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THE CANADA

EDUCATIONAL MONTHLY

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APRIL, 1893.

EXPERTS IN EDUCATION.

IT may sound like a mere truism to some to say that all strictly professional work in education should be performed by educational experts; but to many men who have much to do with education in this Commonwealth, such a statement would evidently be quite new and far from acceptable.

In this country, teaching was so long synonymous with lesson-hearing, and the opinion was so long prevalent that teachers were born and not made and that consequently no professional training was necessary, that, although we have outgrown these crude views, yet we are hampered in much of our educational work, by many assumptions implied in those antiquated opinions, which have never been fairly brought to the bar of common sense for judgment. One of these is the assumption that any man of learning, or any man who has received a majority of the votes of his town or city, is on this account competent to direct in all matters of education. One is reminded of the sarcastic advice to the Athenians when short of horses, to vote their asses horses, which advice, if followed, would as soon make a horse of an ass, as the votes of one's fellow-citizens would qualify him to

act as a judge on educational matters of a purely professional nature. I doubt whether it has ever occurred to the average citizen of this state, that he is incompetent to lay out courses of study, to examine and promote pupils, to decide when a course of study has been properly completed, and to examine and direct teachers and pass upon the merit of their professional work. And yet it is just as obvious, to one who is qualified to decide, that all these lines of work cannot be intelligently performed except by educational experts, as it is that physicians alone are capable of prescribing for dangerous diseases, or that lawyers are safer advisers in regard to complicated law questions than shoemakers or butchers. Let us look at one or two of these kinds of work somewhat critically, beginning with the making of programmes or courses of study.

To be specific, put the question thus: What qualifies a man to prepare a course of study for the common schools?

1. He must know the aim, or purpose of education. This implies familiarity with all the essentials of the civilization of the nation in which the pupils live, with the duties which

the children to be educated will be called upon, as men and women, to perform, and also with the condition of body and mind needed for the best service to others and for the greatest personal happiness. It implies a clear conception of the knowledge, power, and habits which future citizens will need.

2. He must be acquainted with the process of education as it takes place in the mind of the child. He must know all the activities, physical, intellectual, æsthetic and moral, which result in the transformation of the child from what he is at the beginning of the process into what he should be at the end. He must know the relative amount of these various activities and the necessary order of their sequence; otherwise he cannot adapt his programme to the developing minds of the children, and to their successive states of knowledge of the same subject matter.

3. He must know the different classes of educators, and the part that each class is to perform in the work of education. He must separate the duties of the family, civil society, the state, and the church, from those of the school; and he must assign to each its proper functions. If he has not done this, he is likely to undertake to give the child his entire education in school; thus assuming the duties of all the fundamental agencies of education and putting upon the school the responsibility which should be shared by the family, civil society, the state, and the church.

4. He must know the means needed for causing in the child that part of the process of education which should be performed in school. He must understand the office of direct observation. He must know what part of the mental activity needed for the equipment of the child with knowledge and power can come from direct perception alone. He must under-

stand the office of minerals, plants, animals, atmospheric phenomena, and the movements of the heavenly bodies, in the excitation of the mind to action. He must know the place of oral instruction in education; and he must see clearly the use, and the time for the use, of books as stimulants of the mind. Without this knowledge it will be impossible to arrange a course of study with the proper coordinations and subordinations of subjects. It will be impossible to arrange for the taking up of different subjects at the right time and in the right order, so that subjects will begin together that ought to begin together, and so that those which ought to follow will follow in due order, and so that the different parts of the same subject will succeed one another in an order corresponding to the successive stages of the mind's different kinds of activity.

5. Before a man is prepared to make a course of study, he must be fairly familiar with the doctrine of educational values. He must be able to distinguish between the knowledge and mental training resulting from the pursuit of any branch of study, and to estimate the value of each separately and of both together. He must be able, for example, to take the subject of arithmetic under consideration, and to decide just what amount of knowledge of addition, subtraction, multiplication, division, denominate numbers, common and decimal fractions, percentage and its applications, powers and roots, mensuration, and so on, is essential to the duties of the future men and women, who, as children, are to be educated in the schools. Then he must be able to understand clearly the effect upon the minds of the children of acquiring this knowledge. And, finally, he must be able to decide whether there is any additional training of the mind, either in the development of power or

in the forming of mental habits, of such paramount importance that it should be secured by a further study of the subject, even if the knowledge incidentally gained is of little value. He must be able to treat in the same way, reading, writing, spelling, grammar, geography, drawing, music, algebra, geometry, mineralogy, botany, geology, physiology, and all other subjects which might be introduced into the programme of the common schools. He must be able to estimate fairly well the time that will be required to gain the necessary knowledge of each subject, and the additional time in which to gain the mental power which he conceives to be needed over and above what will result from the acquisition of the necessary knowledge. He is now prepared to find the sum of the times required to do the work decided upon in all the proposed studies. If this sum exceeds the available school time of the children, it will be necessary to subtract the time devoted to purely mental training, which has no reference to needed knowledge. This done, if the required time is still in excess of the available time, there must begin a process of comparison, by which it can be ascertained how much the time required for each study can be further reduced without the loss of knowledge of more value than that resulting from the further reduction of the time devoted to any other subject.

Such are some of the qualifications of a maker of programmes. Possessed of these, a man may hope to lay out a course of study adapted to the needs of pupils with whose origin and destiny he is tolerably familiar; possessed of less, he should never attempt to make a programme or to change one.

Which of the qualifications that I have just mentioned can one dispense with and yet be fitted for administering a programme? Which can he lack

and still be qualified to examine and promote pupils? It would be difficult to say. And yet it must be admitted that it is easier to drive on a road after it is made than it is to make a road. It would seem that it must be easier to follow a good course of study than to construct one. Still there are so many opportunities to go astray in the directing of children, so many subjects of study the exaggeration of the importance of which will deprive the children of needed knowledge of other subjects, and so many ways of over-estimating the relative value of knowledge as compared with mental training, so many places where words may be mistaken for knowledge, that a man ought to be well versed in the aims, process, agents, and means of education, and to have great skill in estimating the values of different studies and of different stages of the same subject, or he is likely to make sad havoc with the children, if he attempts to guide and limit their work, even on a good course of study.

Examining, directing and criticising teachers requires no less of professional knowledge and skill. It requires an educational expert to examine a trained teacher. A man of ordinary learning might possibly test a teacher's knowledge of arithmetic and grammar, but to test his ability to teach arithmetic and grammar would require something more than common learning. To be able to ascertain whether a man knows the science which underlies the art of teaching, and which alone makes artistic teaching possible, presupposes a knowledge of the science of teaching on the part of the examiner.

A little more than twenty years ago I was asked by the late Mr. Loring Lothrop, then a member of the Boston school committee, and chairman of the special committee on the Normal school, to be a candidate for the office of head master. At the end of

a long conference I said to him : "Mr. Lothrop, I do not wish to put you or your committee in a false light, and I do not wish, by and by, to be thought obstinate ; therefore I wish to state at this time one conclusion that I have reached. If my election as head master of the Boston Normal school depends upon an examination by a committee of the School Board, count me out. I never will submit to such an examination. If you will allow me to select an examining committee, I will name John D. Philbrick of Boston, Charles W. Eliot of Cambridge, and Daniel A. Hagar of Salem, and I will be quite willing to be examined by them for a fortnight, and to stand or fall by the result ; but I will never submit to an examination by a committee of lawyers, doctors and merchants, who know nothing of the science of education. Guarantee my election at the close of the examination and it will not so much as tempt me, notwithstanding I would prefer this head mastership to any other educational position in the United States."

And now, after twenty years of additional professional study and practice, I think the conclusion I had then reached was eminently sound. I believe I am as well qualified to examine a candidate for the bar, as a lawyer is to examine a candidate for teaching. I hold myself to be just as competent to examine a candidate for a medical degree, as a doctor is to examine one for a teacher's certificate. I deem myself as capable of examining a candidate for bishop on the fundamental principles of theology and their special application to the duties of his office, as a committee of clergymen are to examine me for the office of head master upon the fundamental principles of education and their application to the duties of my office.

The same principles apply to the

criticising and directing of teachers in their professional work. The sooner it comes to be understood, in every city and town in this country, that teachers are to be selected and appointed on account of their professional knowledge and skill, and that they are then to be trusted and deferred to as experts, the better it will be for the cause of education. The criticism passed upon a teacher's work must, in order to be of any value, be based upon some universal principle. Criticising by rule of thumb is arbitrary and often contradictory. How easy it is for a young principal or young superintendent to annoy and hamper experienced teachers by crude suggestions and ill-advised restrictions. Fortunate is an old principal who has never committed a blunder of this sort of which he was afterwards thoroughly ashamed. But when such mistakes are made by men outside the school, the case is still worse ; for they rarely have an opportunity to learn better.

