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Articles : Original and Selected.

THE TEACHING OF BOTANY IN PUBLIC SCHOOLS.*

BY MISS C. M. DERICK, M.A.

While the study of literature, which brings children into intimate relations with the great minds of all ages, must occupy the first place in a school curriculum, much time should be devoted to the study of "Nature's infinite book of secrecy." Satisfactory as it may be to know the population of the cities of the Dominion of Canada, and to understand the meaning of $\frac{1}{16}$, it is better to know living nature, to take an intelligent and sympathetic interest in animals and plants, and to find even in "a swamp a divine sanctuary." Of the many sub-divisions of nature-study, none is more easily taught than botany. Subjects for discussion are always available, and there is little difficulty in obtaining fresh material. It is easy to visit the homes of plants, to study their habits, their modifications, and their adaptations to environment. Specimens for purposes of comparison are readily preserved, and occupy but little space. Simple experiments, which may be performed in an ordinary school-room, illustrate the most interesting facts in regard to the life-history of plants and, though a compound microscope is useful for demonstrations, no apparatus except a pocket-lens is necessary.

* A synopsis of an address delivered at the last Convention of the Teachers' Association of the Province of Quebec.

In some high-schools, ambitious courses in biology are undertaken, and pupils, who have not learned to use their eyes in the discovery of the hidden things of nature, have the technical difficulties of complicated instruments added to natural difficulties, which they too often fail to overcome. Under such circumstances, the tendency is to regard plants and animals as dead mechanisms, illustrating a certain number of dry facts. The lack of apparatus is, therefore, a safe-guard, necessitating work upon the living material and in the field. Thus, while the ability to observe, compare, classify and generalize will be developed, a greater breadth of vision, a natural interest in life itself, and a reverence for the divine, as seen in plants and lower animals, will be secured. But familiar generalities are not needful, and it will be better to consider without delay the work required for the A. A. certificate.

Though not an ideal text-book, Spotton's Botany is elementary and requires less than those used elsewhere. The difficulties with which teachers have met in using it are probably due to the short time devoted to the subject, and to a close adherence to the order in which it is presented by Spotton, an order neither the most natural nor the one best adapted to the school year. If the book were used for reference only, a pleasing variety could be given to the teaching, and results better from every point of view would be obtained. In an ideal school, nature-studies would be taught in every grade by means of object-lessons. The vital phases of plants having been first considered, a discussion of the parts, a comparison of forms, and an arrangement into groups according to likeness and difference would naturally follow. But, pre-supposing no such training, a profitable course extending over the final two years of a child's school-life may be obtained. A good introduction to the subject is the discussion of leaves. Their form, veining, arrangement, modifications, the autumnal change of colour and the fall of the leaf always prove most interesting topics. Buds, whose coatings are modified leaves, may be considered next. Types of branching, the modifications of branches, and macroscopic distinctions between exogenous and endogenous items may also be noticed. The remaining vegetative organ, the root, is a very good subject for winter lessons. Beans and corn, which are easily germinated, may be used to show the differences between primary and se-

condary root-systems, and the stores of vegetables in any cellar always furnish specimens of modifications for the storage of food, and illustrate the distinctions between underground stems and roots.

The main facts in regard to the vegetative organ of the plant having been acquired, the approach of spring with its wilderness of easily-studied flowers affords abundant opportunity for the discussion of most interesting topics, such as the parts of the flower, the fact that all are modified leaves, the functions of each floral organ, and the purpose of bright colours and sweet odours. Methods of collecting, preserving and naming plants may now be demonstrated. From the first, however, children must be taught that the mere gathering and naming of plants is the least important part of the work. Plants should be known as friends, their characters and habits as well as their names being carefully studied. Pupils should be encouraged to take careful note of every interesting observation, to record the hours of the opening and closing of flowers, the first and last appearance of each species, the colours which predominate at various seasons, and the habitat of every plant examined. Such points as well as influences of soil, and exposure, the effect of cultivation upon species, and the distribution of plants may be best taught during excursions which every teacher should make with her classes. Superstitions, legends, popular names, the derivation of scientific names with the history and biography involved, and the economic uses of plants greatly add to the interest of the lessons. The study of botany may thus be made a pleasure and inspiration, and not the mere memorizing of a mass of dry technicalities.

A pupil, who has received such a preliminary training, will find it no hardship to make an herbarium during the summer holidays, but will take an unceasing delight in searching for forms new to him. Each wayside weed will enact for him an ever-fresh drama, his own home will supply an unending series of surprises, and romances well worth the reading will be found at every turn. The autumn will bring back to school enthusiastic botanists with larger collections than required, and with minds and note-books full of unanswered questions.

The work of the second year may begin with the study of the somewhat difficult families represented in an autumn

flora. Fascinating talks about the fertilization of flowers by insects, the modifications and adaptations of the floral organs, as illustrated by late Leguminosæ and Orchidaceæ, may be followed by a careful study of the Compositæ, which teach that union is strength and exhibit the extreme development of the dicotyledonous type. Then fruits and seeds, their structural differences, the use of floats, hairs, and of bright, fleshy exteriors, may be discussed, and the fact that in some cases seeds in others fruits are furnished with appendages for scattering them and increasing the range of species, should be noticed. At every point, nature's wonderful interrelations, which give children a vision of the mutual dependence of all things, are impressive, and supply both intellectual exercise and valuable moral training.

