencil or pen, scissors or compass, or any other instrument which he uses. In learning his tables of weights and measures he must not only find them out experimentally, but he must acquire a manipulation in filling a gallon or a quart measure from a pint, or in finding the number of feet or yards in a rod, &c. In his arithmetic he must be taught to associate articles of commerce in his neighborhood with his questions, but at fanciful prices but at the market price; he must be taught to frame bills of parcels for himself, and make them out accurately and neatly. His geography should not consist of a list of towns, cities or mountains strung together on his memory like beads on sand, but should chiefly deal with what each country produces and supplies to the rest of the world, and thus exhibit the dependence of all on each, and of each on all. The truths he demonstrates in his geometry should be made applicable, where they are applicable, to the principles underlying industrial tools. Girls should be taught the principles of domestic economy, and trained in the practice of sewing and knitting."

## Literature and Science.

### THE NEW TIMON AND THE POETS.

ALFRED TENNYSON.

THE poem from which the following was taken was contributed to *Punch* in 1846. One seldom looks for sarcasm from the Poet-Laureate, and more rarely for humorous sarcasm: but these stanzas certainly contain this. Mr. Arthur H. Elliott, in his *The Witty and Humorous Side of English Poets* (chap. x., p. 268) says: "The witty and humorous side of Mr. Tennyson's genius is too often either forgotten or ignored. By some it is altogether denied. Nor is it necessary to go so far as to assert that Mr. Tennyson is a wit and a humorist. He is not so specially, but he certainly has wit, and he certainly has humor."

. . . . What, it's you,  
The padded man, that wears the stays—

Who killed the girls and thrilled the boys  
With dandy pathos when you wrote!  
A lion, you, that made a noise,  
And shook a mane *en papillottes!*

But men of long-enduring hopes,  
And careless what this hour may bring,  
Can pardon little would-be Popes,  
And Brummels, when they try to sting.

What profits now to understand  
The merits of a spotless shirt—  
A dapper boot—a little hand—  
If half the little soul is dirt?

You talk of tinsel! why, we see  
The old mark of *rouge* upon your cheeks.  
You prate of Nature! you are he  
That spilt his life about the cliques.

A Timon, you! Nay, nay, for shame!  
It looks too arrogant a jest—  
The fierce old man—to take *his* name—  
You bandbox! Off! and let him rest.

What gave rise to this outburst of witty satire was the late Lord Lytton's poem, *The New Timon*. In this he had made some very hard hits at Tennyson, calling him "School-Miss Alfred," and asserting that he had "out-babied Wordsworth, and out-glittered Keats." Lord Lytton, it must be remembered, was a great exquisite in his day.

### THE TELEGRAPH, THE TELEPHONE, THE ELECTRIC LIGHT, AND THE ELECTRIC MOTOR.

THOMAS A. EDISON.

AMONG the many factors which have developed commerce and industry and stimulated all the forces of progress during the last half century, none has played a part so radical and essential as electricity. Hardly a single nerve or fibre of that complex body

which we call society that has not thrilled and vibrated with its influence. It has strengthened the bonds of international amity; it has quickened all the methods of trade, and lent ten-fold precision and celerity to the innumerable agencies by which it works; it has breathed new vitality into the arts and sciences; it has even warmed and strengthened the social forces; and in a word one may justly claim for it such a universal stimulus as cannot be credited to any other purely physical agency in the world's history.

It is not yet fifty years since the invention of the electro-magnetic telegraph, made by Professor S. F. B. Morse, was first put into operation between Washington and Baltimore. To-day there is hardly a hamlet so small and remote that a telegraph station does not link its inhabitants with every point of the civilized world. The crude apparatus first used by Professor Morse has been again and again improved on by subsequent inventors in the same field.

Only a few years elapsed after the success of Professor Morse before the first submarine cable operated in America was laid between Cape Ray and the shores of New Brunswick. This achievement in 1852 suggested to Mr. Cyrus W. Field, we believe, the connection of the New World with the Old by means of a submarine cable. The history of the first Atlantic cable laid; the jubilee over its triumphant completion on August 6, 1857; its short life of less than a month; the pluck and energy displayed by capitalists in their endeavors to lay a second cable nine years later; the failure of this second effort; the ultimate success attained by the laying of the Anglo-American Telegraph Company's; and its final opening as a medium of public traffic on August 26, 1866—all these things are sufficiently well known to most of our readers.

Closely connected with the development of the telegraph came the invention of the speaking telephone, this being the logical consequence of the former. When it was once found possible to transmit signals over a length of wire by means of the electrical fluid, it was certain that sooner or later experiments would be made ultimately with a view of employing the same agent as a means of transmitting articulate speech to a long distance. These experiments reached a successful conclusion in 1876-77 by the invention of the magneto receiving telephone of Professor Alexander Graham Bell, and the carbon transmitting telephone of the writer of this article. Many others have laid claim to the invention of the telephone, or to so-called improvements on the original devices. But so far the only instruments commercially successful are the Bell receiver and the Edison carbon transmitter, now universally accepted throughout the world.

Coincident with the development of the speaking telephone, the electric light was first brought to a practical success by the illumination of the Avenue de l'Opéra in Paris by the Jaëlochoff candle in 1878. Prior to this but little had been done in the way of electric illumination on an extended scale. The exhibition made in Paris gave a great impetus to lighting as a business. From that time to the present the progress has been marvellous and rapid, only second to that of the telephone.

Many inventors, among them Staite, King, Kössloff, Swan and Sawyer, had previously been experimenting with a view to making useful lamps giving light by means of incandescence. But these experiments had been based on fallacious theories and were foredoomed to failure. The writer was led to the invention of the filament lamp by keeping in mind the commercial necessities of the case as applied to a lamp forming but one unit of a complete system. His object, therefore, was not merely the device of an electric lamp; he aimed to invent a system of electrical illumination which could be operated on an extended scale in the same manner as is the business of gas illumination; to find some means by which electrical energy could be turned into light, and that light be used for household purposes and sold by meter-records—in short, a system, superior to that of gas and able to compete with it commercially. The final result of these experiments was the invention of a complete incandescent system, and the starting of a Central Station in New York at 3 p.m. on September 4, 1882. Then for the first time electricity for the production of light was supplied and sold on a meter. This station has been in operation since, night and day, and has been followed by the establishment of other stations both in this country and Europe.

In addition to the foregoing, electricity has been brought to the aid of metal-workers for the purposes of electro-plating and electro-typing; it has assumed a place in our houses for the operation of call-bells and annunciators; for protection against burglars; and for the correction of our clocks and other purposes.

Yet though so much has been already done in the last fifty years in the way of electrical development, the writer is confident that far greater progress will be made in the future. We stand to-day only on the threshold of its tremendous probabilities. The uses to which the electrical energy can be adapted are so numerous that the present generation hardly dreams of them. Nothing of any startling character can be expected of the electrical telegraph. The business has been so long established, the improvements are so numerous, that very little remains to be done. Some day there will be,

no doubt, a sextuplex system, which will make one wire do the work of six. While none so far tried has succeeded commercially, the expanding magnitude of telegraphy makes it a necessity. This will enable the present telegraphic plant to do more work, and lessen the investment necessary for the instalment of any future plant. The necessity for economic running expenses must lead to the use of a system of autographic telegraphy, which will enable the telegraph companies to dispense with most of their skilled labor.

The development of the telephone is in its very infancy. In the first instance, those in the centre of cities alone had the advantage of telephone service; then the suburbs were reached, and later on towns adjacent. The service in cities is by no means satisfactory, and between cities and towns adjacent it is far more inefficient. The business has reached such magnitude that it has outgrown the present equipment. The company controlling the telephone business in this country fully recognizes this, and is working with all the talent which money and interest can obtain to improve the service. The result will be greatly to the advantage of the public and consequently to the commercial development of the telephone.

The efforts made with a view to long distance telephoning have already proved quite satisfactory in a commercial way and promise excellent results. Conversation has been conducted between Cleveland and New York, and is now daily carried on between New York and Boston to a limited extent. The great difficulty in long-distance telephoning is the loss of the current by static induction on the earth and wires in close proximity. If a single wire could be placed sufficiently high as to amply clear all the mountain tops, one could whisper around the world with perfect ease: or if a wire could be stretched from the earth to the moon, the connection would also be adequate. Perfect results were recently obtained on a Government line in Arizona, a distance of about a thousand miles, the wire stretching over the treeless space of country, more perfect far than can now be had between New York and Hartford. The loss of the electrical energy by static absorption and the running together of the electrical waves, is the fact that utterly precludes the possibility of sub-marine telephoning across the ocean. One thing, however, is now certain, that the time is close at hand when the telephone will be perfectly successful in an unbroken circuit for a distance of at least 300 miles; and that a subscriber will be able to communicate with 75,000 commercial houses. More than this, even, it is probable that by means of repeating stations, communication can be had over all parts of the United States.

The changes wrought by the telegraph and telephone will be equalled, if not eclipsed, by the transformation wrought through electrical lighting. Two years' experience proves beyond a doubt that the electric light for household purposes can be produced and sold in competition with gas.

It is immaterial whether the electric energy is used for light or for other purposes. It is so easy of control, the apparatus required so inexpensive, that it can be used as a motor power for purposes innumerable. In a house it can be utilized to drive miniature fans for cooling purposes, to operate a sewing-machine to pump water, to work a dumb-waiter or an elevator, and for a hundred other domestic uses which now require personal labor. In places where small steam engines are used at great expense, owing to the special attendance requisite, the electric motor will be invaluable. Electricity as a lighting agent has the great advantage over gas that it can be used at will for motor purposes and that its operation for the latter purpose is as simple as for incandescence, which is done by the mere turning of a key like a gas-cock. The function of electricity as a motor for household purposes will be hardly less useful than its value in illumination.

The great problem to be solved, however, by the physicist and electrician, before the art of electrical application attains its ultimate triumph, is the direct production of electrical energy from coal. The dream of certain French and German scientists that it may be transformed directly from the solar energy is a wild chimera, or at least it is remote and untrustworthy; but that it will be derived in some simple and inexpensive way directly from coal, which is solar heat and light stored up by nature, the writer believes to be a certain fact. The present methods of producing electricity are at their best very cumbersome and expensive. Expensive boilers, engines and dynamo-machines are the media through which the carbon of the coal is transmuted into electricity and with enormous waste at that. A large amount of expensive labor, too, is needed, so that with the cost of the plant and of the labor to operate it, the ultimate product is very costly. Once, however, the secret of the direct production of the electrical energy from coal is discovered, a marvellous revolution will take place. The cost to the consumer then will be very small. From one great central station in the city electricity will be furnished to give light, heat and power to houses, stores, public buildings, factories and workshops, and at so reduced a cost as to materially lessen the expenses of life and labor. This is something more than a dream. It is a future fact which many now living will probably see realized. Such a direct transformation of coal into electricity would utilize 80 per

cent; now by the process of turning the energy of carbon into heat, heat into energy of motion, and this into electrical energy there is a loss of at least 90 per cent.