In most of our larger cities some of the reforms here hinted at have been already partially accomplished. This is usually the case where superintendents are employed. In such cases experts are frequently required to examine teachers ; though school committees retain the authority to order certificates to issue without examination. The examination and promotion of pupils is often left to experts ; but always with the proviso that an appeal lies from those who know the merits of the case to those who know nothing but what they are told and who are incompetent to decide upon the evidence as thus presented. It is as though the final appeal should be from the supreme court to the town meeting. I think the selection of teachers is rarely entrusted to those who are professionally competent to make the best choice. In this state not only the employment, but the dis-

missal of teachers is left in the hands of unprofessional men, with no right of appeal to anybody. A few years ago when the teachers of Massachusetts were urging the enactment of a law providing for a better tenure of office for teachers, they did not think it wise to ask that school committees should be restricted in their right of dismissal to dismissal for cause, or that committees should be required to give a teacher an opportunity to be heard before execution, or even that an appeal should lie to the state board of education or to the courts. We did not dare to ask that in case of dissatisfaction the teacher's work should be examined by an expert. We thought it safe to go no further than to ask for a law allowing committees to dispense with annual elections, if they chose to do so, and to permit teachers to serve till they should be dismissed. We thought half a loaf better than none. So that now, here in our enlightened Commonwealth, no teacher as such is allowed, under the law, to be tried by a jury of his peers, but is liable at any time to be dismissed without cause, and without notice and without appeal. It certainly would seem as though some further reform was needed in the matter of the legal status of teachers.

The making of courses of studies remains, both theoretically and practically, for the most part, where it was fifty years ago, namely, in the hands of school committees. This is the most important work of education next after teaching. Its results are wide spread and far reaching. They touch every pupil and often last for ages. It has well been said that the making of programmes is the most difficult of all work connected with the common schools. It requires a profounder knowledge of educational science and a greater familiarity with educational practice. And yet it is

often performed by men whose only qualification for the work is a plurality of the votes cast at the last election.

When programmes are made by such men, it follows from what has previously been said that much harm is done. In the first place, programmes are changed with undue haste and wasteful frequency. A new member of a committee hears of a subject, a knowledge of which, he thinks, would be beneficial to a large class of pupils, and at once he proposes its introduction. If none of his fellow-members are able to show that something better will be crowded out, the new subject becomes a part of the course of study. This year the course in geography is extended downwards and upwards. Next year its extension upwards is curtailed; and still the next, it is excluded from some of the lower grades. Now map-drawing of the whole world is required, now it is excluded altogether. One year the arithmetic is attacked as being poorly taught, and at once more time is given to arithmetic; another year it is discovered that the language of the pupils is poor and at once the time devoted to arithmetic is reduced. Now the spelling book is ordered out, and soon it is ordered in again. Suddenly the method of teaching reading is discovered to be wrong, and at once the method is ordered changed, even where the change doubles the work of learning to read for those who have half learned by the method to be displaced. At one time technical grammar occupies a large part of the pupil's time, at another it is excluded altogether. Now great stress is laid upon story-telling and story-writing by the pupils, and now it is discovered that telling the truth is just as good language work as telling stories, and story-telling takes a back seat. And so the ill-considered tinkering of the course of study goes on year after year.

The result is that the children often miss what they ought to have, and have what they ought to miss; while the teachers are thrown into such a state of confusion and uncertainty, of nervous tension, and effort to find the right matter and the right method, as largely to diminish their efficiency. Subjects of study are crowded into an already over-crowded programme, and additional work is ordered into days already more than full, till the teacher hardly knows which way to turn. The positive harm that results both to teachers and pupils from frequent and ill-advised changes in courses of study is beyond computation.

Another result of the present system of managing our schools is the over-crowding of the class rooms.¹ Little children need personal sympathy and direction, and this cannot be given except to small numbers at a time; and yet the classes often number fifty or sixty children. Were the determination of numbers left to experts the numbers would at once be reduced one-half. The individuality of pupils will never be highly respected so long as half a hundred are ground through the same machine at the same time. But I must not continue these details. Here are positive evils that ought to be removed. What is the remedy?

I have already stated it in general terms. The remedy is simply this, to put the direction of all strictly professional work in education into the hands of educational experts.

We have made immense progress during the last fifty years; for it has come to be generally admitted that one who knows how to teach can teach better than one who does not know how, and that consequently teachers should be trained for their work. Now we need to go one step further, and to learn that trained

teachers cannot be properly directed by those who are not trained.

The serious question now confronts us,—How is this reform to be brought about? I presume the change from the present practice to what the practice ought to be will be slow and gradual. The history of the race shows that men will not willingly relinquish power,—and school committees are men. The best school boards in Massachusetts retain in their own hands all the power that the law gives them. They never delegate power to anybody. In the largest city of New England, the Athens of America, as I am credibly informed, the superintendent and his six fellow experts, the board of supervisors, do not have the power to grant a diploma to a single grammar school pupil, which passes him on to the high school, till their action has been reviewed and its propriety passed upon by a sub-committee, not even when the giving of the diploma is recommended by the grammar master who has watched the progress of the pupil for nine successive years. And I think this accords with the general practice throughout the state.

I confess I see no remedy for the evil of which I complain except in a revision of the school law. A change in the law to be effective must be radical and thorough. It must provide for:

1. A term of office for teachers and superintendents, permanent during good behavior.
2. A court of appeal in case of dismissal for cause.
3. The employment of educational experts.
4. The direction of all strictly professional work by such experts.—*Larkin Dunton, LL.D., in Education.*

THE TEACHING OF MATHEMATICS.

BY PROFESSOR W. H. H. HUDSON, M. A.

IT is not my intention to-night to discuss at any great length the study of mathematics. Even the most uncompromising opponent admits, nay, is "decidedly of opinion that mathematics ought to be cultivated, to a certain extent, by everyone who would devote himself to the higher philosophy."¹ The common consent of mankind has decided the question in favour of teaching mathematics; disregarding the opposition of those few who, in ignorance and unbelief, regard either the subject itself or the manner of teaching it as unimportant, we, who, rightly or wrongly, have got to teach mathematics are here to take counsel together how we may best do the duty that is set before us. Nor do I propose to consider the quantity of mathematics that ought to be taught, nor the relative importance of these subjects compared with other studies. But I wish to recall your attention to the principles upon which mathematical teaching should be conducted. If I state my opinions positively, perhaps even dogmatically, it is not from any affectation of superiority, but because that is the easiest way of stating them that they may be understood and criticised.

I shall draw my illustrations from the teaching of elementary mathematics, arithmetic, geometry and algebra, because these are the parts of mathematics in the teaching of which more of us have experience, and also because the manner of teaching them is vastly more important than that of the subsequent teaching. If they are not taught well, they will certainly be

taught badly; it is almost impossible to protect a child from all teaching on these elementary subjects. And the higher subjects cannot be taught at all unless the elementary are taught well.

The earliest teaching of arithmetic begins slightly before a child can speak, and is usually carried on far too rapidly as soon as he obtains the use of his tongue. The earliest teaching of solid geometry should begin as soon as a child can play with a box of bricks; of plain geometry a few years later, when he can wield a pair of compasses. This teaching is often deferred too late. The earliest teaching of algebra occurs some years later still, when considerable facility is acquired in the use of the pen, or at least pencil, and when the child, if a boy, has probably come under masculine influence.

Now all teaching, as Aristotle points out, is based on previous knowledge.² Our teaching of mathematics is based on this early teaching which we do not give. It is a strong argument for the improvement of the education of women of all classes that the early education of all children is almost entirely in their hands; the importance of this early education can scarcely be overrated.

All mathematical teaching should be conducted so as to accord with the fundamental laws of pedagogy; of these the one which is the first in importance is this: *The understanding of the pupil is to be employed throughout.* This is a general canon of all teaching; it is especially needful to be observed in mathematics. Pro-

¹ Sir. W. Hamilton, *Edinburgh Review*, Jan. 1836.