The knowledge of the Spermaphytes being now sufficient to justify the consideration of the lower groups, the Pteridophytes and Bryophytes may be discussed. The more important characteristics of *equisetums*, *lycopodiums*, ferns and mosses may be demonstrated by means of material pressed or preserved in alcohol. Though the study of the thallophytes, is more difficult, preserved specimens of algae and fungi may be used to illustrate the chief features of these groups. The alga, taken as a type in Spotton's Botany, is badly chosen. *Chara* is an aberrant form, the systematic position of which is in doubt. It would be better, therefore, to select a fucus or similar sea-weed for the lesson upon algae. In all the lower groups, there is much that cannot be observed without more time and apparatus than most teachers have at their disposal, but clear descriptions, illustrated by black-board drawings, will teach the facts necessary to a harmonious view of the plant world. Only ideas which have a parallel in the observed being advanced, nothing but good can result from such lessons.

In regard to detailed study of plant tissues, some facts may be demonstrated without apparatus, and will add to the interest of the work. As a rule, it is better to leave both histological and physiological questions until the end of the second year, when a review of the morphological work is undertaken. Then, when introduced in their proper connections, they will add freshness to that which would otherwise prove a dry resumé. A few examples of simple illustrations and experiments may be given. Cross-sections of any exogenous tree will show annual rings of

growth, the presence of medullary rays, and distinctions between bark, wood, and pith. The ease with which the bark separates from the wood in the spring will serve to demonstrate the presence of the delicate cambium layer. Longitudinal sections will show the continuity between the bundles of the main stem and its branches. The nature of cork, and its presence in the bark of plants such as the lilac and birch may be pointed out. The shells of nuts may be used to illustrate the hard, resistive character of sclerenchyma tissue, and broken dandelion stems will reveal the presence of latex. The delicate sponge-tissue of leaves having been removed by maceration, it may be easily shown that the firm veins are continuous with the fibro-vascular bundles of petioles and of stems. Such lessons, supplemented by drawings and, if possible, by microscopic demonstrations would teach the most essential truths in regard to plants, tissues and their distribution. D. T. Macdougall's *Physiology of Plants* would be an inexpensive and suggestive guide to teachers when demonstrating the life-processes of plants. One or two experiments described in the book may serve as examples. That roots are able not only to absorb liquid food but to dissolve some solids may be proved by fixing a highly polished piece of marble in the bottom of a flower-pot, in which a plant is then grown. The roots, having come into contact with the marble, will apply themselves to its surface, and subsequent examination will show that the marble has become corroded where the roots were in contact with it. That starch is formed in leaves during the day, is converted into a soluble carbohydrate and is conveyed to other parts of the plant during the night, is easily demonstrated. Having first shown that ordinary starch, treated with aqueous iodine, becomes blue, a leaf which was gathered in the afternoon, if boiled slightly, bleached in alcohol, then stained with iodine, will turn blue, while another, gathered in the early morning and similarly treated, will be untinged with blue. That plants breathe and, like animals, give off carbon-dioxide may be proved by placing a plant with a small dish of lime-water under a bell-jar at night; in the morning, it will be found that the lime-water has become milky, owing to the formation of carbonate of lime.

It would be easy to enumerate many other simple experi-

ments showing the plant in its most interesting aspect, that of a living organism, which assimilates food, breathes, sleeps, moves, and responds to irritation. Combined with ideas of reproduction, adaptations, and environment, such lessons cannot fail to give children a grasp of the subject, which will not only enable them to pass examinations most satisfactorily, but will give them increased breadth of view, a taste for research, a resource in loneliness, and a delight and recreation throughout life.

N. B. Preserved material for class-work may be obtained at a trifling cost from the Cambridge Botanical Supply Co., Cambridge, Mass., or from the Marine Biological Laboratory, Wood's Holl, Mass.

Editorial Notes and Comments.

"DOES the pessimist speak true?" asks the *School Journal*, and having put the question, proceeds to give this answer: The nine tailors (pedagogic) who speak as "we the people," assuming that the school body is all in train with the intense thought they are leading, make a mistake of simply absurd proportions in their estimate of general pedagogic progress. They find listeners and think, "Interest is aroused. There is life, there must be growth." Statistics, however, could they be collated, would show that teachers go to professional gatherings from many motives not at all partaking of that yearning for guiding truth with which they are credited by the orators whom their presence flatters. Some are commanded by their superior school officers to attend. Others fear the tide of competition and hope to catch some straw to stem it by. Others see lucrative positions ahead and feel that they must be known as stirring teachers if they would serve their ambitions. Others feel themselves afloat and rudderless upon the uncertain sea of pedagogic theory, and hope to catch something to steer by until they can begin to see principles. We hardly dare give our estimate of the proportion of teachers who are actually working by principle, and measuring and weighing all sides in discussion in its clear light. Pessimistic and plainspoken as this may sound, we speak from evidence. We have only to go through our exchanges to gather fresh abundance of it day by day. Just as the newspapers reflect the public average of morality and taste, do the educational papers reflect the professional status of the average teacher, and in the same sheet that

prints the thought of educational leaders we find practical exercises given that are not only as much at variance with that thought as any school work can be, but actual resuscitations of practice these leaders apparently think long obsolete—correction of false syntax, etc. These papers are supported; and we do not hesitate to say that they are supported by teachers who take them for their “practical” pages and who seldom read the philosophical articles. Gentlemen, let us face the truth.