Electricity as a motive power will not be confined to household or factory purposes. It has already been successfully used (for experimental purposes) at Berlin, Paris, Port Rush (Ireland), and by the writer at Menlo Park as a motive power on a railroad. These various experiments have perfectly proven the practicability of the electric locomotive and indicate that it will be largely adopted in the future in place of the steam locomotive. Various experiments have been made with a view to the electric propulsion of carriages, cabs, drays, etc. The drawback has been that the power has been obtained from secondary or storage batteries, the depreciation in which is so rapid, and the weight of the receptacle so great, that until some radical improvements are made in connection with the storage of electricity, or the production of the same directly from coal, we cannot hope to see the subtle fluid used as a means of propelling street conveyances. Still daylight begins to shine on the problem, and the writer has no doubt that eventually most of our trucks and cabs will use this power. When this time comes we shall find the scope of electricity vastly widened, and see carriages without horses, yachts without steam or sail, and many other novel adaptations. The problem of aerial navigation, too, will then be easily solved.

The vast deposits of auriferous ores which for the want of an economical method of working are to-day practically useless, will probably at some date not far hence yield to man the precious metal they contain by assistance of electricity. Though the experiments have not been very successful, enough has been done to show that there will be eventual success.

Such, briefly told, are the marvels of electricity, as already accomplished, or as marked out on the sure lines of scientific foresight. If the story could have been told as a prophecy fifty years ago it would have dazzled even the most adventurous mind. Yet the other half of the story hidden behind the veil will not be a jot less wonderful. The writer, in reviewing what he believes from a long and absorbing study of the problems of electricity, has only touched on those phases of development which experiment has shown to be within the grasp of the scientific inventor. To discuss its possibilities would bring into play a line of speculation seemingly more akin to the dreams of the poet than to the sober judgment of the practical worker.

—From the *New York Tribune*.

## Educational Opinion.

### COUNTY MODEL SCHOOLS.

ON behalf of the correspondent who had called your attention to one or two points in the editorial in THE EDUCATIONAL WEEKLY of the 15th ultimo on "County Model Schools" I desire to make the following remarks:—

The necessity of these schools was felt more than forty years ago, and provision was then made for their establishment. Thus, in the first School Act passed in 1843 to regulate Common Schools in this Province, Section 57 of that Act declares:—

"That it shall and may be lawful for the court of warden of any County in Upper Canada . . . to raise and levy by County rate a sum not exceeding £200 (\$800), and to appropriate and expend the same for the maintenance of one or more County Model Schools, within such County, and to constitute, by by-law, or by-laws, to that effect, any Township, Town, or City School, or Schools within the County, to be, for any term not less than one year, such County Model School or Schools," etc.

"A sum not less than £40" was appropriated to each such school towards "the payment of the teachers and the purchase of books and apparatus." The 66th section of the same Act also declared:—

"That in every such Township, Town, or City Model School gratuitous instruction shall be given to teachers of Common Schools within the Township, Town, or City, wherein such model school may be established during such periods and under such regulations of the Township, Town, or City Superintendent may from time to time direct."

Again, in the first Common School Act prepared by Dr. Ryerson, and passed in 1846, after providing for the establishment of District Model Schools—it was declared (sec 40):—

"That at every such District Model School gratuitous instruction shall be afforded to all teachers of Common Schools within the District in which such Model School may be established during such period and under such regulations as the District Superintendent may from time to time direct."

These county model schools (as it will be seen) had higher functions than have the county model schools of the present day. They were designed to afford instruction to persons who were already teachers, and were thus in Dr. Ryerson's views constituted local Normal Schools for that purpose. So much importance did Dr. Ryerson attach to the value of training institutions for teaching, and so much did he anticipate a demand for them that on page 162 of his *Report on a System of Public Elementary Instruction*, published in 1845, he said:—

"As soon as examples of the advantages of trained teachers can be given, I believe the ratio of demand will increase faster than that of supply, and that an additional Normal School will soon be required in each of the most populous Districts."

Then again so jealously was the efficiency of these district or County Model Schools guarded that in the same Act, 9 Vic., chap. 20, it was provided that no teacher could be appointed to such school without the approval in writing of the District Superintendent, and unless he held a certificate from the Normal School (which was

established in 1847). In addition to these requirements power was given to the District Superintendent to *suspend* or *dismiss* Model School teachers and to appoint others in their places, in case the local trustees neglected or refused to do so. This District Superintendent was also authorized to examine (as they often did at the Model School) all "candidates for teaching in Common Schools" and to give them certificates of qualification, special or general, at his discretion.

The question may here be asked, 'Of what practical value were these County Model Schools in the work of training school teachers, and did they at all discharge the higher functions to which reference is made'?

It was clear that these schools were regarded in those early days as a necessary adjunct to our system of education, for the very purpose of aiding teachers in their professional work. Thus, Hamilton Hunter, Esq., now of London, Ontario, and a veteran in the work—in his report as School Superintendent of the Home District for the year 1844 says:—

"The deficiency in the qualification of teachers could be remedied by establishing in each District a Model School upon a good scale, and having it under the management of a superior teacher or teachers . . . The School Bill makes provision for this, etc."

In his report for 1847 Dr. Ryerson thus speaks of the operation and success of these schools wherever they had been established.

"The School Superintendent of Dalhousie District says:—'In this [County Model School] I have there held public examinations of Common School teachers; and on some occasions, when reluctant to give them certificates, I have sent them to the Model School master for information and examination . . . [These teachers] did not make any permanent stay except one, merely learning the mode of instruction, the value of the studies and discipline of the school' . . . The Superintendent of the Johnstone District says:—'. . . Much good has been done by the establishment of the Model School in this District. Several teachers whose education was by no means good, have acquired a sound knowledge of the subjects which are required to be taught in the Common Schools.' The Superintendent of Schools in the Midland District says:—'Almost every teacher who has attended the Model School for any length of time is now teaching with good success.'"

In the Act [hostile to Dr. Ryerson] which was hurriedly passed in 1849, but which, by Order-in-Council, never went into operation, provision was made to establish, or continue the County Model Schools "in any township, town, or city," and granting to each of them "£25 over and above the sum to which such schools would be entitled as a Common School . . . which sum shall be expended in the payment of a teacher or teachers, and for no other purpose."

In 1850 the whole machinery of our school system was thoroughly revised, and the system itself re-organized. A comprehensive School Act prepared by Dr. Ryerson, was then passed, which is yet the foundation of our Public School system. In that Act, provision for the establishment and maintenance of township Model Schools was made. Township Councils were authorized to raise a special tax for the support and efficiency of these schools; and it was "provided likewise, that tuition to student-teachers in such Model Schools should be free."

The reason why township Model Schools were substituted for county ones, is given by Dr. Ryerson in his circular to town Reeves, dated 12th August, 1850. Other reasons contributed to this change, but the circular gives the chief reason.

"The attempts of District Councils to establish Model Schools have thus far proved entire failures . . . The late District Councils have in every instance, except one, abandoned the attempt . . . To the success and usefulness of a Model School, a model teacher, at any expense, is indispensable, and then a Model School-house, properly furnished, and their judicious and energetic management."

In addition, I may say that the causes of failure of these valuable training institutions in 1850, may be incidentally learned from the very words here used by Dr. Ryerson by way of suggestions to town Reeves. These schools had neither model teachers, nor were the buildings "model school-houses." Besides, the District Superintendents of that day, and after them, the inferior township Superintendents, had no experience as trained teachers themselves. The man who would do the work of superintendence at the cheapest rate, and as a supplement to his ordinary income, was usually the man chosen as Superintendent.

For twenty years this unfortunate state things existed, and until, by the Act of 1871, the status and qualifications of these most important officers were raised to their present high standard. The very name was changed, and that of Inspector substituted for one which had become synonymous with that of inefficiency—chiefly for want of experience in the duties of the office.

It was felt by Dr. Ryerson that until these new officers had secured some degree of popular favor, and had proved their efficiency as organizers of schools, and as practical judges of the necessary qualifications of teachers, it would be useless for him to attempt the re-establishment of the county Model Schools. Before that time had fully arrived he retired from office—leaving this important and necessary duty to be undertaken (as it was efficiently) by his successor, Hon. Adam Crooks, as Minister of Education.

*John Hoopuis*

### THE DUTY OF THE CHRISTIAN MINISTER TO THE SCHOOL.

TIME was when the whole education of the youth was in the hands of the clergy. Whether for good or evil that day is gone forever. The day, however, can never come when the Christian minister will not be greatly affected in all his work by the character of the school, using the word in a wide sense to include the highest as well as the most elementary. For the present our remarks will be confined to the minister's relation or duty to the school as distinct from what is usually called the college. Whether he feel and acknowledge it or not, he ought to be interested in the school, and has important duties to perform towards it. Judging from the amount of writing in the public newspapers, which some ministers have done, there is no lack of interest on the part of many of them in the school system of the country. But it is quite possible to do all this and not feel or manifest much interest in, or discharge any very direct or practical duty towards, the school in the sense already spoken of. The fact of the minister owing this duty, we fancy, will not be denied by any one. Let us try to give definiteness to the conception of what it is, with a view to help to its practical and effective discharge.

Teachers and pupils constitute the school, and connected with these there are all the means and apparatus for doing their work: governing, or administrative boards, and the legislature itself. The Christian minister's duty to the school may be said to include all these, although it refers to some of them more directly than to others. Towards them all he has every duty devolving upon all citizens of the land, and in addition, those special duties arising from his character as a teacher of religion and a guardian of public morals. In this latter respect, and as regards the teacher, it is an important duty of the Christian minister to concern himself with his moral character, and as all sound morals rest upon sound religious belief, to concern himself even with his religious belief and character. Whether the Bible or any part of it shall be read in the school or not, is a very important question, but the religious and moral character of the teacher is vastly more important. Questionableness or feebleness in this will neutralize any amount of scripture reading in the school; and on the other hand, even should the Scriptures not be read, a school cannot but be morally and religiously healthful and bracing under a teacher strong and true in his moral and religious character. It is certainly then the special duty of the Christian minister to do what in him lies, and he can do much, to help to create and keep up a healthy public sentiment in this most important matter, for its influence will reach to and affect every department of school

work and life, and also, by direct contact with the teacher, to strengthen him in this respect.

Again, a most important part of a Christian minister's duty toward the teacher is to manifest kind interest in him as a teacher, and sympathy with him in his work. The Christian minister is himself emphatically a teacher. His Master's command is, "Go, teach." The school-teacher is there for a fellow-labourer in the same department of the world's work. Every right-minded teacher, every teacher possessing that moral character, without which he should not be regarded as duly qualified for his high position, is a brother and helper of the Christian minister, and not to be interested in him, and have warm sympathy with his work, is unnatural and a gross dereliction in duty. Without going too much into detail, this sympathy and interest may be shown by the minister seeking and cultivating more or less personal and close acquaintance with the teacher, by asking for and availing himself of his assistance in his work wherever there is the character that there ought to be, by visiting him in the school, and honoring him before his pupils, by speaking a good word for him in the homes of the scholars, and strengthening his naturally great influence for good, if a good man, in his locality and with boards of trustees, with some of whose members in almost every case, moral considerations do not rank so high as they ought. How the morale and discipline of the school would be helped by such treatment of the teacher, his hands upheld, his heart encouraged, and his labours, naturally onerous and arduous, somewhat heightened and brightened, is sufficiently obvious, and would call out towards every Christian minister so discharging this duty the grateful good will of every teacher. While it may not be in the power of many ministers to write long articles in the newspapers upon our school system, and their duty in this respect may often not be very clear, there can be no question that, seeing the work of both lies so much in the same plane, and is directed so greatly toward the same end, nothing less than what we have said can be required as the Christian minister's duty toward the school as represented by the teacher, and it is all the more imperative, because it is in the power of every one to discharge it if he will. His duty toward it in other respects referred to must be reserved for consideration in the future.