² Ethics, Book VI., Ch. 3.

gress in mathematics is peculiarly hampered by the substitution of memory and imitation for understanding. The multiplication table is often learnt by heart, parrot-like, and sung as a song, instead of being formed gradually by the child. Definitions and propositions of Euclid are learnt verbatim in like manner. Formulæ are allowed to be used without being understood. Methods of doing sums are justified solely by the consideration that the answer comes right. "Shut your eyes, and write down your equations," is the advice said to have been given by a coach. All this is wrong; It is contrary to the first law of teaching; it is calculated to stunt instead of to develop the mental powers. Principles, maxims, theorems, formulæ, definitions should never be given to a learner without his intelligent comprehension of them under the notion that they thereby obtain a firm place in his memory.³

"Fas est et ab hoste doceri." Listen again to Sir William Hamilton: "The highest end of education is not to dictate truths, but to stimulate exertion, since the mind is not invigorated, developed, in a word *educated* by the mere possession of truths, but by the energy determined in their quest and contemplation."⁴ Still less is it educated by the mere possession of words.

It is just because mathematics afford a particularly convenient opportunity to the young child of exerting and thereby invigorating its mind by the quest and contemplation of truths new to the learner, that mathematics form an important part of the early education of every boy and girl.

Reversing the dictum attributed to Mr. Bain by M. Compayre, "the best education is" *not* "that which places items of knowledge side by side in

the mind, which accumulates facts there, but that which seeks to enkindle in the soul a flame of intelligence."⁵ This is just what mathematics are capable of doing, and it is an almost sinful perversity to teach mathematics as a mere effort of unintelligent memory.

The amount and the duration of the mental exertion necessary for the study of the beginnings of mathematics, admit of being graduated to suit the pupil however young. To count the number of chairs in a room is an exercise suitable for an infant, and would occupy a minute. A boy may have three or four sums to do which will occupy him a quarter-of-an-hour. The beginnings of mathematics are entirely mental; no sitting at a table, crouched in an awkward attitude, is needful for an arithmetic or geometry lesson in the kindergarten.

Mathematics are, therefore, a peculiarly fit means of awakening the intelligence and developing the incipient reasoning faculty. They strengthen the mind and give power—power to be used instantly in other studies, and later, in the conduct of life.

In order to make mathematical teaching accord with the first law of pedagogy, the bad methods of teaching, to which I have alluded, should be discontinued. On the contrary the teacher should strive to—

"Give both life and sense,
Fancy and understanding whence the soul
Reason receives, and reason is her being."⁶

Accordingly the mind of the pupil must be active during the whole process of the study.

The fact is, no teaching is possible without the active co-operation of the learner. Learning may go on without teaching but not teaching without

³ In opposition to Bain, "Education as a Science," p. 206.

⁴ Note on Dr. Whewell's letter.

⁵ "History of Pedagogy," Payne's Translation, p. 561.

⁶ Milton, "Paradise Lost" V., 487.

learning. A man can refuse to teach but he cannot insist on teaching. The desire of the pupil to learn is a necessary condition of all teaching. If the will of the pupil is antagonistic, he cannot be made to learn. Young people generally naturally desire to learn; others are induced by the personal influence of the teacher; much may be due to the contagion of companionship, a good tone in a school or college. Somehow or other the good will of the pupil must be secured in order that he may direct his mental activity to the study. How to secure that good will in the cases where devotion to athletics, or other causes, has alienated the mind from the desire of knowledge, and the habit of studious inquiry has never been formed, is the greatest difficulty with which those whose pupils have passed the stage of childhood have to deal.

The active exercise of the mind is fatiguing; therefore lessons should be for the young, short, and because short, frequent. The pain of fatigue is soon overbalanced by the joy of success; moreover, the pain diminishes as the mental powers increase; nay, even it is turned into a pleasure—a pleasure in the quest as well as in the attainment—"laboripse voluptas."

In no subject better than in geometry can the joy of the discoverer be obtained. It is possible to propose to the veriest beginner problems suited to his nascent powers, yet requiring their exercise; while the finger work necessary for the careful construction of the diagrams, which should be insisted on, affords a relief from the mental efforts of discovery. This educating power of geometry is lost by those who set propositions to be learnt by heart.

Some of the propositions of the first book of Euclid will seem to be quite unnecessary to a child who has had a preliminary training in the actual use of the ruler and compasses. Here a

fresh difficulty will arise—a difficulty welcomed by the teacher as the opportunity for instruction in the nature of proof; fallacies may be propounded and exposed, and so early ideas of logic may be instilled, but without the uncouth technical terminology of the logician.

What are called "riders" should be used from the very outset; nay, even the propositions themselves should be primarily regarded as riders, the text being consulted only after a real effort successful or unsuccessful, has been made to do without it. To facilitate this beneficial exercise, I submit that it may be pardonable to tell the beginner, as facts to be hereafter proved some properties, such as that the three angles of a triangle are equal to two right angles, or that the angles in the same segment of a circle are equal, for the sake of proposing to him some simple deductions from these theorems.

Nor is it to be regarded as a deduction from the merit of this part of our teaching that, as Mr. Todhunter says, "when we propose a deduction to a beginner we give him an exercise in many cases that would have been admired in the vigorous days of the Greek geometry"; and, "it is not absurd to maintain that Euclid and Apollonius would have regarded with interest many of the elegant deductions which are invented for the use of our students in geometry."⁷

In order to assist to develop this necessary exercise of the pupil's understanding, it is a good maxim that the teacher should not do for the pupil what the pupil can do for himself. Self-reliance should be cultivated. But the learner is not to be left quite in the position of the first discoverer. The use of the teacher is to guide, to direct, to warn against dangers, to give a helping hand in different places,

⁷ "Conflict of Studies," pp. 10, 11.

and so to facilitate progress, but the pupil must make that progress himself. The guide chooses the path and prevents the wrong road from being taken; he may help over rocks, but the traveller must walk along the meadow unassisted. A mistake may be pointed out and wherein it consists; the correction should generally come from the pupil.

The teacher should not set, and should restrain the pupil from proposing to himself, exercises that are beyond either his strength or his knowledge. To strain the mental powers is not to develop them. Here much judgment is required in the teacher. In many cases it is not power or knowledge that is deficient in the pupil, but strength of will.

Secondly. There is a certain way in which the human mind naturally acts, and this cannot be departed from without injury. There are those who contend that the order in which an individual learns should be that in which the race as a whole has acquired knowledge. Whether this is true in all cases we may be permitted to doubt. But as much as this is certainly true, that the earliest knowledge of the child, like that of primitive man, is derived from the senses. And it is equally true, whatever some philosophers may say to the contrary, that the primary notions of mathematics are acquired through the senses. It is simply impossible to acquire them otherwise. There is, therefore, a certain Law of Sequence, which requires that what is called the abstract idea or notion, should be based upon and formed out of sensible perceptions. It is usually quoted, "The concrete must precede the abstract." It is, moreover, a breach of this Law of Sequence to stop short at the sensible perceptions and not to pass on to the generalization.

In order to comply with this law we should begin to teach arithmetic

with actual things to count. Counting is sometimes made to consist of a rehearsal of the names of numbers. This is a mistake from the consequences of which some people recover with difficulty. Visible illustrations of the properties of fractions should be used. Actual weights and measures should be seen and handled. We should begin to teach geometry by tangible modes of cubes, spheres, cylinders, cones; the pupil should actually rule lines with a ruler, and draw circles with compasses.

But we should not continue the use of these visible and tangible helps after they have served their purpose. The notions or ideas should be formed so strongly that the mind's eye sees them, when these things are not present, in later reasoning about them. In fact, the things themselves,—the line without breadth the perfect circle—from their nature cannot be present; the best we can obtain is only an approximation, valuable as an illustration and as a means of acquiring ideas, but no more. Even a badly-drawn circle will serve a person who knows what a circle is, but he cannot acquire the idea of a circle from badly-drawn circles. He who can draw a good figure need not, he who cannot draw a good figure must. The badly-drawn circle does not give a wrong impression to the mind which is full of the true idea of a circle, the mental conception being stronger than the visual image; whereas a badly-drawn circle retards the acquirement of the conception of a circle by one who has never acquired it.

We must be careful also not to carry this requirement of sensible objects too far. It is not necessary to make visible or tangible models of all figures, one who has a knowledge of a triangle, a square, a pentagon, a hexagon, may form a sufficiently accurate idea of a heptagon, or a decagon without

drawing it, still less is it needful to draw a figure of 20 or 30 sides in order to form a mental conception of it. It is a valuable mental exercise to form such images, but they are formed out of elements primarily acquired through the senses. We build castles in the air out of images of the battlements and turrets of real castles; but no one can combine ideas that he has not got.

Progress in mathematics consists in the combination of comparatively few fundamental conceptions. To substitute words for these conceptions is to prevent the possibility of progress. Words, however, have a very real part to play in our teaching, for it is also a part of the Law of Sequence, that when a general idea has been formed, then, and then first, should a name be given to it: this is quoted as "the thing before the name," thing meaning an object of thought, not necessarily a material thing, and in algebra the name may be a sign.