—IN an article on the “Co-operation of School and Home,” which appeared in a recent number of the *School Journal*, the State Superintendent of Iowa says:—This is one of the questions which ought to be laid open before the people: What is the result of employing an incompetent teacher? It is more than a waste of money—it is robbing the child of its youth. It is despoiling him of those advantages which alone can fit him for his life-work. Carelessness in all his habits, want of thrift, want of energy, want of any high ideal or noble purpose, more even than want of knowledge, fits the person to drift over quicksands and shoals until he wrecks his life and lands in the poorhouse or jail. More than this, add the teacher who has no high moral standard of his own towards which he endeavours to lift the school under his care, and God’s pity be upon the children. These are the things which we ought to say continually, persistently and with godly earnestness to the people of this state. We are told that the teacher makes the school. In a broader sense the people make the teacher. A teacher writes me of the necessity of heart to heart talks between the teacher and pupils. I grant it all. A teacher whose heart never goes out in sympathy to the hearts of her pupils is shorn of one of the greatest sources of power. But why stop with the pupils? A member of a legislative committee once said to me, “You look at this only from the teacher’s standpoint.” I replied, “I look at it from the standpoint of the children in our schools.” Heart to heart talks with parents, not from your standpoint, but from the standpoint of the child, would create a revolution in almost any district in the state. The heart of the teacher should go out to everyone interested in his school, as the heart of a lover goes out to the heart of his beloved. We must enlist the press, the platform, and the pulpit. Every platform should speak; every

press should warn ; every pulpit should remonstrate in the name of God and humanity against the prevailing indifference of parents to the welfare of their children. For I am forced to say to all who hear me that, although we put in every schoolhouse a teacher of spotless character, of the highest attainments, as long as parents allow their children to run the streets at night, to associate with the low, the lewd, and the vicious ; as long as they encourage insubordination and disregard of law ; as long as the cigarette and dime novel flourish in our midst, the grave of the drunkard will not be unfilled, the jails and the prisons will not lack for inmates, and the den of the harlot will not lack recruits.

Here is a truth not appreciated. Unless the teacher, through his teaching, can enter into the inner life of the child, and through that into the life of the entire community, his work is not half done. We as teachers do not sufficiently respect ourselves as teachers, nor do we magnify our work as we ought. The political candidate has learned the secret of going where the people are. The schoolmaster can take a lesson from the politician. From this time on every educational gathering in the state should have on its programme some exercises calculated to interest and instruct the public. Teachers should leave no stone unturned to induce the attendance of parents. Mothers should be encouraged to visit the schools, to inspect all the surroundings, to study the moral atmosphere which pervades them, and then, in their gatherings, talk of what they know is, and what they feel ought to be the condition of the schools. The day for plain talking is at hand. The exigencies of the times demand it. All over the state are school grounds, bare, dreary, and desolate, without a tree to shelter the children from the winter's blast or the summer's sun ; school-houses ill-ventilated, unattractive and repulsive ; outhouses with doors off the hinges, clapboards off the sides, defiled and defaced, a disgrace to a civilized community ; teachers working for a mere pittance, with no adequate conception of the true nature of their work, charged with training the future citizens of the republic. O, women of the state, O, mothers of a coming race, remember that

“ The child's sob in the silence curses deeper
Than the strong man in his wrath.”

Would you work for God, would you work for Christ, would you work for your country, would you work for humanity? God in His wonderful providence has brought His work and laid it down at your very doors; it is in your home; it is in your family; it is in the school which your child attends.

—THE following interesting information concerning the pensions of teachers in the various European states, is taken from the annual report of Commissioner Harris. "All the twenty-six states that form the German Empire pay pensions, both to teachers and their widows and orphans. A teachers' union in Great Britain, in the form of a mutual aid society, pays annuities to disabled teachers. In Austria the pension schemes vary in different parts of the empire. One example will suffice: The teachers pay annually two per cent. of their salaries, and the first tenth of the first year's salary, as well as the first tenth of every increase. The remainder of the fund is supplied by the state and the communities, Sweden, Norway, and Denmark, and also most of the cantons of Switzerland have recognized the advisability of removing worn-out teachers. In Russia the teachers in the town schools may also look forward to receiving a pension. Holland has had a state scheme for pensioning teachers since the year 1878, and teachers can claim retirement with a pension, if incapacitated, after ten years of service, or for old age at 65. In Belgium the fund is formed in this way: Two-fifths are paid by the community, two-fifths by the state, one-fifth by the province, and nothing by the teacher. The pension may reach \$1,000 a year. In France the salaries of teachers are paid subject to a deduction of five per cent, plus one-twelfth of the first year's salary, plus one-twelfth of each increase for the first year of such increase. This second form of deduction is productive of great evil. The pension is payable after thirty years of service, the other factor being incapacity or 60 years of age. The amount of pension depends upon the years of service. In Greece teachers contribute five per cent. on the salaries, and the state finds the remainder, in order to superannuate teachers after twenty-one years of service, regardless of age. In Portugal provisions are made for pensioning those engaged in education."

—ACCORDING to the *Central School Journal*, one of the most valuable lessons the school can teach is self-control, a

command of the temper. No teacher can hope for success without the control of temper that will enable him to keep his head under the numerous provocations of school life. We know a teacher who, when an angry pupil comes before him for reproof, says: "You are not fit to talk to now about this matter, you are angry, and an angry pupil has not his usual sense. Go out, sit down, get your temper back, and then come to me and we can adjust this difficulty in a little while." This advice applies to the teacher as well as to the pupil. An angry teacher is not in condition to pass just judgment upon a case, and if he acts while in a passion, he is almost sure to have cause to regret his haste. An exhibition of passion on the part of the teacher injures him in the estimation of the school, and weakens his authority. Punishment administered in a fit of anger is subversive of the ends for which it is given, and fails to carry with it the moral support of the school. The pupil feels that if he can only avoid the teacher until his anger is gone, he will escape punishment. Under no circumstances should a teacher allow himself to fly into a passion in the school-room, and in case he finds his temper rising to an unseemly height, he should dismiss the matter in hand until he is again master of himself.