*W. D. Ballou*

AN EDUCATIONAL WEEKLY has made its appearance at Toronto, Canada, intended as a high class journal devoted to the general interests of education. Mr. Colin Fraser is the business manager, and Mr. J. E. Bryant the editor.—*Boston Literary World*.

### PERCENTAGE AND CRAM.

THE modern demon, "percentage," and his close friend, "cram," have succeeded in driving true education out of our schools. Our pupil teachers are pressed into the ranks of the noble (!) army of "crammers," and the good old-fashioned criticism and model lessons are fast becoming things of the past. Thus it happens that our future masters go to college, expecting great things, and hoping that at least *there* cram will find no place, and they will find time and encouragement to go on with what has been so sadly neglected at home. But, alas! vain hope! They soon find "cram" is one of the chief gods worshipped inside the training-college walls as well as out. They are crammed with all that is wanted for the certificate examination.—(*London Schoolmaster, Eng.*)

### HISTORY AS A SCHOOL STUDY.

To the young man whose mind is already disciplined by severe scholastic pursuits, no other subject will so readily yield all the elements of moral culture as history. To the schoolboy, on the other hand, it is of value only in so far as it brings to his knowledge wonderful deeds done in the discharge of patriotism and duty. In all other respects it is utterly barren of good results, and involves a futile expenditure of valuable time. A dim outline of royal genealogies, of dates, the intervals between which are full of plottings and counter plottings, and of facts which, however capable of interpretation by the matured capacity, are, to the raw experience of the child or the boy, little more than an exhibition of the worst passions that afflict humanity, and all these epitomized into small compass, and only partially and fragmentarily acquired—such is school history. It seems to us, therefore, that the study of history in the primary school is little better than an abuse of time.

When we consider that history, so fruitless of good results, obtrudes itself into a region which ought to be sacred to the varied culture, literary and scientific, to which exercises in advanced reading and writing ought to be made subservient, it cannot be too much discouraged. The thing chiefly to be regretted is that teachers, otherwise intelligent and earnest in the discharge of their duty, should be led astray by the mere semblance of solid instruction which is yielded by bald historical records.

The proper place of history in the primary school is in the library. The children will require little encouragement to read it if it be written in a style to suit their age, and they will always welcome gladly a public reading of the narrative of some great event by the master himself, as an occasional reward of good conduct, or as a relief from the tedium of the day's routine.—*Lawrie*.



TORONTO:

THURSDAY, FEBRUARY 12, 1885.

*HIGH SCHOOL REPRESENTATION  
IN THE UNIVERSITY  
SENATE.*

THE Act of 1873 made the Senate of the University of Toronto largely representative in its character. Fifteen members were, thenceforth, to be elected by the great body of the graduates, and one member was to represent the high schools. The election of the representative of the high schools, was to depend upon the votes of the head-masters alone. The assistant-masters were to have no vote. The Amending Act, of 1881, provided that in the case of the representatives of Convocation, there should be a nomination of each candidate by at least ten members of Convocation. No one receiving a nomination by a less number, should be eligible for election. It was a wise amendment; it secured respectability in the candidature. There had been at least, one instance of a candidate receiving no vote but his own.

Last year an additional member was given to the high school representation, and the electorate was enlarged so as to include all legally qualified masters and teachers. This was an excellent change. It brought the Senate into closer connection, with educational sentiment, opinion, and experience; for there is no body of men in the country who take such an interest in university matters and higher education as the high school masters. It also gave dignity and influence to the assistant-masters, and hence tended to improve the status of secondary education.

In our opinion, this representation should be increased. There should be *three* members of the high school representation; for two reasons:—one, that given above, that high school masters, as a body, take more interest in higher education than others, and study education as a science, and watch its progress more diligently than other bodies in the commonwealth do; the other, that in this way, each representative would hold his office for three years, and thus give to the high school delegation greater continuity of existence, and the opportunity of exercising greater influence.

Another improvement is needed, which, however, does not depend upon the other. Each candidate for representation of the high schools on the Senate, should be nominated by, at least, *ten* members of the electorate. This nomination would remove from candidates the charge of self-seeking. It would, on the other hand, be an assurance to electors that candidates have some reasonable right to appear as such.

*DISTRIBUTION OF THE HIGH  
SCHOOL GRANTS.*

It is an open secret that the present method of distributing the legislative grant among the different high schools and collegiate institutes is to be superseded by a new method—an adaptation of the present method. We do not purpose entering upon an examination of the merits of the present system of distribution. In our opinion the principle is a good one, though the details of the scheme by which the principle is worked out are defective. But we speak in the interests of the high school boards, and say: Whatever the new scheme be let it be, above all things, *certain* in its operation. For the past *ten* or twelve years no finance committee of a high school board has been able to reckon with any certainty upon the legislative grant. It has been made to depend upon so many contingencies, none of them calculable, that to compute with certainty whether in any particular school a proposed increase of expenditure were justifiable or not, has been impossible. High school trustees have, again and again, incurred new expenses in the by no means censurable expectation of a certain Government grant, and have found to their vexation and disgust that they had leaned upon a broken reed.

When, in August 1882, the original of the present scheme was proposed, to take effect in the January of the next year, high school boards viewed the change with satisfaction, because it enabled them to compute, as they thought with certainty, the amount they should receive from the Legislature. But as each half-year's grant reached them they found themselves more and more deceived. The calculation was perfectly easy, the data were all given, but the reason assigned in every case was that the legislative grant was inadequate to the scheme.

If there is anything that a man of good business principles and habits dislikes it is to find himself unable to reckon with certainty, so as to make provision for a proposed expenditure. The business men of the high school boards have, for long enough time, been subjected to this unnecessary disagreeableness. The regulations of the Department relating to the distribution of the grants ought to be so framed that they can be depended upon. If the regulations call for so much money, that amount should be provided for. It is the duty of the minister to see that the grant is not ninety per cent., or eighty per cent., of the amount the high schools reckon upon by virtue of the regulations, but exactly equal to it or above it. The primary principles, we repeat, in a scheme of redistribution, should be calculableness and certainty.

It may be well to observe here that it is time that the legislative grant to secondary education should be increased. In 1872 the grant was \$77,930. In 1882 the grant was \$84,304—the increase being a little over eight per cent. In 1872 the amount paid for masters' salaries was \$141,812. In 1882 the amount was \$253,863—the increase being considerably over seventy-nine per cent; in fact, nearly eighty per cent.—that is, *ten* times the increase in the grant. In 1872 the number of pupils in attendance was 7,968. In 1882 the number was 12,473, the increase being over fifty-six per cent—that is, *eight* times the increase in the grant. The eloquence of these figures is evident.

*THE AUDIT OF SCHOOL ACCOUNTS  
IN RURAL SECTIONS.*

VERY numerous instances of improper auditing of school accounts, in rural sections, have come under our notice. The provisions of the Public Schools' Act, are very specific and comprehensive. If the auditors exercised the powers vested in them, wisely and thoroughly, there would be no grievance. But the facts are, that in many cases, especially in the newer townships, but quite frequently in the older townships, the auditors sign, without inspection, the reports made out by the trustees, and these again uninquiringly sign the reports as presented to them by the secretary-treasurers.

When it is remembered what large powers trustee-boards possess, negli-

## BOOK REVIEW.

J. F. Crane, A.M., and S. J. Brun, B.S., Cornell University. *Tableaux de la Révolution Française*: G. P. Putnam's Sons: New York and London, 1884.

*Tableaux de la Révolution Française* is the title of a little book prepared by Professor Crane and Instructor Brun of Cornell University. These *Tableaux* consist of a number of extracts from books and newspapers, and are intended to illustrate that very interesting piece of French history, the First Revolution. The extracts are carefully chosen, and will form interesting reading to those who are familiar with the main features of that striking period, and who wish to perfect their knowledge of its more minute details. But the book does not seem to us to be particularly useful as a School Reader in the ordinary sense, simply or the reason that it is a book of extracts. Moreover, the pieces are so short and varied in character, that the young student would never be able to get accustomed to the style of any one author; nor would he be able to see the connection between the pieces unless he had spent considerable time in the systematic study of the history of the period as a whole.

J.S.

*A Grammar of the German Language for High Schools and Colleges: Designed for Beginners and advanced Students*, by H. C. G. Brandt, Professor of German and French in Hamilton College, Clinton, N. Y., late of Johns Hopkins University. New York & London: G. P. Putnam's Sons; Toronto: Hart & Co.

So many grammars of German, mostly of slender merit, have been produced that to write one has come to be regarded as an amiable weakness. This reproach applies in no way to Prof. Brandt's work, which we may say at the outset is a scholarly and useful book. It embodies the results of the most recent philological research, while the author has eliminated a vast quantity of the vague and empirical rubbish, among which the student of the old-fashioned grammars was obliged to seek the essentials of the language.

The whole accidence is compressed by him into forty-seven pages which seem to contain all that is useful and much that is wanting in the traditional grammar. The syntax is very copious, and is admirably arranged both as to order of subjects discussed, conciseness, and clearness of statement. We can best indicate the scope of the remainder of the book by enumerating the headings: (a) Phonology, (b) Historical Commentary upon the Accidence, (c) History of Language, (d) Word-formation. This part of the work (100 pages) is so full as to approach the character of a hand-book, and might be recommended to students of our University curriculum in modern languages, as containing probably nearly all that is required for their philological studies in German, put into better and cheaper form than that in which it is otherwise to be obtained. The index is excellent. Such a book as this cannot fail to assist the reformation now going on in methods of linguistic study—a reformation so long needed, and one which must be completed before the living languages can take their proper position as science worthy of serious study.

## Table Talk.

THE *Princeton Review* has ceased to exist. It had been published more than sixty years.

TWO crying abuses here are the publication of nearly all American books without indexes, and sometimes without tables of contents.—*New York Tribune*.

THE poet Whittier's letter about the Burns anniversary contains the assertion, that there is not a logger's camp in Maine woods where the Scotch poet's birthday is not to be remembered.

THE first edition of the *February Century* (180,000 copies), was sold within a week of the day of issue. A new edition of 20,000 is on the press, making a total of 200,000, with the prospect of a still further demand.

JAPANESE newspaper enterprise is making rapid progress. It is stated that no less than three vernacular newspapers published at Tokio and one at Kobe have sent special correspondents to report the proceedings of the war in China.

A CLEVER sell of the cholera-siege at Paris was *L'Anti-Trac* (the anti-scare), which the newsboys cried vigorously as "the only journal which does not mention the cholera. It was only after the public had invested their pennies that they found *L'Anti-Trac* to consist of four blank pages.