I fear we often offend against this law. Do not some of our pupils gabble through the first book of Euclid without really knowing the meaning of "bisect," because they have never made an effort to bisect anything, or the third book without the meaning of "touch," although the verbal definition of this term has been committed to memory? Such boys who have merely learnt by rote phrases meaningless to them, not only fail to derive advantage from the study of geometry, but by becoming habituated to the use of words without meanings have weakened their mental power, while they have lost the natural curiosity of childhood which should have been utilized to impel them to intellectual effort: thus—

"Shades of the prison-house begin to close
Upon the growing boy,"⁹
too soon, before their time.

⁹Wordsworth, "Ode on Intimations of Immortality," v.

The neglect of the natural sequence of mental activity, namely, first the appreciation of the sensible object, then the mental visualization, finally the abstract generalization to which a name is given, may well be thought of as the great cause of stupidity. As the power of the mind grows by its natural use so it diminishes if disused or abused. "Whosoever hath not, from him shall be taken away even that he hath."⁹ "We never saw," says a well known author, "a stupid infant."¹⁰ It may be that the stupidity of boys is due to our neglect of this canon of teaching.

The next general law of teaching that we must observe is that of *continuity*. That which is new and unknown should be made to grow out of that which is old and known. Evolution is true in the mental as in the physical world. The particular case prepares the way for the general, the easy for the difficult; the difficulties, even the impossibilities, are the avenues leading to new knowledge: thus vulgar fractions arise out of division, the negative quantity grows out of a seemingly impossible subtraction, logarithms arise out of the general index, the arithmetic of square measure is derived from the geometry of the rectangle.

The subdivision of mathematics into separate subjects tends to obscure the connection between them. We should be watchful to seize opportunities of bringing out, whenever possible, the connection of algebra and arithmetic, and of both with geometry. Even the illustrations that we choose to explain a particular point are all the better, sometimes, if they are seen to be connected with the next.—*The Educational Times*.

Continued.

⁹Matt. xiii. 12.

¹⁰De Morgan, "On Teaching Arithmetic," Q. J. Ed., No. ix.

TEACHING AS A PROFESSION.

BY HON. A. S. DRAPER, SUPT. OF SCHOOLS, CLEVELAND, O.

ONE can scarcely look into an educational journal or spend an hour in an educational conference without meeting this proposition in one form or another. It is one of the most promising signs of the times in an era that is witnessing a manifest awakening of educational thought and an apparent advance along the different lines of educational progress. It is promising, in that it indicates the necessity of broader scholarship, of improved methods of instruction, and of greater dignity and respect for the position which the instructor of youth occupies in the best thought and opinion of the country.

But it is as yet only a promising sign. You will perhaps challenge the remark that any real advance in this direction is as yet scarcely appreciable, but still I will venture to make it. It has been so easy to gain the right to teach, the regulations governing employment have been so exceedingly lax, the Normal schools have been so few in number and so inadequately equipped, and where there have been Normal schools they have had to do so much elementary and so little professional work, and their graduates have constituted so small a part of the whole number of teachers, and the teaching force changes so frequently, that the movement toward a teaching profession can scarcely be said to have advanced beyond the stage of acknowledging that we have none, and asserting that we should have.

The assertion is being stated in every conceivable form. It is served up warm and then cold; it is roasted and broiled and boiled and fried; it comes on in salads and croquettes and hashes and sandwiches, and in

all the other ways in which economical housewives are accustomed to beguile their finical lords and obstreperous children into final disposition of such table supplies as do not yield gracefully to the first preparation and the first assault. But it is the same old assertion all the time. We ought to have a teaching profession because we ought to have a teaching profession. A good mother tells her young hopeful that he must be good because it is so good to be good; he must not be naughty because it is so naughty to be naughty. So, we must have a teaching profession because we ought to have a teaching profession.

Affirming all that is said, hailing it as a bright omen of the future, is it not time to analyze the subject and inquire what specific and detailed steps must be taken in order to build up a profession of teachers?

WHAT IS MEANT BY A TEACHING PROFESSION?

We Americans have a recklessly loose way of using the mother tongue. In word and phrase we attempt to dignify things beyond justification. As common as this fault, is, it is doubtful if any words of the language are used more thoughtlessly than "professor" and "profession." Indeed it must be admitted that there is dictionary authority for very great flexibility, elasticity and license in the use of these words. But common usage goes much farther than the dictionaries authorize. A man in almost every vocation in life, from the president of a university to the man who trains horses or treats corns, is styled a "professor." The school-master, the illusionist, the dancing-

master and the soap-peddler, are all "professors." The other day a convict murderer across the lake upon the eve of his execution referred to the hangman as the "professor." Occasionally one, with more audacity than the rest, even insists upon applying the term to Superintendents. And the word "profession," as applied to individuals associated in the same employment, is likewise subjected to ill-usage. Its spreading and covering qualities are remarkable. Originally confined to theology, medicine and law, it is now extended to music and painting and sculpture and literature, to architecture, engineering, journalism, to all the intellectual employments and the higher arts, and much more loosely to nearly all of the vocations of life. We continually hear of the "profession of arms," of professional base-ball players and horse jockeys and burnt cork artists. To-morrow we are likely to hear of professional bakers and barbers and plumbers and tailors.

Amid all this confusion it becomes necessary to define what we mean by a "teaching profession." May we not draw the line between professional and non-professional employments along the points where results cease to be produced by the mind, and begin to be produced by the hand, along the points which divide intellectual from manual effort, the points where originality ends and mere copying or reproduction begins? Used either to signify a particular vocation or an association of persons engaged in that vocation, is it not safe to say that the term "profession" is only properly used in reference to such intellectual labor as may be performed by a trained and disciplined mind which can operate upon its own motion and so add to the world's general fund of original thought, and

which in addition to this is specially equipped and prepared for a particular field of intellectual activity? Then before teaching can fairly be said to be a professional employment, it must be carried on, not by amateurs, not by copyists, but by trained and disciplined original thinkers, especially qualified for transmitting instruction; and before an association of teachers can be said to constitute a profession they must not only be individually possessed of the qualities necessarily incident to such employment, but they must be devoted to it as well, and collectively they must be hedged about by the conditions and safeguards which gain for the entire body the esteem and respect of the people.

BASES OF THE PROFESSIONS.

It may be said at the outset that the world exacts broad scholarship on the part of the professions. A young man may, by service in a law office, become able to carry on the routine work of the office in a mechanical way, but that does not constitute him a lawyer. Another may learn the obvious qualities of drugs, but that will not make a physician of him. Still another may learn the catch-words and phrases common among engineers, and yet never become an engineer. It is unfortunately true that such persons do wedge their way into the professions, but they do not constitute the professions any more than cooks and sutlers make an army, or runners and heelers make a political party. Professional men and women must know much more than the common catch-words and phrases or the things technically appertaining to their profession. Indeed, before they know those things at all, they are found to possess the qualities of mind and have those qualities under such training and control that they may turn them into whatever channels of mental

activity they wish and be able to produce results and accomplish things. Intellectual vigor, strong enough and broad enough for fair competition with the world's advancing thought, no matter on what thoroughfare it may be travelling or at what cross-roads it may be met, is the necessary foundation of all of the learned professions. The educated world recognizes and observes this principle. Prussia requires her intending lawyers to complete their course in the *gymnasium*, which extends from the age of nine to eighteen or twenty, and covers Latin and Greek, mathematics and natural science, history and geography, the mother tongue, and at least one other modern language, before they begin to study law. This it will seem is about equivalent to the course covered in our good high schools and academies, together with, perhaps, half of the college course. In France the prospective law student must be a bachelor of letters, which is nearly equivalent to our bachelor of arts. In England, before any one can be entered as a law student, he must have a university degree or must pass a preliminary examination in English composition, arithmetic, geography, history of England, elementary Latin, together with two languages which he may select from the following five, viz., Greek, French, German, Spanish and Italian. Then, if the candidate passes, he must bind himself to serve as clerk to a solicitor for five years. If he has taken a degree at a university, he need serve but three years. In the middle of his clerkship period he must pass a rigid intermediate examination, and at its close a much more severe final examination. The conditions for entrance to the other professions in these countries are scarcely less exacting. The avenues to the professions are now coming to be more closely guarded

in our American States. We cannot take time to inquire just what steps have been taken in each of the States. In the State of New York a statute was passed in 1871 directing the court of last resort to prescribe a rule governing admissions to the bar, and the court requires that before any person shall enter upon a law clerkship he shall be a graduate of a college or university or pass such examination as shall be required, in the elementary branches, by the Regents of the University of the State. By a statute of last year substantially the same rule is applied to intending medical students. While this is not going so far as the authorities in Europe go, it recognizes the principle that the law-making power should control the avenues to the professions; it declares that a liberal preliminary education should precede special training for the professions, and it points out that the extent of this will be enlarged as the population becomes more dense and educational advantages are multiplied and improved.