—THE teacher who underbids his fellow-applicant for a position, in order thereby to obtain it, has been referred to by the RECORD before now in no unmeasured terms. Speaking of a somewhat similar line of action, in connection with the election of a school commissioner, the *Michigan School Moderator* says: "A candidate for school commissioner in one of the counties of the state offers to knock off \$400 from his salary if elected. Why, isn't that an attempt at wholesale bribery? Is it not offering the county \$400 as an inducement to elect him? If he offered 400 men one dollar each to vote for him would it be more clearly using money to secure his election?"

Current Events.

—AT the last meeting of the council and trustees of Bishop's College, a motion, expressing regret for and sympathy with the friends of the late A. D. Nicolls, was, on motion of Dr. Heneker, placed on the minutes. A letter was read from the Rev. G. Nicoll, intimating that a legacy of \$3,000 free of income duty, had been left by the late

Bursar to the College for the creation of a scholarship to be known as the Jasper Nicolls Scholarship. Mr. Hamilton, chairman of the Board of Trustees, stated that no formal balance sheet would be presented at this meeting. In view of the illness of the late bursar, things were not quite in shape to present a formal balance sheet. He might say, however, that the result of the year's operations would show a credit balance in the working of the college and school of probably about \$500. He also made allusion to the satisfactory position of both college and school. The question of the affiliation of Bishop's with Cambridge and Oxford was discussed. The Principal's report stated that the buildings were more than full, the attendance in the college being sixty students, with eighty-five pupils in the school. Lectures had been delivered since January 23rd by Dr. Robins on the art of teaching, and negotiations were going on with the Protestant Committee of the Council of Public Instruction, looking to the placing of the university with one or two other similar institutions in the position of normal schools for the preparation of teachers. Special attention was also drawn to the efficiency of the French instruction as given in the school and college by Prof. Leray, and it was stated that so much impressed had Mr. Robins been by the methods adopted by that gentleman in teaching French, that an invitation had been extended to him to deliver a model lesson before the Teachers' Association. Votes of thanks were accorded to Dr. Robins for the valuable lectures he has given during the last session.

—THE mothers' meeting, held in the Riverside School, Montreal, last month, was very successful, mothers of the kindergarten children being present. The director and assistants of the kindergarten department received the mothers. These meetings will be held at frequent intervals, their object being to bring about better relations and a mutual understanding between the teachers and mothers, and to get the mothers to pursue the same line in the home training of the children as is in vogue in the kindergarten. The meeting referred to was largely attended and was entirely informal in character. It was opened with a short address by Principal Kneeland. Then the Rev. W. Johnson, of Lodi, New Jersey, gave a very interesting talk to the mothers on the home training of the child. A pleasant and home-like talk ensued, intermingled with music and sing-

ing. At five o'clock all adjourned to the kindergarten classroom, which was prettily decorated with flags made by the little children. Here the Rev. W. R. Cruikshanks made an interesting and instructive speech. He impressed upon mothers that there was only one way to bring up their children rightly, and that was by placing 'Love' before all other things. Children were not mere things, but God's greatest creation—a soul and the repository of infinite possibilities. Scold a child and you violate the law of its being. Love must be a mother's first and ever present thought and love must show in all words and deeds.

—THE effort of the leaders of elementary education in Chicago to inaugurate a system of outdoor study to supplement the work of the school-room will be watched with interest by all who realize that in mere book study the public school is not accomplishing all that the child needs, either for his spiritual development and culture or to fit him for the pressure and competition into which he must plunge as a bread-winner.

—IT is becoming difficult now-a-days to find anything connected with our daily life and conversation that is not fraught with some danger, if not to life itself, at least to health. The many simpler appliances that have been in use in the school-room from time almost immemorial could not hope to escape the general condemnation, and we should not be surprised when we learn that it is proposed—at least by the authorities of Walden, N. Y.—to do away with the use of blackboards in the public schools. The reason given for abolishing blackboards is, according to an exchange, that they are injurious to the eyesight of the children.

—THE legislature of the State of Indiana has passed a compulsory education bill, with the small maximum of twelve weeks' required schooling annually for children between the ages of eight and fourteen.

—THE news comes from Chicago that Dr. William R. Harper has presented a plan which provides for the establishment of a college to train the teachers of Chicago how to teach. The proposition has been well received by the committee on the normal school, and will be urged upon the early attention of the whole board. If Dr. Harper's plan is carried out, teachers training for the primary department will receive the first attention, as it is here the most

serious lack is felt. Nearly 70 per cent. of all the pupils in the public schools are in the primary grades.

—THOSE who advocate the higher education of woman will be interested to know that, according to this year's report of the thirty one students of Radcliffe College who received the degree of A.B., twenty-three took it with distinction—a fact which President Eliot considers worthy of comment. He remarks that since the examinations for Harvard and Radcliffe are precisely the same, the proportion of distinguished students was much larger in the latter than in the former.

—FROM one of the educational journals, it would seem that the school teachers of England fear that the educational department will admit to employment in the elementary schools of Great Britain teachers holding the certificate issued by the Irish Education Board. They argue that this would lower the standard of the schools and increase the opportunities for theological discussions, as the Irish teachers are largely Catholics. The ordinary salary of teachers in Ireland is about \$200 less than that of the English teacher of corresponding grade, and this leads many to believe that a considerable immigration may be expected.

—THERE is reason to believe that the sixtieth year of Queen Victoria's reign is to be made memorable by the establishment in London of a great teaching university. The London University has existed since 1836, but its function has always been limited to the examination of candidates and the conferring of degrees. This restriction has made it an imperial rather than a local or metropolitan institution. Its examinations have, indeed, been characterized by thoroughness and fairness, and have commanded the confidence of teachers and students in all parts of the United Kingdom. Still, the feeling has been growing among scholars that London should have an organized university of its own, which should furnish help and guidance in other ways than by examinations, and for some twelve years a movement has been going on to make London a great seat of learning.