MR. OSCAR FAY ADAMS, who has begun the publication in *Wide Awake* of twelve articles containing "Search Questions in American Literature," which will continue until next October, is to prepare twelve more of a similar character, relating to English literature, the publication of which will immediately follow.

AN exchange says a young school-teacher, twenty years old, Miss Mattie Worley, of Greenwood County, Kansas, earned money enough to buy one hundred and sixty acres of land, hired men to break up eighty acres and sow ten acres of wheat, and purchased stock for the rest of the land. She is now out of debt, and still continues to teach.

AFTER a career of little more than a twelvemonth, the *London Summary*, the halfpenny paper started by the proprietors of the *Times*, has come to an end. The *Summary* was intended to provide the public with an epitome of the news contained in the *Times*, but it never attained any large circulation. The news agents did not care to promote the circulation of a halfpenny morning paper, and to the vast mass of newspaper readers its existence was unknown.

THIS January witnesses the establishment in England of a new magazine which aims at the older standard, or rather it witnesses the transformation of the most frivolous among our periodicals to a review of the staid of the defunct *Fraser* or the old *Cornhill*. Under new management *Time* begins its career as a literary magazine. Mr. Symonds, Mr. Pater, Mr. Freeman, Vernon Lee, and the most eminent English essayists have promised something for its pages. A serial novel, an occasional story, are to enliven the contents. The venture is dangerous, for day by day the English taste becomes more impatient of the serious side of literature. But it is a venture worth the making. May all prosperity attend it.—*Lit. World*.

gence on their part to examine the financial accounts presented to them by secretary-treasurers is criminal.

But it is a matter of notoriety that they often do not examine carefully into the accounts of their coadjutors the secretary treasurers. The people of the sections then, must depend entirely upon the carefulness of the auditors. But in many sections, there is scarcely anyone to be found outside of the trustee-board, sufficiently skilled and experienced in accounts, to examine properly, a financial statement. To one who has not had personal experience in these matters, the number of the mistakes, and perhaps intentional wrong statements, that are certified to as correct by the appointed auditors, would seem incredible. In nine cases out of ten the annual reports presented to the people and to the inspectors, are certified to without examination.

Several remedies have been suggested to us; but the one that seems simplest, and most likely to be acceptable, is this:—Let the township auditors, who are, as a rule, competent accountants, and are paid for the work they do, be, with the inspector, a board of audit for the whole township. Let these three fix a day, before the Annual Meeting, for the auditing of all the accounts of the section of the township. Let the place of audit be the most centrally situated possible. Let the secretary-treasurers of the various sections be required to be present at the appointed place and time, with their accounts and vouchers. Their statements, which should be in duplicate, could be examined and certified to, all in the course of one day. The Inspector should keep one of each of the duplicated statements, with which he could compare the annual reports, when he receives them from the boards in January.

If this plan of auditing were adopted the secretary-treasurers, knowing that their accounts would be examined by a competent board, would be very careful to see that no errors crept into their reports, either of accident, or of intention

THERE is to be held in the Normal School, Toronto, on Friday evening, the 6th of March next, a conversation of teachers. Mrs. Agnes Courlette Thomson, Mrs. Cosie Berryman, Mrs. Iola Going, Mr. Alex. M. Gorrie, Mr. T. Hurst, Mr. J. F. Thomson are—amongst others—to take part in the musical programme.

## Music.

WEBER'S *Oberon* has been successfully revived at Brussels.

At the Brussels Conservatoire last year, 529 students attended.

THE *Athenæum* speaks highly of a work on *Breathing* by a Mr. Carlisle, (Chappell & Co.).

THIRTY operas were produced in Italy last year, but not one was of special importance.

A BALLAD concert was recently given in Chicago, at which only works of Chicago composers were sung.

HER Majesty the Queen has adopted the *Diapason normal* for her private band and for use at State concerts.

FROM the receipts of the Norwich musical festival held last October, £700 were distributed in charity.

IT is reported that Col. Mapleson had an eleven-thousand dollar house in Boston when Patti and Scalchi sang together in *Martha*.

MIDDLE VAN ZANDT is singing in opera at St. Petersburg with a success which, it is said, is only second to that obtained by Adelina Patti.

A HISTORY of concerts in Leipsic, from the pipers of 1479 to the Gewandhaus of today, has recently been written by Herr Alfred Dorfel.

ROCHESTER proposes to have a musical festival next summer. An oratorio, a Wagner concert, and one concert with miscellaneous programme is to constitute the scheme.

OUR friends across the ocean will be delighted to hear that Dr. Hans von Buelow is intending to undertake a grand tour through Europe. He has resigned the conductorship of the Meiningen orchestra.

BUFFALO is to have a musical festival in June, and steps have been taken to organize a union orchestra to co-operate on this occasion. Available musicians to the number of forty-five are to be reinforced by outside talent to form a body of sixty men.

THE *Athenæum* states that the demand for drawing-room pianoforte music is steadily decreasing. Yet it does not see an un-mixed good in the cheapness and rapidly growing popularity of the classics, since it fears, these may check English musical composition.

"IL TROVATORE," with Laura Bellini as *Leonora*, Armandale as *Azucena*, Fabbrini as *Manrico*, and Campobello as *Count di Luna*, proved one of the most satisfactory performances given by the Abbott company at the Baldwin Theatre, San Francisco, last month, and aroused the audience to warm enthusiasm.

THE principal feature of a recent musical entertainment at the British Legation, at Washington, was the piano and violin playing of the Wetzler children and the singing of little Linda da Costa. Baron von Schaeffer, the Austrian Minister, takes a warm interest in his young countrymen and arranged this private concert, inviting the leading society people and musicians to be present. The entertainment proved highly successful.—*Musical Items*.

## Drama.

MODJESKA is playing Shakespeare to the Poles in Polish.

A VOLUME of essays on Mr. Henry Irving and his acting is being prepared by Mr. William Winter.

Mr. LAWRENCE BARRETT has been playing in Browning's *The Blot on the Scutcheon*, at New York.

A NEW drama by Mr. Sims is to be performed at the Adelphi Theatre, London, on the 21st of the month.

AN unacted play by Bulwer is to replace *Hamlet*, in which Mr. Wilson Barrett has been playing so successfully in London.

*Guilty Shadows*, a comedy-drama by Miss Emily De Witt, in which the authoress supports the principal female character, is to be played in London this month.

A WORK called *Annals of the French Stage from its Origin to the Death of Racine* in two volumes, has been published by Frederick Hawkins. (Chapman & Hall).

MACREADY gives as an example of how the celebrated actress, Mrs. Glover, "forgot everything but her assumed character," that in acting with her he used frequently to be nearly smothered with her kisses.

IT is stated, says the *Athenæum*, that agitation in favor of the re-marriage of Hindu widows which is now going on in India, has extended from the newspapers to the stage, a drama on the subject called *Sowbhagya Rani*, from the pen of Mr. Anna Martand Jari, having been produced with great success at Bombay.

THE *Athenæum* asserts that Mrs. Langtry's method has improved; that her face has more vivacity of expression; and that her attitudes have a breadth they did not formerly possess. The *Saturday Review* on the other hand says: The actress is very deficient in emotional power, and lacks also that nice sense of gradation which is so valuable.

WE referred in an issue a few weeks ago to a comparison of ancient to modern drama employed by both Coleridge and August Wilhelm Schlegel. The following are a few of Coleridge's remarks:—

Finally, I will note down those fundamental characteristics which contra-distinguish the ancient literature from the modern generally, but which more especially appear in prominence in the tragic drama. The ancient was allied to statuary, the modern refers to painting. In the first, there is a predominance of rhythm and melody, in the second, of harmony and counterpoint. The Greeks idolized the finite, and therefore were the masters of all grace, elegance, proportion, fancy, dignity, majesty—of whatever, in short, is capable of being definitely conveyed by defined forms or thoughts: the moderns revere the infinite, and affect the indefinite as a vehicle of the infinite;—hence their passions, their obscure hopes and fears, their wandering through the unknown, their grander moral feelings, their more august conception of man as man, their future rather than their past—in a word, their sublimity.—*Lectures and Notes on Shakespeare and other English Poets*, by Samuel Taylor Coleridge. Collected by T. Ashe, B.A.—Ed. 1883, pp. 194,195.

## Art.

MR. G. F. WATTS, R.A., is to give an exhibition of his pictures at New York.

THE Princess Louise is modelling a statue in bronze of her royal mother, to be placed in Lincoln Cathedral.

THE designer of the first Alexandra Palace, Mr. Alfred Meeson, is dead. He was in his seventy-seventh year.

MISS J. E. HARRISON, who lectured recently at the British Museum, is to lecture in the Leicester Museum on the influence of Greek art.

THE *Athenæum* is profuse in its praises of the artistic little volume of Keats by Francis T. Palgrave. It calls it an "exquisite pocket volume."

IT is said that Rubens' "Garden of the Hesperides," one of the Blenheim collection, has been secured by Baron Edmond de Rothschild, Paris, for 25,000 guineas.

IT has been proposed to establish an International Chalcographical Society, for the study of engravings and the production of fac-similes of rare and precious examples of the art.

AT the industrial exhibition at Kensington, a short time since, was conspicuous the Indian collection brought from Canada by the Princess Louise and the Marquis of Lorne.—*Canadian Gazette*.

THE *English School of Painting*, by M. Chesneau, with notes and introduction by Professor Ruskin, is now in an advanced state of preparation, and will be issued early this month.

MIDDLE ROSA BONHEUR has almost completely regained her health. A picture of Highland sheep, exhibited in the exhibition of the Institute of Painters in Oil Colours, was executed since her recovery.

MR. BRYCE WRIGHT has published an illustrated catalogue of the gold ornaments from the *huacas* or graves of some aboriginal races of the north-western provinces of South America, collected by Lady Brassey.

THE Queen of Roumania is philanthropically trying to obtain a sale in foreign countries of the products of the Roumanian peasantry. An exhibition was recently held at Messrs. Howell and James's, London, of a variety of costumes and embroideries, carpets and other woven fabrics. The attraction of the show, says the *Magazine of Art*, lay in the beauty and cheapness of the materials, and the admirable fitness with which they were associated with modern furniture in the coverings of chairs and footstools, cushions and sofas. The tunic and short square-cut petticoat, the veil, the apron and girdle of the Roumanian costume make a picturesque rather than a beautiful ensemble; the colors employed are generally too garish and crude to harmonize, and there is no beauty of line in the dress itself that may mitigate the violent colors. Like the Cypriotes, the Roumanians have a passion for color, but they do not know how to indulge in the Oriental taste and yet produce an agreeable harmony, such as is so exquisitely displayed in Oriental art embroideries. The carpets are excellent in workmanship, and the use of gold and silver thread and span-gles in the finer fabrics is very effective.

# Practical Art.

## PERSPECTIVE.

FOURTH PAPER.

In problem 4, given in last paper, the line is on the ground perpendicular to, and touching P P 4' to the right.