The logical deduction from this is that a teaching profession cannot be established on a basis which only covers the work of the common schools. The mere knowledge that is to be conveyed to the child is not all that is required on the part of the teacher. A teaching profession will be controlled by the same inexorable laws as hedge about the other professions. In advance of professional training there must be a scholarship foundation, adequate in extent, and sufficiently well laid to place individual teachers, not a few, but all of them on an equal footing, and in comfortable relations with ministers and physicians, and architects and engineers, and which will make sure that the mental equipment of the collective body is at no disadvantage in comparison with that of the entire

body of persons composing the other professions.

Experience and observation convince me that there is no other way of securing a qualified and devoted teaching force so effectively as by Normal Schools or pedagogical classes in the colleges and secondary schools. It would be absurd to say that such training is a condition precedent to all strong teaching, that one cannot gain the professional work and acquire the spirit of a true teacher, except in these professional schools. There are persons who are natural teachers. There are more who absorb the professional spirit easily from only the slightest contact with those who possess it. But these are

unfortunately few in comparison with the whole mass. The overwhelming number need a comprehensive and intelligently laid out course of instruction, and constant intercourse with trained teachers and with other students in a professional atmosphere. Experience, home reading, institutes, circles and lectures, serve to keep teachers at the front of educational activity, but for the purpose of making teachers they cannot take the place of a regular course in a professional training school for teachers, which is such not only in the name but as much in fact, as the medical and law and theological schools are professional training schools for those established professions.—*Educational Gazette.*

THE PSYCHOLOGY OF PERSONAL INFLUENCE.

BY SARAH CORBETT.

THE mysterious influence of mind upon mind is a subject of which we as yet know very little. Psychology, as at present studied, deals chiefly with mental action, considered apart from the living action of one mind upon another. This is why it is so difficult to carry out psychological theory in practical work. Mental growth takes place by the action and reaction between the mind and its environment, and the most important element in this environment is the living minds which it includes—or more correctly, that small portion of the living minds included in the environment, which are able, through laws of which we know little or nothing, to place themselves *en rapport* with the student.

It is true that no amount of mere knowledge will enable a teacher to put himself in touch with his pupils; but it will help him, when he *has* put

himself in touch with them, to make a better use of the situation.

Training for the teacher should do more than this. It should—and probably does already, where the conditions are favorable—throw some light on the main problem of how to acquire direct insight into mental processes, in order to influence them close at hand instead of from a distance.

We all know that a "word spoken in season" produces more effect than many hours of teaching which does not chance—we call it chance—to touch the right note. It is a very summary way of ignoring difficulties to call these things chance, as if mental processes and mental conditions were not regulated by law. If I see that a child wants bread, and I give him a piece, that is not chance, it is harmony between my perception and his need, produced by my wish to

help him, and his confidence that I shall do so. If I am absorbed in my own theory of what he ought to want, and give him a stone instead, then again it is not chance, it is discord produced by a disregard or ignorance of the laws of nature.

It often needs close attention to find out the mental needs of a child, since he frequently does not know them himself. But often the needs are disregarded when they lie on the surface.

"Please, Miss A., we didn't understand the grammar lesson last week; will you go over it again?"

"Oh, never mind; we must get through this piece."

This answer was really given in a school of good standing, and it is to be feared that the kind of teaching it implies is not at all uncommon. In the cases where teachers are honestly trying to find out the real needs of their pupils and to supply them, difficulties still remain, in the way of natural temperament, and these are not perhaps sufficiently considered in organizing classes in schools. Cases sometimes arise where children are permanently injured by being allowed to remain under teachers who, however well-meaning, are unable to supply their special intellectual needs—who praise when they should be silent, bring into prominence when they should ignore, discourage by blame or punishment some really healthy tendency—who, in short, are incapable of seeing what the child really requires.

Healthy development cannot go on without some amount of direct sympathetic insight on the part of the teacher. It is not only that the wrong words must not be spoken, but the teacher must learn how to make his influence felt by his mere presence. There is a force in character which underlies and is superior to all spoken words. And indeed, words are only

useful in so far as they correctly embody this subtle force. A teacher can never be successful who does not consciously or unconsciously develop this force in himself, and learn how to use it.

Children do not, of course, analyse the effect produced on them by the personality of the teacher. Even in the case of adults, with well-trained minds, a judgment made by that region of the mind which borders on the sub-conscious often presents itself to the fully conscious mind only in the form of a sense of harmony or discord. And this is still more the case with children or with uneducated persons. But the influence is felt, though not analysed, and produces its effect on the mind and character.

The most common error made by a teacher in trying to control a class is that he endeavors to suppress natural tendencies, instead of guiding and directing them. The influence of a teacher over a class should be of the same nature that a man should use in governing himself, and should act along natural lines, not set itself in opposition to natural law. It is not a good plan to sit on the safety valve of a steam-engine.

Another mistake which young teachers often make is *to try to get as much work out of the class as possible*. This forces the pupils, in self-defence, *to try to do as little work as possible*, and introduces that feeling of opposition between teacher and pupils which is one of the most objectionable elements in school life. Healthy and satisfactory intellectual work is never done where this feeling prevails, and it sows the seeds of selfishness in the pupils' minds, for it forces them, even when the tendency is not already there, to consider their own gratification rather than common ends. The child is in the position of a man who finds that he will be despoiled of his rightful possessions, his natural in-

heritance, and needful food, unless he fights to preserve them. He therefore fights, seeing no other way out of the difficulty; and the habit of fighting, once acquired, if often continued, even if he is placed in a position where it is no longer necessary. If the children were not at school forced into a position of antagonism there would be less self-seeking in later life.

The clue to the whole position is harmony of aim between teacher and pupils—the full realization on both sides of the fact that they are working for a common end; the substitution of a spirit of brotherhood for the spirit of competition.

A child of ordinary intelligence is perfectly capable of seeing the absurdity of trying to thwart a teacher who is endeavoring to help him. He does see this absurdity if he is convinced that the teacher is really trying to help him, and not working for the teacher's own private ends. But since the power is in the hands of the teacher, it is he who must strike the keynote of work for a common purpose. In order to do all this, sympathetic insight is necessary, and this includes much more than a simple wish to help. It includes also an intuitional perception of common needs

and of special needs—a habit of noticing tendencies and mental processes which lie below the surface.

The intuitional perception, then, of the mental needs of others is one of the most important qualifications for a teacher.

The born teacher is one who has this faculty naturally in a high state of development; but such natures are rare, and it is quite impossible to place all educational work in their hands. The faculty is latent in all, and may be developed by careful study, especially by the study of child's nature.

To develop it successfully it is necessary to look beneath the surface, to give one's attention to causes rather than effects, to find out the real meaning which lies beneath the outward form. It is especially necessary not to start with any hard and fast theory as to what children ought to be, but to study carefully what they are in fact.

Any one can, by careful study, put himself *en rapport* with child-nature, if he will take the trouble. But such study needs patience, the exercise of imagination, and a determination not to form hasty judgments of individual cases.—*London Journal of Education.*

DEMORALISATION IN BIRMINGHAM.

THE Nonconformist ministers of Birmingham are at last beginning to admit the fact that the educational theories which have been so strenuously propagated and practised in the capital of the Midlands for the last twenty years are very far from realising the high hopes that were founded upon them. Their attention has been directed to the failure of these theories by a number of very plain-spoken articles recently published in the columns of the *Birmingham*

Daily Post. According to the writer of these articles the amount of moral degradation existing among considerable sections of the juvenile population of Birmingham is almost beyond belief. The report just issued by a committee of Nonconformist ministers appointed to inquire into the validity of these terrible charges shows that the Birmingham newspaper has in no way overstated the case. "With regard to the specific offences which gave rise to this inquiry we are

forced," say the writers of the report, "to the conviction that they do exist in the city to an extent which is distressing to contemplate." The reporters then proceed to enter into details respecting juvenile vice and immorality, much of which we must leave unnamed. It appears that the favourite amusement of the youthful population of Birmingham is the low concert hall and drinking saloon. Crowds of young people are seen coming from these places using most vile and obscene language, and indulging in the grossest indecency. At night the streets are frequented by large numbers of little children who come out to beg. On one evening fifty children of this description were counted in the centre of the town alone, between eleven and twelve o'clock. According to the report the homes of many of these children are of the most shocking character.