—THE position of women teachers in the German elementary schools seems at last to be slowly improving. For many generations women were excluded from the means of training which the State provided for male teachers.

Thus, in spite of the early promise of a different development, they dropped out of their natural place in the primary school after the Thirty Years' War. And each advance in the training of men teachers made it more difficult for women, deprived of like opportunities, to compete with them. The result has been that a large body of professional opinion holds a contemptuous estimate of the teaching powers of women. Gradually the prejudice is given way. Germany is coming under the influence of the *Frauenbewegung*. The experience of France, England and America is beginning to tell. The motives of economy hasten the significant social change. But Germany still stands in marked contrast to her chief rivals so far as the employment of women teachers in the public elementary schools is concerned. In England and Wales, in 1895, there were in the public elementary day schools 66,310 women teachers, as against 26,270 men similarly employed. In France, in 1892, there were in the *écoles primaires* 80,311 *institutrices*, as compared with 66,363 *instituteurs*. In the State schools of the United States, in 1893-4, women teachers numbered 263,239, while the total of men teachers was 124,768. But in Prussia (to take that part of Germany alone) the official statistics show that in 1891 there were only 8,439 women as against 62,272 men employed as teachers in the public elementary schools. In 1825, however, there were only 704 women so engaged in the elementary schools of Prussia. In 1861 the total had risen to 1,755. Of recent years the growth has been more rapid, and in 1895 the women teachers numbered 9,309. Berlin alone accounts for 1,200 of these.—*The Journal of Education*.

—IN Russia the whole of the education is under the control of the State. Each of the fourteen educational circuits is under the jurisdiction of a curator, who reports in regard to all educational institutions of the circuit to the Minister of Public Instruction, and he in turn to the Czar. The Minister, as the central authority, is aided by a scientific council whose duties include the adjustment of questions appertaining to elementary education. A special division in the Ministry has charge of technical and industrial schools. Connected with the Ministry is a board of examiners to investigate the qualifications of persons desiring to teach who may not be graduates from training schools. Each curator has under him one or more inspec-

tors, while there are special school councils to look after local interests. Parochial schools are under the control of the Holy Synod; private schools are only under State control in so far as they are subject to visits from the district inspectors. Training colleges for elementary teachers are of two grades—higher elementary and lower elementary. Secondary teachers are generally drawn from the universities, though there are numerous private institutions for providing other persons with the necessary training. The board of examiners already referred to grant two teaching diplomas—one for public, the other for private, schools. Salaries vary considerably in the rural districts, but the average salary of the rural teacher throughout Russia is said to be about \$70. It should be added, however, that the rural schools are often located in peasants' huts, where the teacher finds free lodging and food. These schools are never closed from about the beginning of September till the end of May, except on Sundays and public holidays. Teachers of urban and district schools (higher-grade elementary) have free lodgings and salaries ranging from \$375 to \$500. There is throughout a system of State pensions.

—A MEMBER of the London School Board, Mr. Graham Wallas, has been explaining to the Board of Education of Philadelphia, the method of enforcing compulsory education in England. Compulsion begins at five years, and, partly on an age, and partly on an educational basis, continues on an average till children are 12½ years old. In London alone, there were last year 45,000 prosecutions of parents for not sending their children to school. In London there are two boarding truant schools in the northern part of the city, and one in the central, where the magistrates send children who play truant, or are not sent to school by their parents. They are generally kept in the truant school for six weeks, being clothed and fed at the expense of the city. If they play truant again they may be sent back a second, or even a third time. Incurrible truants are sent to the industrial schools for a term of years. No punishment is allowed in the truant schools; but the aim is to make the children as happy as possible, and to make them manly and womanly. In Liverpool and other cities there are day truant schools. Children are required to be in attendance from 7.30 in the morning to 6 in the evening. They have three substantial meals a day served

to them. If a child does not answer to its name at roll-call a policeman is at once sent for it. Punishment is not permitted, and play is made to take the place of discipline. The instruction is largely manual training.

—AUSTRALIA has five universities, Sidney, Melbourne, Adelaide, Dunedin and Orange, all but the last two empowered to confer degrees. Melbourne, the oldest, has an important technical school attached, a precedent which has been followed by Sidney. In addition to the university libraries, nearly every important town in the colonies has a public circulating library of its own.

—THE privileges of a higher education have up to the present been denied the German women. In June, 1895, the Government Commissioner stated that he was empowered to say that, as far as the Government was concerned, nothing would be put in the way of the admission of women to the study of medicine, and if they possessed the necessary training and knowledge, of their obtaining the doctor's diploma. Following these utterances several small concessions have been granted; a gymnasium for girls has been opened in Carlsruhe, one in Berlin and one in Leipzig, and women have been allowed to pass the final gymnasium examination, which, with men, gives the right to study at any German university. The Government has, notwithstanding, steadily refused to allow female students to matriculate, so debarring them from taking any degree. The one privilege allowed them as yet is that they may attend lectures at the university in the invidious position of "guests." Even before this scanty favour can be enjoyed, the following conditions have to be complied with: The Minister of Education has to be satisfied, after an examination of the applicant's diplomas and other papers, that she is competent to follow a university course. The sanction of the rector of the university where she wishes to study must be obtained. She must have the permission of the professor or private tutor of each course of lectures she wishes to follow. This last condition is often the most serious obstacle in the way of the intending woman student, for many professors absolutely refuse to lecture to women. It is related that on one occasion, catching sight of a lady among his auditors, the professor left his chair, walked up to her, and offering her his arm, led her to the door without a word. It is not surprising that in the face

of these difficulties the number of female students at the Berlin University, which in the former semester was sixty, fell in the last half year to thirty-five. Vigorous efforts are at present being made to try and induce the authorities still further to modify the regulations, and it is hoped that before long Germany, which in other respects is making such rapid strides, will allow its women to have equal rights with men to the advantage of higher education.