Measure this distance to the right of L D on G L, and from this point of contact, that is, the point where the end of the line comes in contact with P P (a, Fig. 8), draw a line to C V (Rule 3); measure to the left of a the length of the line (8') to b and draw a line from there to R M P. This will cut off a C V in c, making ac the representation of the line required.

In problem 5; first measure to the left of L D 2', to obtain point of contact of near corner of square, d; measure from that to the left 5', the length of side of square to e; join d and e with C V, and from d draw a line to L M P cutting e C V in f; from f draw f h parallel to d e; d e f h is the square as it will appear when in the position mentioned.

In problem 6, the square is of the same size, and directly above the one just drawn (prob. 5); from d and e erect perpendiculars equal in height to the distance of square from the ground (3') giving k and l as the near corners; from these draw lines to C V, and find the back corners by a line from k to L M P, cutting l C V in m, and a horizontal line from m, cutting k C V in n.

It will be evident that by joining the corners of the two squares as shown by dotted lines, a block 5' square and 3' thick would be represented. This will be a clue to the method of finding the height of the top side of any object.

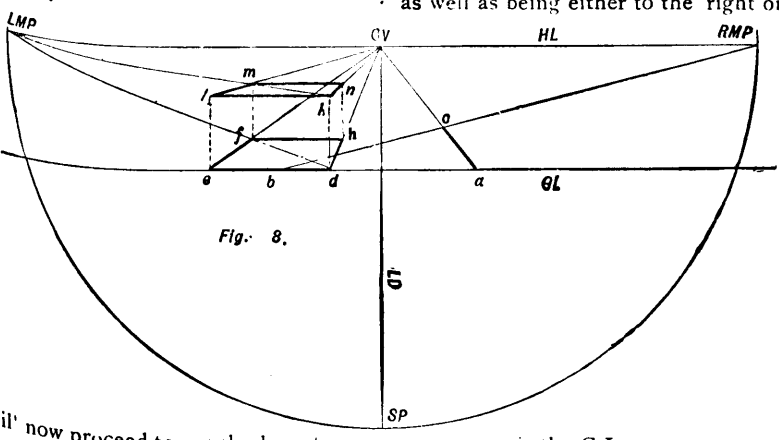


Fig. 8.

We will now proceed to use the knowledge just obtained.

**Problem 7.**—Represent in perspective a cube of 4' edge touching picture plane, near corner of base being 2' to the left. Height, 6'; distance, 15'; scale, 1/8" to the foot, or 1/96.

Referring to our rules we find that lines parallel to the P P undergo no change of direction, and our experiment of the pane of glass shows us that when one side of an

object touches the P P, that side will appear as it really is, as regards shape and size. The front face of the cube in question touches the P P, and of course is parallel with it, so we must represent it as a square, because that is its shape, and of its proper size; and as 1/8 of an inch is our equivalent for 1 foot of actual measurement, its sides must be made 4/8 of an inch long.

First then, as one face touches the P P and another rests on the ground plane, the edge where these two faces meet must be in the line where the P P and ground plane meet;

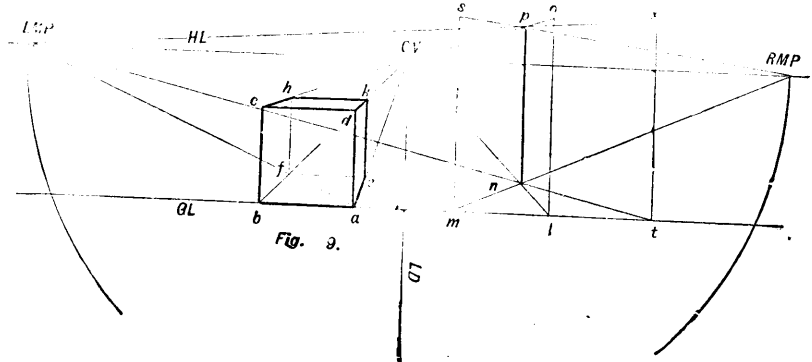


Fig. 9.

far corner of front edge of base. Having got this front edge ab (Fig. 9), we can either complete the base and then draw the top at the right height above it, and join the corners as mentioned in problem 6, or, having completed the base, construct a square on a b, and from its upper corner c d, draw lines to C V, cut them off by means of vertical lines from e and f, and join h k.

So far we have only dealt with objects lying on the ground and touching P P; we must now find out how to represent them when they are removed back from the P P, as well as being either to the right or left of

of a point 6' to the right and 4' back from P P, and upon it place upright a pole 8' high. Height 6'; distance 15' scale 1/96.

If the point were moved forward in a direction parallel to L D till it touched the P P it would be represented by l, 6' to the right of L D. A line from there to C V would show its track when carried back to the horizon. To find on this a point 4' back, set off to the right or left the required distance, 4', and from either of these points draw a line to the proper measuring point, that is, from l to L M P or in to R M P.

Either of these will give n as the position of the bottom of the pole. Now suppose the pole to be brought forward in the same way as the point upon which it is to stand. Manifestly it would appear as a vertical line from l, 8' or 8/8" high, and on being returned to C V, its top would trace the line o C V and its base l C V; but this last line passes through n; therefore o C V will pass above n 8' high, and the vertical line n p will be the proper representation of the pole when standing on n

What has been done is simply this. The position of the lower end of the pole having been found, a vertical plane has been constructed to pass through it from some point on the horizon, to the P P, and if the plane is equal in height to the pole, the top edge must contain the top of the pole directly above the point first found.

In the illustration of this problem, the pole has been brought forward to the P P at right angles to it, and at an angle of 45°, from the right and left; m s is the position it would occupy when brought from the right, and l x when brought from the left. Because the lines n m and n t are drawn from the measuring points, we know they each form an angle of 45' with P P (Rule 4).

It is not absolutely necessary to use the C V, L M P, or R M P, for the purpose of measuring off vertical heights; any point on H L might be selected at random, but it is a manifest advantage to make the work as simple as possible.

Arthur J. Reading

**Problem 8.**—Find the perspective position

## The High School.

### WHY WE SPEAK ENGLISH.

BY RICHARD GRANT WHITE.

(Continued from last issue.)

SOME of my readers must know from their own observation that this is true; and yet I do not doubt that even of these there are yet not a few who have never thought of it as evidence that, although certain languages are spoken by certain races, this is not because there is any natural and peculiar fitness of the words of any one language to the character or the spirit of any one people. The language used by any and every people has a historic origin; and the peculiar forms of its words are the product of time, of circumstance, and probably, in a certain very moderate degree, of climate and of physiological conditions.

The sun and the moon received their names for good reasons: the former because it is the creator (light and heat being the causes of inorganic life), and the latter because it was the first measurer of time; and these names they have born for at least four thousand years—we do not know how much longer. But now those words have become mere names; mere sounds which are the vocal indications of the objects to which they are applied, so that if by some wizardry we were all, with one exception to wake up tomorrow calling the light which rules the day, moon and that which rules the night, sun, we should be perfectly satisfied and find in it no inconvenience; and moreover we should look upon him who used the words in the converse senses that we had forgotten as a madman.

Words however have, with very few exceptions, a real meaning, or at least a reason for their use, as *sun* and *moon* have. The words without such meaning may be all told upon the fingers. Two words of scientific origin but very common use are illustrative examples—*chloroform* and *gas*, both of which are of recent, the former of very recent, fabrication. Chloroform is so called, because it is, or is supposed to be, a chloride of formyl, which is the base of formic acid, a fluid found in red ants; *formica* being the Latin for ant. It was desirable to have a convenient name for this substance, and the name was made by uniting the first syllable of *chloride* or *chlorine*, with the first syllable of *formyl*; whence we have *chloroform*. The name *gas* was invented, we know not why or wherefore, by a Dutch chemist, some two hundred and fifty years ago, for all those compressible, air-like fluids to which it is now applied. It was convenient, and came first into scientific and then into general use, so that now it is one of the commonest words, even in a sarcastic, metaphorical sense, in the speech of all civilized peoples. Now nearly all words have a significant origin, like *chloroform*. Those which are without inherent significance like *gas* are very few indeed. Words like these, and like *oxygen* (which is only about one hundred and fifty years old, and means acid-maker) are called coined words, because they were recently and deliberately made. The words which form the bulk of language are of very remote origin, and, until recently, of untraced growth.

The tracing of the growth of words which has been scientifically—that is historically and logically—prosecuted for a little more than fifty years has brought to light the important fact—a fact the discovery of which is second in importance only to that of the discovery of the law of gravitation—that all the languages of the civilized peoples of Europe and America, together with some in Asia, have a common origin. At one time there was no English, no French, no Russian language, no Erse or Gaelic, no Latin, no Greek; but at that time the germ of all these languages and of others which need not be mentioned, existed in a tongue which for more than four thousand years has been unspoken, but which, from the people which spoke it, has been called Aryan (pronounced *Ahrjan*). This discovery was sure to have been made in one way or another; but the immediate cause of it was the presence in Hindostan of the British East India Company. In 1776 N. B. Halhed, a servant of the company, who had been an early friend of Sheridan, the orator and dramatist, published a Bengali grammar, in which he mentions as very remarkable, “the similitude of Sanskrit words with those of Persian and Arabic (?), and even of Latin and Greek; and these not in technical and metaphorical terms, which the mutation of refined arts and improved manners might have occasionally introduced, but in the main groundwork of the language, in monosyllables, in the names of numbers, and the appellations of such things as would be first discriminated on the first dawn of civilization.” Soon afterward, in 1786, Sir William Jones, who had gone to Bengal as a judge, in a paper in “Asiatic Researches,” expressed a like opinion more strongly and in more comprehensive terms. “The Sanskrit language,” he says, “whatever may be its antiquity, is of a wonderful structure, more perfect than the Greek, more copious than the Latin, and more exquisitely refined than either, yet bearing to both of them a stronger affinity both in the roots of verbs and in the forms of grammar\* than could have been produced by accident, so strong that no philologist could examine all the three without believing them to have sprung from one common source, which perhaps no longer exists. There is a similar reason, though not quite so forcible, for supposing that both the Gothic and the Celtic, though blended with a different idiom, had the same origin with the Sanskrit. The old Persian may be added to the same family.”

\*The grammar, it is to be said, is far more like that of the Greek than like that of the Latin language.

(To be continued.)

### HISTORY.

History is knowledge which has for its object the progress of a nation or of a race. The first is national history; the second is general history. The knowledge is elementary and scientific. Elementary history is knowledge of the facts of progress, scientific, of the causes of the facts. In the teaching of this subject it should be the aim to trace the growth of the nation in territory, in population, in wealth, in civil organization, in modes of living, in religion, and in learning. Only those events should be taught which have an important bearing upon progress, either to help or to hinder.—*Dickinson.*

### QUESTIONS ON STEWART'S ELEMENTARY PHYSICS.

Selected from Hill's Manual.

#### LESSON III.—Second Law of Motion. (Continued.)

56. What may be called the *average* or *mean* velocity of a falling body during the first second? during the first two seconds? during  $t$  seconds?