Cases are frequent in which a man, woman, and four or five children sleep in one room, not infrequently in one bed, and sometimes on the floor without a bed at all, and it is by no means uncommon to find—beyond the number specified—that the lodger is added to the group. This overcrowding is not always the result of poverty, for in one case the man could earn 4*l.* a week, and in another 2*l.* 15*s.*, and in another 2*l.* 13*s.* 6*d.*

Such is the condition to which Birmingham has been reduced after more than twenty years of School Board education! And what are the remedies which the Nonconformist ministers propose? They have come to the conclusion that the terrible evils among the young around them must be met by establishing an additional industrial school for girls, by giving more definite moral teaching in the Board Schools, and by talking more plainly to the young in their Bible classes. It is our firm conviction that these remedial measures will not meet the necessities of the case. The Nonconformist

ministers of Birmingham must be perfectly well aware that the demoralised young men and women of the city will not go near their Bible classes; they must also know perfectly well that moral teaching inside the school will do little good unless it is sustained by moral influences and a moral atmosphere outside. The proposal to establish an additional industrial school for girls is excellent as far as it goes, but it has to be remembered that industrial institutions are precluded from dealing with children over fourteen years of age. It is after the age of fourteen has been passed that the mischievous effects of evil associations in childhood begin to manifest themselves, more especially in the case of girls. The establishment of an industrial school will, therefore, leave nine-tenths of the trouble untouched.

It is to be regretted that the Nonconformists of Birmingham do not as yet fully recognise the fact that the best method of grappling with juvenile depravity in our large cities consists in attaching the hearts of the children to some definite religious community. At present this paramount duty is neglected by vast numbers of parents in all our great manufacturing centres. These people attend no place of worship themselves; they are completely detached from all the religious institutions around them, and their children grow up outside the pale of any Christian community. As a result of this condition of things large masses of our city children immediately they leave school cease to come under the influence of any elevating agencies. In such circumstances it is not to be wondered at that a considerable proportion of them should quickly degenerate into vicious and criminal habits of life. In our villages and country districts public opinion exercises a wholesome check upon the conduct of the

population. Each person knows his neighbour; each person is an individuality in the little community. His ways and habits are observed and noted by his friends, and thus it comes to pass that the humblest inhabitant of our villages feels that he has a character to maintain. In our large cities, on the contrary, our working population do not feel that they have a character to maintain. A working man or a working girl is lost amid the vast multitudes around them. They constitute a solitary unit in a great struggling crowd; their lives are hidden from the world; no one pays the slightest attention to their conduct, and they very often end by paying no attention to it themselves. Obscurity and isolation and the want of a sustaining public opinion are the principal causes of the moral degradation of our towns.

The Church is the only agency capable of mitigating these evils. Immediately the toiler in our large cities attaches himself to a definite religious community he ceases to be isolated, and his conduct at once becomes a matter of importance to the Church to which he belongs. The elevating influences of Christian sympathy and Christian opinion act upon his character and sustain him in his efforts to do right. The most crying need of the present time in our large cities is the necessity of teaching the children in all our

schools to have some definite religious belief. But this is exactly what our present educational system forbids teachers to do. It is a Church, a home for the lonely, a centre of sympathy that these poor children need. Religious education must fail to win the children if the value of religious institutions is ignored. In fact, the present School Board system of religion without a Church is, in the very nature of things, unable to give the children any real help against temptation. We would entreat the Nonconformist ministers of Birmingham to abandon the discredited fetish of a Churchless religion if they really wish to ameliorate the moral condition of the young. The first step to take in this direction is to absorb the children of the poor in the religious organisations of the land. This absorption, if it is to be effective, must be commenced as soon as the child begins to go to school. It is a matter which cannot be left to the parents, inasmuch as multitudes of parents in our large cities have cut themselves adrift from every Christian communion. It is a task which must accordingly be undertaken by the school, and we have the fullest conviction that the time is near at hand when the Nonconformists of England will see the imperative necessity of intrusting this great duty to the teachers of our elementary schools throughout the land.—*The School Guardian.*

POWER OF THOUGHT ON LIFE.

THOUGHT is the inspiration and moulding power of life. The great enterprises, which have given men undying renown, were simply the carrying out in practice of some thought that had germinated in their brain. Every achievement must first exist in the form of thought. The statue of the sculptor, the picture of

the painter, the edifice of the architect and the poem of the poet, are simply realized thoughts. Brooklyn Bridge existed as an idea before it existed as an actual fact. The same is true of things achieved in the moral and religious world. Some form of thought or conviction has been the inspiring cause of all great deeds and

great reforms. Every crime also first exists in thought before it is an act. The thinker must not be regarded as an idle dreamer. Nothing is more fruitful of practical results than great living thoughts. Many lives are wasted by thoughtlessness. The unthinking are the unfruitful, whose lives are failures.

But the relation of thought to character is not less intimate than its relation to action. "As a man thinketh in his heart so is he." Because a mere profession of faith has no real power over the life, we should not conclude that our real beliefs do not powerfully affect our character. He that thinks of what is low, impure, or false, sinks to the level of his thoughts. He whose thoughts are of what is pure, noble, and true, is lifted up into the higher plane of his thoughts. Because this influence is often silent and unconscious, we are in danger of underestimating its moulding power.

So true is it that a man's life is moulded by his thoughts, that if you know what a man's thoughts are you can tell what kind of a man he is. While it is true that the thoughts affect the character, it is also true that the character of the man largely determines the character of his thoughts. "Out of the heart proceedeth evil thoughts." The mind naturally turns to the kind of thoughts that its moral or immoral tastes demand. We have a mysterious power to choose the subjects on which our minds shall dwell, and, therefore, we are responsible for our thoughts. It is a great mistake to think that God is concerned about our actions, but not about our thoughts. Not so. "Man looketh upon the outward appearance, but the Lord looketh upon the heart." It has been well said by a modern preacher: "God cares more for what we think than for what we do or say. He never deals

superficially with problems or persons. He sees that it is the secret thought, cherished in the heart, that shapes the life."

If this be true, then it is a great duty to think on the things that are pure and elevating. To dwell upon those truths that ennoble and sanctify. "Consider the apostle and high priest of our profession," is suggestive counsel. We should rise above the sordid thoughts that chain men down to what is earthly, and think on the great truths that relate to God, to duty, and to destiny. One great cause of the evils which prevail in the world, is that the thoughts of men are mainly occupied with things that are low, selfish, and degrading.

But, if it be true that the character takes tone and color from the thoughts that occupy the mind, it is still more certain that our actual beliefs about God, the character and work of Christ, and what God would have us to be and to do, determine our religious character and experience. To say, "It is no matter what a man thinks or believes, if he is sincere and lives a right life," is like saying, no matter how much poison a man takes, if he only sincerely believes it to be harmless. It has become quite common, even in orthodox circles, to say, no matter what you think about the inspiration, authorship, or authority of the Bible, so long as you accept Christ as your Saviour, and have the experience of his salvation. Those who talk in this way forget, that it is because Christians have believed the testimony of the Scriptures to the character and work of Christ, that they have accepted him as their Saviour, and experienced his saving power.—*The Christian Guardian.*

Every individual has a place to fill in the world, and is important in some respect, whether he chooses to be or not.—*Hawthorne.*

PRESERVING ORDER.

BY ANNA E. HILL, EL PASO, ILL.

IT may be well, in considering this subject, to define an orderly school. A school in which both teacher and pupil are quiet in their movements, courteous in their demeanor, obedient to all reasonable requirements, industrious in their habits, and harmonious in their relations to each other, may be said to be an orderly school.

These conditions may seem many, yet all are desirable; these conditions fulfilled, a pleasant and well ordered school is a certainty.

Before a thing may be preserved, it must needs be secured; just so with good order. How best to secure this desirable state of affairs depends largely upon the teacher in charge of the school. Whether the teacher will succeed or fail in securing and maintaining proper discipline, will depend upon his ability to govern wisely and well.

That order is an important, even an essential factor in school teaching, will be conceded by all thinking people; further, without good order in school, the best efforts of the teacher to instruct his pupils will fail of real success. If, then, good order be an essential of a good school, wise is the teacher who establishes and maintains the realization of his idea of order, in every school he attempts to teach.

The teacher's manner of conducting affairs in general, and himself in particular, during the first few days of the term, is of no little moment; and of, at this time, he fails to secure the respect of his pupils, to establish rightful authority, and to lay the foundation for true government, he fails for the term. A definite understanding between teacher and pupils in regard to their mutual relations and attitude toward each other should be

reached very soon after the beginning of the term.