Literature, Historical Notes, Etc.

MODERN EDUCATION.

Educate! Educate! is the cry heard upon all sides in this age of progress and of liberal culture. Educate the masses! and forthwith we are treated to innumerable delightful theories by which the youth of our day are to be educated in every branch of human knowledge, through the accomplishment of which this age will stand resplendent upon the pages of history. There are many remarkable phenomena existent in our day. To one who closely observes the moral and intellectual condition of the young people of the present there appears in them peculiarities not the least remarkable element in modern society. Upon entering the social circle of our youth, one is immediately startled by the entire absence of the diffidence and timidity which marked former periods, and with rare exception encounters that absolute self-possession which not unfrequently amounts to self-assurance—afraid of nothing, astonished at nothing, equal to any question however abstruse, they do not hesitate to discuss theological and literary points which have shaken the sages of centuries, and slipantly dismiss them as quite too passé to ruffle the assurance of these nineteenth century educated youths. Morals and politics (if we dare associate the two) claim a share of their shallow consideration, in arguments which make painfully apparent their extreme youth. In olden times instinctive homage was paid to moral and intellectual greatness, but in the present, we are quite too realistic to bow down in humility before the "book of books," to revere the glories of Shakespeare (who, alas, is Shakespeare no longer), or to humbly quaff from the inexhaustible fountain of literary sweetness embraced in Dante's "Divine Comedy." Absolute freedom from credulity seems to be the boast of the age; our young people no

longer see, feel and enjoy, but judge, compare and criticise. In fact, many seem to have outlived enjoyment, to have been born old! Nothing in art, literature or the drama excites in them the least emotion; they approve, but never wonder; they know all things, and refuse to acknowledge the existence of any such old fashioned hobgoblin as experience. Though we are in a certain sense undoubtedly more educated than formerly, we are assuredly more superficial in all that constitutes true education. By some means the poetic element in the youthful mind which has swayed the world in past generations, making it better and loftier for being able to enjoy the sense of a fuller life in the presence of the sublime in nature, literature and art, is completely obliterated. Undoubtedly home influences plays the major part in the development of the young, but on the other hand, to the baneful influences of the present system of popular education, which crams the mind and leaves the heart untouched, may be traced the woful effects of filling the mind with false ideas of life, liberty and freedom, while forgetting to inculcate the principle that all life is from God, that liberty implies dependence and has its conditions—facts which negative minds too often forget. The youth of our day are taught that they have reached the acme of success and fail to acknowledge the birth of our ideas in past generations. A total want of reverence and disregard for parental authority is fostered by the constantly reiterated assertion that “father and mother may have known something in their day, but we have entirely outgrown them; our educational methods are far in advance of any of their ideas, for this is a progressive age,” etc. And so it is, and an age of unrest, also, which manifests itself in the mad race of our young people after what they are pleased to term *fun*. Startling indeed are some of the pastimes which come under this head—indecent dress, vulgar language, promiscuous flirting, etc., all are embraced under this one name, *fun*. Alas! even in the female it often means slang, smoking, and a most deplorable love of adventure, while, on the other hand, among men it would be impossible to limit its significance or to enumerate the frivolities in which our youth spend their substance in the frantic effort to escape the *ennui* which is the “familiar demon of cold imaginations and vacant minds,” minds which are crammed with much best left unlearned, while totally untutored in the

laws of life which elevate and sustain the true seeker after knowledge.

It is to be hoped that in this age which boasts its broad liberty and culture, that teachers will learn to define and appreciate the sacredness of their calling, and will instill into their pupils the principles of truth, not forgetting that "liberty wisely understood is but a voluntary obedience to the universal laws of life," that the only ignorance to be deplored is *moral* ignorance, and that culture, rightly understood, means a "study of perfection, an inward condition of the mind and spirit," and that no loftier calling in the world exists than the training of young souls, for "they who instruct others unto justice shall shine as stars for all eternity."—Josephine Donovan, in the *Moderator*.

Practical Hints and Examination Papers.

DICTATION AS A LANGUAGE EXERCISE.

Any kind of training or exercise to be valuable must make the mind work hard. How then may this effective work be done? Instead of mere formal copying of random sentences, dictation exercises should occupy nearly all the time given to written language work in the ward schools as well as in the high school. Such exercises may be conducted thus: The teacher reads a paragraph from one of the reading books used in the school, and from a selection with which the class is already familiar. Now the teacher reads it the second time—a sentence or a piece of a sentence at a time. The pupils having slate and pencil, or pencil and paper, write as the teacher dictates. They have been instructed to use their judgment in regard to capitals, punctuation, quotations and so forth. When the paragraph is thus dictated, then each pupil takes his book and corrects his mistakes from the book. Let this be a part of the language drill each day, and the results will be simply surprising in one year's time. Dictation in the manner indicated involves a great deal in exercising nearly all the child's mental powers. The senses that are brought into play are hearing, sight, the movement of the hand; while attention, observation, memory, imagination, judgment, reason and will are all actively engaged. The hand is trained to keep up with the memory in expressing the

ideas as they flow through the mind, the ear must catch each sound, while the memory keeps them in place ready for use as the fingers jot them down; the imagination, judgment and reason are all vigorously at work deciding where one sentence begins and another ends, while the will holds the mind to the subject in hand. Such an exercise will be seen, on reflection, to be many-sided. This is not all. The reflex habit engendered is invaluable. Dictation exercises show connected or related sentences, and the careful attention the pupil is obliged to give to this class of work begets in him the very habit that is so necessary to his future progress in written language. To read a class a sentence or a part of a sentence at a time, the writer must think how he will write it, and then the act of comparing his own effort with the work from which the extract was read, forces him into the habit of seeing the logical connection of sentences, and this passes over into the habit of logical thinking and logical writing. Spelling, punctuation, a taste and feeling for all the elements involved in a good literary composition, without which no good writing is possible, all force themselves into and become a part of the mental fibre of the pupil. Much practice in this kind of composition will give one a correct idea of what good writing is, and thus almost imperceptibly a good style is acquired. This plan is not designed to supersede entirely what is called original compositions, or rather formal language work.