57. Prove that, in uniform motion, space passed over is equal to velocity multiplied by time.

58. Show that any case of uniform motion may be represented graphically by the area of a rectangle.

59. Prove, by dividing a second into tenths, and supposing the motion uniform during each tenth of the second, that the space passed over by a body falling freely in the first second of its motion is 4.9 metres.

60. In general, what represents the space described by a body falling freely for any given time?

61. If  $t$  = the whole time of fall, and  $s$  = the space passed over, show, from what has already been established, that  $s = 4.9 t^2$ .

62. Comparing the results in questions 56 and 59 it appears that the space passed over in the first second of motion is equal numerically to the mean velocity during that second. Accepting this relation as true in general (which is the fact), find the space described during the second second of motion; during the third second.

63. Suppose a projectile, as a bomb-shell, to be fired obliquely into the air; prove that its actual path under the action of gravity will be a curve, bending farther and farther from the original line of impulse. What may this curve be shown to be?

#### LESSON IV.—Second Law of Motion. (Continued.)

64. Suppose a piece of iron to fall by the action of gravity, and also to be acted upon by a magnet so placed as to give it in one second a velocity in the same direction as gravity of 9.8 m. per second; find the velocity acquired and the space described in one second.

65. From the results in question 64, what may be inferred to be the proper measure of different forces applied to the same body?

66. What have we found to be the measure of forces which generate the same velocity in bodies having different masses?

67. In general, what product represents the magnitude of, or is the *measure* of, a force?

68. What product measures the *momentum* of a moving body? Define the measure of a force in terms of the momentum which it will generate.

69. Give an instance of two forces acting in different directions simultaneously on a body at the same point, and determine the path which the body will take under the joint action of the two forces.

70. Explain how a straight line may be employed to represent the point of application, the direction, and the magnitude of a force.

71. What are the two chief results respecting the second law of motion reached, one in the last Lesson, the other in the present Lesson?

72. Give examples of forces which act in such a way as to compel a body to remain at rest.

# The Public School.

## A CHINESE STORY.

C. P. CRANCH.

The following would make an excellent recitation exercise.

Two young, near-sighted fellows, Chang and Ching,  
Over their chop-sticks idly chattering,  
Fell to disputing which could see the best :  
At last, they agreed to put it to the test.

Said Chang, "A marble tablet, so I hear,  
Is placed upon the Bo-hee temple near,  
With an inscription on it. Let us go  
And read it, (since you boast your optics so,)  
Standing together at a certain place  
In front, where we the letters just may trace ;  
Then he who quickest reads the inscription there,  
The palm for keenest eyes henceforth shall bear."

"Agreed," said Ching, "but let us try it soon :  
Suppose we say to-morrow afternoon."  
"Nay, not so soon," said Chang ; "I'm bound to go,  
To-morrow, a day's ride from Ho-ang-ho,  
And shan't be ready till the following day :  
At ten A.M. on Thursday, let us say."

So 'twas arranged ; but Ching was wide awake :  
Time by the forelock he resolved to take ;  
And to the temple went at once, and read,  
Upon the tablet, "To the illustrious dead,  
The chief of mandarins, the great Goh-Bang."  
Scarce had he gone when stealthily came Chang,  
Who read the same ; but, peering closer, he  
Spied in a corner what Ching failed to see—  
The words, "This tablet is erected here  
By those to whom the great Goh-Bang was dear."

So, on the appointed day—both innocent  
As babes, of course—these honest fellows went,  
And took their distant station ; and Ching said,  
"I can read plainly, 'To the illustrious dead,  
The chief of mandarins, the great Goh-Bang.'"  
"And is that all that you can spell?" said Chang ;  
"I see what you have read, but furthermore,  
In smaller letters, toward the temple door,  
Quite plain,—'This tablet is erected here  
By those to whom the great Goh-Bang was dear.'"

"My sharp-eyed friend, there are no such words!"  
said Ching.

"They're there," said Chang, "if I see anything,  
As clear as daylight." "Patent eyes indeed,  
You have!" cried Ching : "do you think I cannot  
read?"

"Not at this distance as I can," Chang said,  
"If what you say you saw is all you read."

In fine, they quarrelled, and their wrath increased,  
Till Chang said, "Let us leave it to the priest ;  
Lo ! here he comes to meet us." "It is well,"  
Said honest Ching ; "no falsehood he will tell."

The good man heard their artless story through,  
And said, "I think, dear sirs, there must be few  
Blest with such wondrous eyes as those you wear :  
There's no such tablet or inscription there !  
There was one, it is true ; 'twas moved away  
And placed within the temple yesterday."

## HOW CAN THOUGHTLESSNESS OF PUPILS BE REMOVED?

By N. A. CALKINS, LL.D.

Asst. Supt. of Schools, New York City. (From a lecture delivered before the Brooklyn Teachers' Association, Dec. 5, 1884.)

(Continued.)

TEACHERS who are intelligently guided by the principles already set forth, and who carefully fit the modes of teaching to the ascertained conditions of their pupils, need have no fear lest some much-talked-of system will not be adhered to in their teaching. *The best method of teaching* is that which best fits and adheres to the condition and needs of the pupils to be taught.

Hoping, in view of what has been said, that you will understand the purpose of the methods which I may present, and perceive their relation to the removal of thoughtlessness from pupils, I will proceed to illustrate a few methods by means of the blackboard. My purpose in doing this is not to give you methods to be copied literally, but rather an attempt to hold before you a classroom exercise in such a manner that you will be able to see what you can do with a similar lesson for your own pupils : and how to do it in accordance with the spirit of the illustration given, and of its intended influence on the pupils. Therefore, in the remembrance of what you see and hear concerning the methods shown you, let your chief endeavor be *to follow them in spirit*, rather than by mere imitation. notes and com.

### LESSON ON QUALITIES.

ASSUMING that your pupils have been taught to distinguish different qualities or properties of objects by *observation and personal examination*, they may be led to give further attention, and obtain clearer ideas, by comparing like or similar qualities. This may be done by means of the objects themselves, or, if the objects and some of their properties are known to the pupils, it may be done by writing the names of them in groups, somewhat as follows, and comparing those of a single group at a time, and deciding what qualities belong to two or more of the objects thus named :

glass	salt	was	sponge
water	sugar	tallow	towel
air	soda	lead	blotter.

Suppose the group of names selected for the lesson be *glass, water, air*, the pupils may be led to say,—*glass is transparent; water is transparent; air is transparent.* Then they might be led to name each substance before giving the name of the quality, thus : *Glass, water, and air are transparent. Some pupils will say water and air are fluids ; both will flow.*

In a similar manner they may be led to give the quality of the sponge, a towel, and a blotter,—*absorbent*. A pupil may state : "We say that a sponge, a towel, and a blotter are *absorbent*, because each will soak up a liquid."

Of other groups they might say : "Wax, tallow, and lead are *fusible*; they will melt by heat." "Salt, sugar, and soda, are *soluble*; they will melt or dissolve in a liquid." "Salt and sugar are granular; each is composed of small grains." "Salt is white; some sugar is white."

By means of such exercises the pupils may be led to recall their personal observations of things, and to think carefully about

them. The doing of this will increase the power of thinking, and lead to more definiteness of knowledge.

### LESSONS IN PHONICS.

Supposing that you have already taught your pupils to distinguish the simple sounds of the language, you may lead them to more certain knowledge of sounds, and to a practical application of them to pronunciation, by the *comparison of sounds* in two or more words. Begin by writing on the blackboard two or three words having the same vowel-sound, as *slate, make, take*. Require pupils to tell which letters sound alike in these words. The several pupils might say : "The *a* in slate sounds like the *a* in make." "The *a* in make like the *a* in take." "The *t* in slate sounds like the *t* in take." "The *k* in make and the *k* in take sound alike." The following group of words may be used for this purpose :

chalk	bread	burn	pale
nor	fed	her	sail
wall	said	girl	veil

After a few lessons have been given with words grouped having the same sound, exercise in *comparing sounds* should be given with the words so grouped that the pupils will be required to discover *like* sounds among *unlike* sounds, as in the following columns of words :

cake	think	chain	book
cart	that	chaise	kute
call	both	echo	loaf
lake	the	watch	knife
barn	truth	chord	cough
stall	these	machine	full

Let the pupils be requested to think carefully how each word in a column is pronounced; then to state which letter sounds alike in two or more of the words. One pupil might say : "The *a* in cake and in lake sound alike." Others might make statements similar to the following : "The *a* in cart sounds like the *a* in barn. The *a* in call has the sound of *a* in stall. The three *c*'s and the two *k*'s have the same sound, etc."

The statements concerning the sounds in the other columns should be somewhat as follows : "The *th* in *think*, in *both*, and in *truth*, sound alike ; the *th* in *that*, in *the*, and in these have the same sound. The *ch* in *chain* has the sound of *ch* in *watch*; the *ch* in *echo* sounds like *ch* in *chord*,—both have the sound of *k*. The *o* in *book* sounds like the *u* in *full*. The *gh* in *cough* sounds like the *f* in *loaf*, etc. By thus giving a few lessons for comparing sounds in words, you will be able to prepare a variety of similar exercises that will attract the attention of your pupils and lead them to *think for themselves*.

### NUMBER AND ARITHMETIC.

It is an indispensable part of the teacher's work to instruct the pupils *how to add, how to subtract, to multiply, and to divide*; and it is just as important that they be taught to *consider what is to be found out* from the problem, as a means of determining which operation should be performed in the given case. Teachers know too well how prone children are to *guess* instead of thinking, and to do the thing which should not be done; but do teachers carefully seek for the causes that lead to these bad habits of thoughtlessness that they may be removed?

(Continued in next issue.)

## The University.

### TORONTO CONVOCATION O.V. FEDERATION.

A MEETING of Convocation of graduates of the University of Toronto, was held on the 6th inst., in the rooms of the Canadian Institute, to discuss the scheme of university confederation. Many delegates from outlying districts were present, and the meeting, although not large, was fairly representative. David Blain, LL.D., in the absence of the chairman, Chancellor Boyd, took the chair.

Mr. Biggar moved, seconded by Mr. E. B. Edwards, "That Convocation approve of a federal union of colleges with one common university, as embodied in the memorandum of the Hon. the Minister of Education; provided that the Legislature to that end shall secure the permanent maintenance of Toronto University and University College, as non-denominational State institutions, in a condition of efficiency commensurate with the growing needs of the country."

The seconder spoke at some length upon the resolution, advocating the approval of the scheme, despite the existence of some defects.

Professor Loudon followed, showing who the proposed scheme would increase the expenditure and decrease the efficiency of University College.

Professor Loudon also answered a number of questions, addressed to him by members, on the various topics connected with the scheme.

Mr. Houston showed by statistics that, by the union of Toronto and Victoria, 75 per cent of the head-masterships of high schools and collegiate institutes would be in the hands of their graduates.

Dr. Ellis dwelt on the probability of the absence of all discord between the faculty of University College and the University Professoriate.

The resolution was unanimously carried.

The following gentlemen were appointed a committee to watch the progress of any legislation to give effect to the scheme: Chancellor Boyd, Prof. Loudon, Dr. Blain, Dr. Kennedy, Messrs. E. R. Cameron, Biggar, Kingsford, Edwards, Houston, Delamere, King, Maclean, Creelman, Paterson, and Dr. Kelly.