If the teacher succeeds in convincing his pupils that he is more interested in them and their progress than in anything else, that he is there to help them to educate themselves, that self-control is of more consequence to them than arithmetic or history, and that by their efforts carefully to maintain order in school, they are developing something useful and good in their characters, he has done much toward creating and putting into operation a sentiment in favor of good order, which will not only aid him in the performance of his duties, but will make the school all but govern itself.

In defining a well ordered school, the requisites mentioned were quiet, courtesy, industry, obedience, and harmony. They are without exception conducive to the good of the governed, and all true government has this for its main purpose.

By quiet is not meant the awed stillness that reigns in certain schools where the teacher's pride and boast is that the ticking of the clock, or the dropping of a pin, may be heard at any time in his domain. The teacher who thus paralyzes the intellectual faculties of children by enforcing upon them a silence of fear defeats the purpose of his calling; instead of training the activities, he deadens them; he makes order an end rather than a means of education.

By quiet, is meant that state of silence essential for effective, thoughtful study; without it no instruction can be given.

A courteous demeanor toward each other, a consideration for the rights of others, should be practised. These may be indirectly secured by an exertion of the personal influence of the

teacher. He should show himself consistent by observing the requirements he expects his pupils to observe in this regard. His character, scholarship and conduct toward his pupils should be of such a kind as to awaken or implant a feeling of respect for him.

It is interesting that quickens and invigorates the mind, and makes study a never failing source of pleasure; it paves the way for habits of industry in school. The best way to have an orderly school is to have a busy school; to keep all pupils busily engaged with useful work adapted to their various capacities, and the only feasible way to do this is to arouse, stimulate, and maintain a lively interest in each branch of study they pursue. Whatever energy is spent by the teacher in preparing himself to interest his pupils in their school work

is well spent, and brings its reward both in the benefit derived by the pupil and in the knowledge and skill gained by the teacher. How much better it is to spend our energy in this manner than to waste it in corrective measures for disorderly pupils! The old adage, "an ounce of prevention is worth a pound of cure," is as true as old, and applies just here.

We are told that "the real object to be accomplished, the real end to be attained, in school is to assist in acquiring knowledge, to educate the mind and heart. To effect this, good order is very necessary. But when order is made to take the place of industry, and discipline the place of instruction, where the time of both teacher and pupil is spent watching each other, very little good will be accomplished."—*Ex.*

ON TEACHING ENGLISH.

ENGLISH is a study that the scholar is all the while pursuing—when he reads, listens, speaks; in communion with writers through their works or with speakers through the voice, addressed or addressing, he is or may be studying English. Besides; it is on all sides confessed that excellence in English is, in and for itself, supremely desirable. It is desirable as an accomplishment. The ability to express ourselves easily and gracefully in a style appropriate to the matter in hand, pat to all its changes, varying as these vary, is an acquisition to be coveted. One's English is already taken as the test and measure of his culture—he is known by the English he keeps. To mistake his words (even to mispronounce them or to speak them indistinctly), to huddle them as a mob into sentences, to trample on plain rules of grammar, to disregard the idioms

of the language—these things, all or severally, disclose the speaker's intellectual standing. One's English betrays his breeding, tells what society he frequents, and determines what doors are to open to him or be closed against him. The attaining of good English is a discipline, too, without superior, must I not say, without equal? What subtle distinction between words and what care in placing them are demanded to create a verbal body that shall fitly incarnate the thought within, and be its apt and adequate expression! What growth of judgment and of taste this constant search after a fit body to fit head develops! What added power of lucid and correct thinking a struggle for luminous and accurate expression gives! For not more certainly does clear thinking beget clear expression than does clear expression demand clear thinking as a condition prece-

dent. And what a troop of useful, everyday virtues this ceaseless striving to say the fitting thing fittingly nourishes—accuracy, truthfulness, painstaking, thoroughness, patience, justice!

If then a generous, and much more a masterful, command of English is so desirable, why is it so rare a possession? Is there any reason that accounts for this? A hearty appreciation of good English, an eager desire and an imperative demand for it—and the supply of it so scanty! What are the causes that defeat our reasonable expectations in this matter and turn us away disappointed and humiliated? And, in particular, why do our schools do so poorly the work in English expected of them? We have to deal largely with those who are not merely ignorant of good English but also have already acquired what one at times is sorely tempted to call incorrigibly bad English. The twig is bent, and the future tree all but hopelessly inclined, when the pupil first comes into our hands. Before we can sow and harrow in the seed of good English, we must dig out the stumps of ugly habits that pre-occupy the ground. Good habits of speech would grow there, and will, but only after the evil ones have been eradicated. And remember that, in starting under conditions so adverse, this study is almost unique. A pupil beginning arithmetic, geography, algebra, etc., has no misconceptions to be removed before just conceptions can take root. Respecting these studies, the soil of his mind is virgin—untilled it is true, but with no obstructing growths to be destroyed before it can be tilled. The teacher can thrust in his spade at the start and sow his seed at once.

I do not mean to say that, in thier English, boys and girls have all fallen into ways extremely bad. Some come

from families in which good English is spoken—few from families where the English is perfect. And what parental care can completely shield the child from the hurtful influences of the street? Slang, misuses of words, and vicious verbal collocations, constructions that kick the traces of grammar, and sentences with clauses misjoined and disjointed abound in the speech of some children more than in that of others, but are found with painful frequency in the speech of all.

Will my fellow teachers forgive me, if—making against them no charge that I do not make against myself—I say that another peculiar difficulty in our way is, that we are incapacitated for teaching English superlatively well by our own ignorance of English? I do not here refer to our lack of special training for the work—our not having thoroughly learned what there was to do, and our failure to equip ourselves adequately to do it. We are not to suppose, because we have corrected bales of compositions, taught grammar and rhetoric, and even written on them, that necessarily our English is above reproach. The widest reading of good authors and the greatest familiarity with their felicities are no guaranty that we speak always with correctness. Who of us has not, when occasionally he has seen himself in the mirror of someone else's better English, been startled at some instance of his own ignorance?—*Prof. Brainerd Kellogg, in the School Review.*

Happiness is made, not found.—*Quiver.*

“In teaching the different branches of study, teachers should recognise that the greatest success lies in teaching their pupils how successfully to use books.”—*S. M. Finger, Supt. Public Inst., N. C.*

THE PERSONALITY OF THE TEACHER.

BY SARAH CORBETT.

IT is true that no amount of mere knowledge will enable a teacher to put himself in touch with his pupils; but it will help him, when he *has* put himself in touch with them, to make a better use of the situation. Training for the teacher should throw some light on the main problem of how to acquire direct insight into mental processes, in order to influence them close at hand instead of from a distance. We all know that a "word spoken in season" produces more effect than many hours of teaching which does not chance—we call it chance—to touch the right note. Mental ailments, like bodily ailments, are produced by unwholesome food.

In the cases where teachers are honestly trying to find out the real needs of their pupils and to supply them, difficulties still remain, in the way of natural temperament, and these are not perhaps sufficiently considered in organizing classes in schools. Cases sometimes arise where children are permanently injured by being allowed to remain under teachers who, however well-meaning, are unable to supply their special intellectual needs—who praise when they should be silent, bring into prominence what they should ignore, discourage by blame of punishment some really healthy tendency—who, in short, are incapable of seeing what the child really requires.

Healthy development cannot go on without some amount of direct sympathetic insight on the part of the teacher. It is not only that the wrong words must not be spoken, but the teacher must learn how to make his influence felt by his mere presence. There is a force in character which underlies and is superior to all spoken

words. And, indeed, words are only useful in so far as they correctly embody this subtle force. A teacher can never be successful who does not consciously or unconsciously, develop this force in himself, and learn how to use it. It would seem, therefore, that an important element in the training of teachers is the awakening and cultivation of the will power and the sympathies. These are often expressed more by the tones of the voice than by the actual words. The inner nature expresses itself more fully by the tones of the voice than in any other outward way. When the character changes, the tones of the voice change also.

Children do not, of course, analyze the effect produced on them by the personality of the teacher. Even in the case of adults, with well-trained minds, a judgment made by that region of the mind which borders on the sub-conscious often presents itself to the fully conscious mind only in the form of a sense of harmony or discord. And this is still more the case with children or with uneducated persons. But the influence is felt though not analyzed, and produces its effect on the mind and character. The fully developed mind of an adult is, or ought to be, strong enough to gather to itself all the non-nourishment which its outward condition affords, and to refuse to be influenced by unfavorable conditions. But the mind of a child is not strong enough, or sufficiently experienced, to master and guide the mental influences to which it is exposed. Unfavorable mental influences may take permanent root in the character, and cause unhealthy conditions which cannot afterwards be removed.