As the child makes progress in writing from dictation, he should try his skill on such topics as lie clearly within his range of knowledge. By this is not meant that the assignment of a topic to a child is to hunt up in books, read himself full and sit down and try to empty upon paper what he has gathered, and call it an original composition. Such a performance is simply a memory effort to reproduce what he has read, or else a poor paraphrasing of the authors he had dipped into. It is evident that little value can be derived from such work.

To show the logical connection of sentences, the teacher may derange the sentences in a paragraph, and have the class pass judgment upon the changes thus made. There is generally an orderly unfolding of the sentence in a paragraph, and to get the pupil to see this point is always a great gain in constructing his own paragraphs. The act of

the judgment in deciding the order in which the sentences shall be marshalled in a paragraph, is a fine art.—*Educational News.*

THE SUCCESSFUL TEACHER.

1. Her manner is bright and animated, so that the children can not fail to catch something of her enthusiasm.

2. Her lessons are well planned. Each new step, resting upon a known truth, is carefully presented.

3. Everything is in readiness for the day's work, and she carries out her plans easily and naturally.

4. Old subjects are introduced in ever-varying dresses, and manner and matter of talks are changed *before the children lose interest* in them.

5. She talks only of what is within the children's experience. Her language is suited to her class—being simple in the extreme if she is dealing with young children.

6. When she addresses the whole class she stands where all can see and hear her.

7. She asks for only one thing at a time with slow emphasis, in a low, distinct voice.

8. She controls her children perfectly without effort. Her manner demands respectful obedience. She is serene.

9. She is firm and decided, as well as gentle, patient and just.

10. She is a student—is not satisfied with her present attainment.

11. She is herself an example for the children to follow, holding herself well, thinking correctedly, and being always genuinely sincere.

12. She is a lover of little children, striving to understand child nature.

13. True teaching is to her a consecration. She has entered into "the holy of holies where singleness of purpose, high ideals and self-consecration unite in one strong determining influence that surrounds her like an atmosphere."—*School Education.*

MANAGEMENT IN THE PLAYGROUND.

If you would control your school with wisdom, you must keep your hand upon the lever—the playground.

This is by no means intended to convey the idea that you must be ever present, like an avenging Nemesis, to watch

for victims of a stern discipline ; but that here you will find the key to much that has puzzled, perhaps misled you. In the playground children are more likely to be their true selves than in the schoolroom, with its limitations and restraints, its rules, regulations, and the ever watchful eye of the teacher.

Then, too, the schoolroom carries with it much of its character ; and boys and girls will hesitate a long time to say or do there what in the freedom of the playground would be done or said without a thought of legal restraint or any other ; so that if you really want to know the children, as you must if you would manage judiciously, you need to see them " at home " in their own place, the playground.

Here, the selfish, rude, profane, disobedient, tyrannical, vulgar, and all disagreeable and immoral traits that are held in check in the schoolroom are displayed, if ever.

And I have no hesitation in saying that if you embrace every opportunity to see your pupils at play you will get some disagreeable surprises as well as some of another nature. You will be surprised at hearing things from lips that you had always thought of as only pure and sweet, and which you know are not a credit to the child's heredity or training ; you will see little things done which will give you a clearer insight into the true character of many whom you can now help to a better life, a higher standard ; whereas, had you gone on in the old way, merely judging the child by what you see of him in his " Sunday dress " and schoolroom manner, you could not have known just the kind of help that was needed.

Now, how shall you use the knowledge that you have so gained ? *Not, at the outset, by preaching to him.* That is worse than wasted effort ; and besides, you want to be an ever welcome visitor to the playground—which you will not be if the children once think that you are there as a spy or a detective—although you must improve every opportunity to study your subject, and to *do it by individuals.* Then how utilize the knowledge that you have gained ? *First, let it be in your general example and teaching.* Don't call up specific cases for illustration, but emphasize the difference between the qualities that you have discovered and those that you want to find growing among your pupils.

Second, bring all the everyday work that you can to bear upon some characteristic, always being sure that the one

for whom the lesson is intended is present ; but do not, for one minute, let him think that you mean him when you refer to the custom of interlarding conversation with profane, vulgar, or even low-toned remarks ; and if you have a rude or hoydenish girl whom you would see cultivating the milder graces, don't single her out as a target for either your sarcasm (I hope you are not so destitute of remedies as ever to need that—except perhaps in the case of some “ smart Alec,” upon whom all other things have failed) or for your homily on good breeding ; but show generally, and her incidentally, the difference between real refinement and that which is only an occasional veneer—which like other veneering will crack and fall at a blow.

Third, raise your standards, and level your school up to them by use of their own love for the good, the pure, the true, the beautiful.

Fourth, if general teaching slides off the very ones for whom you are making the special efforts, try private conversations, not necessarily mentioning what you know of the child's private character, but urge him to loftier heights of thought and practice ; stimulate his ambition to be among the first and best, and show that he cannot really do this without care and application, and by filling his mind with what is good there will be little opportunity for the other element to prevail.