### EXPRESSION OF OPINION FROM OTTAWA.

A meeting was held last week in Ottawa, of the graduates of the University of Toronto, to discuss the subject of university confederation.

There were present: Dr. Baptie, of the Ottawa Normal School; J. Macmillan, principal of the Ottawa Collegiate Institute; Dr. Playter, editor of the *Sanitary Journal*; J. L. McDougall, Auditor-General; W. F. King, Inspector of Surveys; Messrs. J. H. Balderson, A. K. Blackadar, T. C. Boville, Hugh Fletcher, F. Hayter, J. B. Hurlburt, W. Lawson, A. F. May, Anthony McGill, A. J. R. McMinn, H. O. E. Pratt, Warren Rid, and W. E. Thompson.

The following resolutions were passed:—

Moved by Dr. Hurlburt, seconded by Dr. Baptie, "That it is the opinion of the graduates here assembled that in the interest of higher education and of the young men attending the college, a federation of the colleges in Ontario is desirable."

Moved by F. Hayter, seconded by W. F. King, "That this meeting, while regretting the division of the State teaching faculty, approves of the proposed confederation scheme as the best compromise possible under the circumstances."

Moved by T. C. Boville, seconded by J. H. Balderson, "That this meeting is of the opinion that the removal of the existing colleges in Ontario to one place would not be less beneficial to higher education in eastern Ontario than in any other part of the province."

## Educational Intelligence.

### THE TEACHERS' CONVENTION AT PETERBOROUGH.

MR. JAMES COYLE BROWN was the convener of the teachers' convention, which met in the Central School, Peterborough, on Thursday, the 5th inst.

About fifty teachers were present.

Mr. Brown was voted into the chair.

Little business was done in the morning session. Mr. Stratton moved, seconded by Mr. Earle—"That a committee be appointed to consider whether the funds on hand should be applied to the purchase of a library or in part payment of some educational journal."

The committee appointed were as follows: Messrs. Coleman, Burgess, Hutchinson, Monk, and McIlmoyle.

In the afternoon, Mr. J. A. McLellan, M.A., LL.D., Director of normal schools and teachers' institutes for the Province of Ontario, was introduced to the convention by the chairman.

Mr. Hutchinson of Norwood then discussed the subject of elementary arithmetic.

Dr. McLellan spoke on the same subject, and gave an illustration of the German method, showing that the natural and easier way to grasp numbers was by means of grouping or by symmetrical arrangement.

Mr. Coleman read the report of the Committee on Expenditure of Funds recommending:—

(1) That a public library, though very desirable, would be accessible to so few county teachers, the money had better not be expended on it. (2) That it is desirable that every teacher take some educational paper. (3) That your committee do not feel disposed to recommend any paper in particular. (4) That your committee suggest that each teacher who subscribes for one of the educational papers—which one to be selected by himself—shall have half the price of subscription paid out of convention funds.

After the adoption of this report, Mr. J. H. Long, M.A., LL.B., read a paper on spelling reform.

By the courtesy of Mr. Long we hope shortly to give this interesting paper in full, in our columns devoted to educational opinion.

At the third session Mr. J. McIlmoyle addressed the convention on Writing, upon which a discussion followed.

Mr. H. Kay Coleman followed on entrance literature, after which Dr. McLellan lectured for an hour on the art of putting questions.

A LITERARY society has been organized by the masters and teachers of the Woodstock High School.

THE Committee of the Mechanics' Institute, Galt, have recently added a large number of very popular and interesting works to their already good library.

THE directors of the Brockville Mechanics' Institute have made arrangements with Mr. Burt, head master of the high school, and his brother, Mr. F. P. Burt, for a full course of drawing lessons.

LAST year was formed a new school-section, consisting of the eastern part of No. 9, Osprey, and parts of other adjoining sections, a splendid brick school-house has been erected, which was opened at New Year's. The total cost of ground and building will amount to nearly \$1,500. Miss A. McIntyre is engaged as teacher, and is battling successfully with a daily attendance averaging about fifty.

THE applications for the principalship of the Woodstock public and model schools number thirty from prominent teachers of Durham, Toronto, Vankleek Hill, Goderich, Newmarket, Port Perry, Petrolia, St. Marys, Mitchell, London, Waterloo, Caledonia, Picton, Lindsay, Trenton, Forest, Mt. Forest, Hamilton, Portage la Prairie, Cornwall, New Durham, Peterborough. On the first ballot Mr. Deacon had a majority and the appointment was made unanimous.

At the last meeting of the South Grey Teachers' Association, a resolution favoring uniform promotion examinations was passed. Accordingly, Inspector W. Ferguson issued circulars to the teachers, asking them to defer their promotions until the 20th inst., when examinations will be held. Neighboring teachers are asked to exchange schools, and, if possible, to have a trustee present. The Inspector ends his circular thus: "Please co-operate heartily and faithfully, so that our schools may be the pride of the county."

THE Whitby Collegiate Institute Debating Society discussed the somewhat novel subject: "The English have done more for the civilization of the world than the Irish." The decision was given in favor of the negative. Whether the various debaters were able to disabuse their minds of all national prejudices, the report fails to observe. The Whitby Collegiate Institute at its last meeting took up a very good topic: "Resolved, that Napoleon was a greater statesman and warrior than Wellington."

THE reports of the literary and debating societies of the various schools which possess these entertaining means of education are, some of them, very interesting. The Pickering College Literary Society, at a recent meeting, had an amusing feature upon its programme, called "Hat Speeches." Slips of paper were handed to the members of the society, and on each was written the name of the subject upon which the receiver was expected to speak. He was then called upon by the president to deliver a speech *ex tempore* upon the subject in hand.

## Personals.

### EDUCATIONAL.

THE attendance at the Stratford collegiate institute numbers 223 pupils. The average attendance for last month was 190.

MR. M. MCKAY, who was teaching at McIntyre, in the township of Osprey, last year, is now teaching at Honeywood.

AN instance of the interest taken in school matters by the public is shown by the fact that Inspector Gordon's annual report of the Dufferin public schools was printed in full by the *Post* of that town.

THE appointment to the principalship of the Woodstock model and public schools has been made. Mr. Dennis' successor is to be Mr. Deacon, the well-known principal of Ingersoll model and public schools. The *Woodstock Sentinel-Review* says of him:—"Mr. Deacon needs no introduction to the teaching profession of Oxford. His standing in the profession has long been thoroughly established. He is a man of accurate scholarship, untiring energy and a most conscientious worker in the school. Under his able management Ingersoll model and public schools have always ranked high. Mr. Deacon's personal character is equal to his professional success."

### GENERAL.

THE literary building of Yale College will soon be enlarged and improved.

GOUNOD'S new mass will be produced at the church of St. Eustace, Paris, on Easter Sunday.

IT is likely that a school of technology will be established in the University of the South, at Sewanee, Tenn.

MR. BUCKLE, editor of the *London Times*, has married a daughter of Mr. James Payn, the novelist.

MRS. LANGTRY sets the fashion of the latest color for dresses. It is called "Thames fog."

PRACTICAL anatomy is taught in some of the public schools of New Haven, Conn., by the dissection of dead cats and rabbits.

MR. JULIAN ARNOLD, son of Edwin Arnold, has contributed to the February *Wide Awake* a neat little sketch of "A Duhabeeah Wreck on the Nile."

PRINCESS ALEXANDRA has herself been giving the final revision to the book of travels which her young sons have written. The book will be called *The Cruise of the Bacchante*.

MR. CAMERON, war correspondent of the *London Standard*, who is reported as having been killed in the Soudan recently was a nephew of Mr. Donald Cameron, of Windsor.

PROF. AGASSIZ when requested to deliver a course of lectures and tempted by a liberal offer of remuneration replied: "I cannot afford to waste my time in making money."

CANON BAGOT has written a letter to *The Freeman's Journal* of Dublin, advocating

the growth of tobacco in the South of Ireland.

PRESIDENT ANDREW D. WHITE, of Cornell University, recently lectured in Arion Hall before the German Philosophical Union of New York. The lecture, entitled "A New Study of Christian Tomasius," was in English, and a discussion in German followed.

A BRITISH firm has loaned 5,000,000 taels to the Chinese Government for the purpose of building a railroad from Peking to some coal deposits to the west of it, said to be the richest in the world.

IT is stated that Col. Burnaby, killed at the battle of Abu Klea, left the finished manuscript of a political novel. This is said to contain such fierce and merciless criticism upon certain political adversaries that it is doubtful if Col. Burnaby's executors will permit the work to be published.

MRS. NICHOLS, of Peterboro', has purchased a handsome property which she offers to hand over fully furnished to the town and county corporations for a Protestant hospital, with \$10,000 as an endowment fund.

THE first annual exhibition of the "Association of Canadian Etchers" will be opened at Toronto on Saturday, March 21st, 1885. Application has been made to the "Ontario Society of Artists" for the use of their galleries. The co-operation of artists and the art-loving public is requested.

ARCHDEACON FARRAR is very severe in his condemnation of over-pressure in modern schools. He speaks of it as "the Juggernaut car of Cram, before which the English nation is throwing its children by thousands, to have all their qualities crushed out before its ponderous wheels." The Archdeacon uses a somewhat rhetorical hammer, but he hits the nail on the head.

A VERY handsome monograph on the Princess Charlotte has lately been brought out in England; a sketch revealing her in many graceful phases. Not the least attractive is that of the small girl entertaining Miss Hannah Moore, who called her hostess "the prettiest, most sensible, and genteel little creature you would wish to see." The Royal little lady took excellent Hannah by the hand, and she in her black silk hood and powdered hair, trotted off with her to inspect the house, to look at what was hidden by the covers on the chairs and sofas, and finally to hear her Royal Highness repeat *How doth the little Busy Bee*. Good Miss Moore says she danced a graceful *pas seul* for her benefit, and with much spirit and precision, sang *God save the King*.—*New York Tribune*.

FRANK VIZETELY, who represented the *Illustrated News* in the rebellion for some time, both in the North and South, and who is well remembered, was reported to have been among those killed in the Soudan. He has suddenly turned up, however, alive and well; he has been blown up in steamboats; has been lost in total wrecks; has been captured by the enemy. Probably no man alive has had more stirring experiences. He was attached as special correspondent to the army of Hicks Pasha, and was captured by the Mahdi ten days before the disastrous battle of El Obeid. He is now serving in his army as a doctor. Vizetely's abilities are universal. The Mahdi's people regard him as a wonder. —*Paper World*.

COL. FREDERICK BURNABY, whose tragic death, the 22nd instant, was recorded in the *London Times*, was a perfect giant in size and strength, being one of the largest men in the English army. He was born at Bedford, March 3, 1842, and was educated at Harrow and in Germany. He was only 18 when he entered the Royal Horse Guards. His health breaking down, he travelled in Central and South America, and represented the *London Times* accompanying Don Carlos in Spain. In 1875 he made his famous ride to Khiva, which made him famous, because no other man would dare to have attempted it. His knowledge of Russian and Arabic caused him to pass all guards. In the winter of 1876-7 he took another famous horse-back ride through Turkey in Asia to Persia, returning through Kars, Ardahan, Batour, Trebizond, to Constantinople. He was also celebrated as an aeronaut, having made 19 balloon ascensions, in several of which he was unaccompanied. His love of adventure caused him to join the forces of Stewart, when he acted as newspaper correspondent and officer. His death was like his life, full of romance. He fell at the battle of Abu Klea wells, a native having thrown a spear through his jugular vein. His corpse was found lying with his enemy clutching him firmly by the throat.

THE following obituary from the *Globe* has not only great personal interest, but contains a most interesting bit of local history:—

Ven. Archdeacon Abraham Nelles, who died at Brantford on Saturday, was born in Grimsby, Ontario, in 1805, and educated under the late Bishop Strachan, at York. He was ordained deacon in 1829, and priest in 1830, by the Bishop of Exeter. The whole of his long and useful life in the ministry has been devoted to the missionary work among the Six Nation Indians on the Grand River reserve, near Brantford. He was made a canon and rural dean of Brant in 1868. On the elevation of Archdeacon Sweatman to the See of Toronto, Bishop Hellmuth appointed Canon Nelles Archdeacon of Brant, selecting the fiftieth anniversary of his entrance into the ministry as a most appropriate day on which to confer upon him the well-deserved honor and titular dignity of archdeacon. The church at which the deceased officiated was the old Mohawk Church of St. Paul's, the most ancient and historic church in the diocese of Huron, and said to be the first church erected in Canada West. Within the precincts of its church yard lie the remains of the great Indian warrior and chief, Joseph Brant. The inscription on the bell shows that it was hung there in 1786—almost one hundred years ago—and the Indians are said to have carried the lumber used in its construction from Ancaster, a distance of nearly sixty miles—the nearest point at which machinery for manufacturing the boards was to be found. The reredos and the communion silver plate were a gift to the church from Her Majesty Queen Anne, whose armorial bearings, carved and gilt, are affixed to the wall of the church. The Grand River Reserve is under the control and management of "The New England Company," who hold it under a charter from King Charles II. The late archdeacon entered their service as a missionary, and during his long, useful life has been an honoured and valued officer of the Company. He was twice married, his first wife having been a Miss Macklem. He leaves a widow and several children.



## Examination Papers.

### SECOND-CLASS PROFESSIONAL EXAMINATIONS.

Papers set at the Examinations held in Toronto and Ottawa Normal Schools, December, 1884.

#### XIII.—ALGEBRA—METHODS.—Examiner—J. A. McLELLAN, LL.D.

1. Outline a lesson on substitution with a view to solving questions of which the following is an example:—

$$\text{Find the value of } 2x^3 + 401x^2 - 199x^3 + 399x^2 - 602x + 212 \text{ when } x = -201.$$

2. A class having learned something about an identity, symmetry, and the factors of  $x^3 + y^3$ , give a series of questions to lead them to establish this identity:—

$$8(a+b+c)^3 - (a+b)^3 - (b+c)^3 - (c+a)^3 = 3(2a+b+c)(a+2b+c)(a+b+2c).$$

3. Teach the principles which are applied in resolving the following into factors:—

$$(1) 7x^2 - xy - 6y^2 - 6x - 20y - 16.$$

$$(2) (a+b+c)(ab+bc+ca) - abc.$$

4. A class has learned that  $a^3 + b^3 + c^3 - 3abc$  is (1) symmetrical, (2) has a linear divisor, (3) which gives a quadratic quotient,—show how by questioning alone, you would lead them to the possession of corresponding facts in reference to  $a^3 + b^3 + c^3 + 3abc$ , &c., and  $a^3 - b^3 - c^3 - 3abc$ .

5. Give a first lesson on Simple Equations:

- (1) Of one unknown quantity.
- (2) Of two unknown quantities.

#### XIV.—BOTANY AND ZOOLOGY.—Examiner—JOHN SEATH, B.A.

1. State the main differences between plants and animals.

2. Compare the appearances presented in transverse sections of a stem of an oak, a palm, and a tree-fern. How do these stems differ in mode of growth?

3. Explain the following terms: protoplasm, pinnate, root-stock, filament, stipule, stomata, raceme, cyme, achene, and drupe.

5. Classify the following plants, stating the main points of resemblance and difference:—  
Catnip, Dandelion, Sweet Briar, and Shepherd's Purse.

5. State the main differences between Vertebrates and Invertebrates.

6. Contrast the circulatory and respiratory systems of Fish and Mammals.

7. Name and classify the animals from which the following substances are obtained: cheese flannel, ivory, pearls, and sepia

#### XV.—PSYCHOLOGY (HOPKINS).—Examiner—J. A. McLELLAN, LL.D.

1. Recount briefly points of difference

(1) Between *Organized* and *Unorganized* bodies.

(2) Between *Man* and the lower animals.

2. "Is *Mind* something distinct from *Matter*?" Outline the argument on this question.

3. "When the occasion arises the mind involves ideas by the *necessity* of its own constitution." Enumerate, with brief comments, these "necessary ideas."

4. Write briefly on (1) Sensation; (2) Perception; (3) "A *percept* not a thing."

5. State and briefly illustrate the Primary Laws of Association.

6. Give the substance of Hopkins' remarks on *Induction*.

#### XVI.—ARITHMETIC—METHODS.—Examiner—J. A. McLELLAN, LL.D.

1. Why is it necessary to use objects in giving the first lessons in number?

What advantage is there in a symmetrical grouping of the objects?

Why is it necessary to repeat the "intuitions"?

1. Indicate the main points in teaching the number six.

3. State explicitly the points on which you would base your teaching of "Short Division," e.g.,  $96 \div 6$ ,  $972 \div 6$ .

4. State in detail how you would connect the teaching of fractions with the pupil's knowledge of the "Simple Rules."

5. Make clear, as to a class, the following:—  
 $\frac{3}{4} = 3 \div 4$ ;  $\frac{1}{2} = 2 \div 4 = 3 \div 6$  &c.;  $\frac{1}{2} + \frac{1}{3} = 5 \div 6$ ;  $\frac{1}{2} \times \frac{1}{3} = 1 \div 6$

#### XVII.—GRAMMAR—METHODS.—Examiner—J. J. TILLEY.

1. "Grammar is the art of speaking and writing a language correctly."

Discuss this.

2. Give notes of a teaching lesson on

(1) Case,

(2) Connectives,

(3) Participles,

(4) Verbs of complete and incomplete predication,

(5) Complex sentence.

3. Having taught the adjective and the adverb, show how you would teach the adjectival and adverbial phrase and clause.

4. Explain your method of teaching the analysis of the following stanza:—

"Perhaps in some neglected spot is laid  
Some heart once pregnant with celestial fire;  
Hands that the rod of empire might have sway'd,  
Or wak'd to ecstasy the living lyre."

### COUNTY MODEL SCHOOLS.

Examinations set on December 8th and 9th, 1884.

#### I. EDUCATION—METHODS.

1. Outline your method (i.) of teaching an introductory lesson in reading to a primary class, (ii.) of assigning a reading lesson to a third class.

2. Give notes of the *matter* and *method* of a lesson on the physical features of North America.

3. Give notes of a language lesson to a junior class.

4. Give your methods of teaching oral and written composition to first, second, and third classes.

5. Give an introductory lesson on the parts of speech.

6. Having taught the adjective and the adverb, explain your method of teaching the adjectival and adverbial phrase and clause.

7. State, with illustrations, the exact order you would follow in a lesson or lessons preliminary to the formal teaching of fractions.

8. Give your reasons for preferring number-pictures in imparting first ideas of numbers.

Show in detail how you would teach the number Six.

#### II. EDUCATION—THEORY.

1. State and briefly discuss some of the principal elements of Governing Power.

2. School Regulations should be *Few, General, Popular, Practicable, Educational*. Briefly comment on these principles.

3. Enumerate, with reasons, what you regard as INJUDICIOUS school punishments.

4. Granting that corporal punishment is sometimes necessary, state the rules that ought to be observed in its infliction.

5. State what you regard as some of the chief duties of teachers (1) to Themselves, (2) to One Another, (3) to Pupils.

6. Enumerate and briefly discuss some of the principal *Objects of Questioning*.

7. Enumerate and discuss, as fully as you can, some of the fundamental principles of education.

#### III.—SCHOOL LAW.

1. Give the law with reference to the granting of second-class certificates.

2. Explain fully how to keep

(i.) The Daily Register.

(ii.) The General Register.

3. What is the law with reference to:

(i.) Agreement between teachers and trustees.

(ii.) The Superannuation Fund.

(iii.) Distribution of government and municipal grants to schools.

(iv.) Teacher's absence from school on account of sickness.

4. State the duties and powers of teachers and trustees with reference to

(i.) Suspension of a pupil,

(ii.) Expulsion.

THE Smith's Falls schools are now in a flourishing condition, says the *Independent* of that town. Work is going on well and the attendance is far ahead of the average for some time past. We understand the roll in the High School department has increased about 51 per cent. since the beginning of the term.

AN account of how Mark Twain works and plays is given most interestingly in a recent issue of the *Critic*.

Mr. Samuel L. Clemens goes to his work every morning about half-past eight, and stays there until called for dinner, about five o'clock. He takes no lunch or noon meal of any sort, and works without eating, while the rules are imperative not to disturb him during this working period. His only recreation is his cigar. He is an inveterate smoker, and smokes constantly while at his work, and, indeed all the time, from half-past eight in the morning to half-past ten at night, stopping only when at meals. . . . It is not his literary habit to carry one line of work through from beginning to end before taking up the next. Instead of that, he has always a number of schemes and projects going along at the same time, and he follows his first one and then another, according as his mood inclines him. Nor do his productions come before the public always as soon as they are completed. . . . At times Mr. Clemens shuts himself up in his working-room and declines to be interrupted on any account. . . . He keeps a pair of horses, and rides more or less in his carriage. He is an adept on the bicycle on which he travels a great deal, and he is also an indefatigable pedestrian.

AT the Sala dinner in New York, the Hon. C. M. Depew spoke of the popularity of America with the professional people of other countries, and jocosely said:—

"Like the Chinese, who come to this country to hoard and not to stay, the English lecturers carry away all our surplus and leave us nothing but ideas. Just run your minds over the list of those who have visited us. There is Serjeant Ballantine, who brought with him jokes so old that they fell within the penal code, and carried home good stories that have since convulsed the British Empire. Then there was Herbert Spencer, who came to us dyspeptic, green, hungry, emaciated, (laugh-ter) and looking like Pickwick gone to seed, and lectured us on overwork. Look at Matthew Arnold, the apostle of sweetness and light, who came to teach and was taught. He was taught the ingenuity and complexity of the Lyceum Bureau system of conducting public entertainments, and doubtless that knowledge was what hastened his departure from our shores. It was in a western town that Matthew Arnold was introduced to an audience something in this style: 'Ladies and gentlemen,—Next week we shall have here those beautiful singers, the Johnson sisters. To-night we will have the pleasure of hearing Mr. Arnold, the great philosopher, who has passed most of his life in India, and who wrote that beautiful production, the *Light of Asia*.'" (Laughter.)