And, *finally*, at any expense of time and trouble, get his confidence ; for without this you are working in the dark.—*The New Education*.

TEACHING SPELLING.—What about spelling ? It is the observance of the arbitrary usage of writers of English as to the arrangement of letters in words. This usage is without reason, so that he who thinks least spells best. Only memory of mechanical symbols is involved in learning to spell. As a separate branch of study and test of culture, spelling has long been an educational fetish. Time was when it occupied a chief place in the programmes of all elementary schools, and yet the spelling of the older generation among us is certainly not above criticism. The children of to-day spell better. This fact is undoubtedly due to the very large amount of written work now done in all schools. We must teach spelling. We must teach it systematically and persistently. But it is not taught by putting spelling books into the hands of children and hav-

ing classes stand in rows and take turns in guessing at the spelling of words in which they are not interested. As a school exercise nothing more senseless could be devised. No one ever did learn to spell in this way. No separate text-book in this subject is needed, and none can be used below the upper grammar grades without great injury. It is believed that these opinions are in harmony with the thought and experience, but not the practice, of the educational world.

How shall we teach spelling? Children learn to copy all the words they learn to read during the first months in school. Later they learn to copy into script the printed words in their reading lessons. As a third step, they learn to write lists of well known words and easy sentences from dictation. During the recitation hour, they pronounce over and over the list of words in their readers. With books open, they name the letters in these words. They sound these same words and cultivate accuracy in pronunciation. They write little statements in which they use these familiar words. The teacher calls special attention to difficult, unphonetic words and teaches the children to spell them. As pupils progress, they learn to spell the new words in all lessons. They write much, and learn to consult their dictionaries for the spelling of words. They learn to spell by spelling. The teacher takes little time in examining the pupils, one at a time, in spelling, but much time in actually teaching them to spell.—*Midland Schools.*

THE USE OF ONLY.—There is perhaps no English word that offers greater difficulty to writers than the little word "only." Our grammars and rhetorics have addressed themselves assiduously to the task of formulating rules for its use, but with doubtful success. The Standard Dictionary gives half a column to "only." Its remarks are so novel and radical that it cannot be unprofitable to publish the following extracts:

"Rules for the correct use of *only* are chiefly instructive as showing the present impracticability of reducing English usage to rule. In general, any position of *only* that results in ambiguity of reference is of course faulty. Yet in the writings of even the best authors the word may be found in every possible position with reference to the words it is meant to restrict, and considerations of rhythm or euphony

often give it the worst possible place for indicating the meaning intended.....Sometimes the position commonly given the word by writers is the one universally condemned by critics ; as, 'He *only* painted ten pictures,' for 'He painted *only* ten pictures,' or (for greater emphasis). 'He painted ten pictures *only*.'"

The writer acknowledges that in written discourse the rules of rhetorical construction give valuable aid in guarding one against faulty construction. In oral discourse the "rhetorical pause" generally shows the relation of *only*.

The dictionary then gives the following: "The general rule, so far as any rule can be given, is to place *only* next to the word or phrase to be qualified, arranging the rest of the sentence so that no word or phrase that the word might be regarded as qualifying shall adjoin it on the other side. The sentence, "Only his mother spoke to him," is not ambiguous, for the word *only* must apply to the succeeding phrase 'his mother.' 'His mother *only* spoke to him' is ambiguous in written language, but in speech the inflection would show whether *only* referred to 'his mother' or to 'spoke.' 'His mother spoke *only* to him' would scarcely be ambiguous, because *only* is rarely used in prose immediately after a verb that it qualifies. Yet for absolute clearness 'His mother spoke to him *only*' would be better. It will thus be seen that in applying the rule, the circumstances of each particular case must be carefully considered."

"Like ambiguity often results from the improper disposition of *not only*, *not merely*, *not more*, *both* and *not*, to the use of which the same general directions apply.

"As a final resort, when the resources of position have been exhausted without securing clearness, it is better to change the mode of expression so as to get rid of the refractory word or phrase."—*Educational News*.

Books Received and Reviewed.

[All Exchanges and Books for Review should be sent direct to the Editor of the *Educational Record*, Quebec, P. Q.]

The *Canadian Magazine* for April is a special Easter number. The matter is as usual excellent, and the many illustrations are admirable. An article of special interest is one on "Social Amelioration and the University Settlement," by S. J. McLean, as is also a paper by Fritz Hope,

on Nansen, the Arctic explorer. There are six complete stories in this issue, besides book reviews and poetry. The *Canadian* is a credit to Canada.

In the April number of the *Atlantic Monthly* appears a valuable article by George Burton Adams, entitled: "A Century of Anglo-Saxon Expansion." Colonel Higginson continues his reminiscent sketches, which he calls "Cheerful Yesterdays." The issue also contains three literary articles of original interest in which are discussed Mark Twain, Rudyard Kipling and William Cullen Bryant. The *Atlantic's* literary pabulum is always of the best.

That family magazine *par excellence*, the *Ladies' Home Journal*, excels itself in the Easter number. The cover is a beautiful design by Will Low, while within is plenty of good reading suitable for all kinds of readers. The various departments, which are a permanent feature of the *Journal*, are very ably conducted, and the editorial contributions are timely and to the point. Charles Dana Gibson gives in the April number his conception of Tom Pinch and his sister, as created by Dickens.

Education, a contemporary we can heartily recommend to our readers, presents in its April number an incisive paper on "Spiritual Education." The editors promise a valuable article by Dr. William T. Harris, for the June number. *Education* is published monthly in Boston by Messrs. Kasson and Palmer.