The most common error made by a teacher in trying to control a class is that he endeavors to suppress natural tendencies, instead of guiding and directing them. The influence of a teacher over a class should be of the same nature that a man should use in governing himself. Human activities and emotions are natural forces, and can no more be destroyed than any of the physical forces. The will of man, however, can guide them in the right direction—can insist that they shall be creators, not destroyers. When a teacher arouses the interest of his class in some intellectual pursuit, by showing interest in it himself, and suggesting ways in which it is connected with the subjects in which the class is already interested, he directs so much energy, which would otherwise probably be expended in mischief, into a useful channel. Personal influence should always be expended in directing activity, not in endeavoring to suppress it.

Another mistake which young teachers often make is *to try to get as much work out of the class as possible*. This forces the pupils in self-defense, *to try to do as little work as possible*, and introduces that feeling of opposition between teacher and pupils which is one of the most objectionable elements in school life. If children were not at school forced into a position of antagonism there would be less self-seeking in later life.

The clue to the whole position is harmony of aim between teacher and pupils—the full realization on both sides of the fact that they are working for a common end; the substitution of the spirit of brotherhood for the spirit of competition. A teacher who has true sympathetic insight has the power of promptly grasping the manifold subtle mental influences which are at work at any given time and place, and of as promptly seeing the best way to deal with them. Where-

ever a number of human beings are together, there is always a certain amount of discord caused by the clashing of cross currents of inharmonious tendencies and desires. One who would lead his fellows successfully must learn how to weave these into harmony, to gain control of the nervous force that is flowing in wrong directions, and to direct it into the right channel. When the teacher is able to strike the right keynote, confidence on the part of the pupils in his willingness and ability to help them follows, and harmonious action is possible to a greater or less extent. Absolute harmony is never, of course, established, and is, perhaps, not desirable, for healthy natures can bear without injury a certain amount of discord, and will probably in the end give out richer music. But a constant succession of discords will put the healthiest nature out of tune. The intuitional perception, then, of the mental needs of others is one of the most important qualifications for a teacher. The born teacher is one who has this faculty naturally in a high state of development; but such natures are rare, and it is quite impossible to place all educational work in their hands. The faculty is latent in all, and may be developed by careful study, especially by the study of child-nature.

To develop it successfully it is necessary to look beneath the surface, to give one's attention to causes rather than effects, to find out the real meaning which lies beneath the outward form. It is specially necessary not to start with any hard and fast theory as to what children ought to be, but to study carefully what they are in fact.
—*The School Journal*.

There are two freedoms—the false, where a man is free to do what he likes; the true, where a man is free to do what he ought.—*Kingsley*.

SOME THINGS FOR TEACHERS TO NOTE.

BY A. C. SCAMMELL, SHERBORN, MASS.

FROM the great hearted kitchen fire, and the steaming breakfast table, the little braves of the farm-houses look out, not longingly into the bleakness outside; then, well-hooded, mittened, and legged, with noon-battered dinner-pail, pockets full of apples, and perhaps a " 'scuse to come home at afternoon recess," as a comforter, they trudge along over the rough mile road to school, sometimes one little brave alone, sometimes in twos or threes. What kind of reception do they find when they reach the school-house? Surely, they deserve one that will warm them through and through. Do they find the teacher waiting with her bright "good morning," and her pat home question, to warm their hearts, while she helps the little blue numb fingers to find the hidden pins and ties that only careful mammas know how to hide? In spite of grandpa's big woollen tippet, wound "round and round," Jack Frost will find a way to pinch the little pug noses, and make them look pugged yet, and snap the ears till they tingle. Is the teacher ready with her snow-water, her rubbing, or some other kind of mind cure, to help them quick, before the tears have time to start?

After they are thawed, and the school-bell rings, does she send them to their seats to freeze again? For these country school-houses, warmed only by woodfires, made late, are long in heating the room, and are not much better than the old-time fire-places in our homes. Why not let the children remain near the stove, until each pupil's seat is as comfortable as a place in their own homes would be? What if Johnny should nudge Maggie, and Tom steal his examples! La

Grippe might do worse things for them by and by, if she finds them shivering in the back seats, trying to be orderly. The mother watches her 14-year old-boy and girl, as anxiously as her 5-year-old, lest they go out without rubbers and sufficient wraps. Ought the teacher, the temporary mother, to be less watchful? During the noon intermission, in the excitement of the too hilarious plays that yet prevail in the district school, children rush out of the, by this time over-heated, school-room, unwrapped, into the frosty air; doubtless, the germs of many a disease might be traced to school imprudence, which a watchful teacher should have fore-stalled. And this leads to another question.

Ought the teacher of an isolated country school to remain at noon? A warm dinner, at a cheerful table is a help to her afternoon teaching, and is far more appetizing than a cold lunch, partaken of in the school-room odor, and under critical supervision of the children, who like to know what their teacher "carries;" but is not the restraining influence of her presence to be taken into account? Looking at the question from the health side only, do not thoughtless children need this restraining power? Yet another side:—many a mother dreads to send her little ones to school during the winter, unaccompanied by older brothers or sisters, lest some accident happen to them. During the skating, coasting, and snow-balling season, is this especially true. Then in a winter country school, there is always more or less bullying and badgering the weaker, by the older boys, if left to themselves. I have learned of children who had to

be driven to school, day by day, and who were made miserable, while there, because of this fear. The teacher may not always suspect this, as the offending ones are on their guard before her, and the abused children are too timid, or too fearful of being thought cowardly, to complain to her. The best thing that was said of a teacher just resigned, after a long and faithful service, was, that mothers never feared to send their delicate, nervous children to her, for she watched over them with the solicitude of a mother, taking care that they were not over-worked, or over-excited, and so inviting their confidence, that she knew every slight physical ailment, and could act with wisdom. Seldom would a pupil ask to be dismissed, on account of illness, for it was so comfortable to stay, be excused from study, and rest in the improvised bed that the teacher knew so well how to arrange on the settee, with the willingly loaned wraps of the scholars. A hot brick to the feet, a small dose of some thing, it mattered little what, and a very large dose of sympathy, usually put the patient to sleep, and worked a perfect cure, whether the ailment came from nerves, an indigestible breakfast, or was a childish freak. "Now what was the use of all that coddling?" Well, what was the harm

of it? It satisfied the parents; it will be a pleasant memory to the children but more than that, the danger of walking a long distance to their homes, in inclement weather, at a time when, being slightly indisposed, a severe cold, or epidemic will easily gain a foothold, is obviated.

Do teachers care, as they ought, for their pupils' lunches? Are they kept where they will be warm at noon, or are they left to freeze out in the cold entries? Are children allowed to eat nearly all of their dinner at morning recess, without a protest from the teacher? Who of us that were ever pupils of a country school do not remember the grand rush of the dinner-pails at recess, the quarter of pie, first, then the sections of cake possibly the plebeian bread and butter might rest until noon; how they disappeared in a twinkling, that no time be lost for play! And, alas! who does not remember the "aching void within," long before afternoon school closed. Times have not changed. The rules of hygiene need to be enforced nowhere more than in the ungraded school, where the long walks and vigorous plays, whet the appetite to access. The teacher in the country school, can never be too old, nor too wise, to learn yet more and more.—*School Journal, N. Y.*

NOTES FOR TEACHERS.

GEE VS. THE TORONTO PUBLIC SCHOOL BOARD.—This action was brought by a father and son claiming that the son had been refused admittance to a Public School in the City of Toronto. The child had been suffering from a swelling on the neck which was discharging offensive matter and which by the testimony given at the trial was pronounced to be tuberculosis of the glands of the neck

and a contagious disease. The Certificate obtained from Dr. Noble who had attended the boy was presented in October 1892 to the head master of the school and was in the following terms:

"The Gee children can attend school, nothing contagious."

On the refusal to admit to the school the action was brought. The defence set up was that the teachers

of Public Schools had a duty cast on them by Public School Act 54, V. c. 55 (Ont. 1891) S. 131 S. S. I. Public Health Act, Revised Statutes of Ontario 205 Sec. 94 to prevent a child attending school who is suffering from a contagious disease or where contagious disease exists in any house belonging to which are persons attending schools and are obliged to report the same to the Medical Health Officer forthwith. Under these acts a child sent away may not attend school until Medical evidence has been obtained from the Medical Health Officer or a legally qualified Medical Practitioner. This certificate must contain two things, first that infection no longer exists in the house and secondly that the person's house, clothing and other effects shall have been disinfected to the satisfaction of the person giving the Certificate.

Mr. Justice Rose in disposing of the case held that the Certificate given was not a Certificate within the meaning of the Act and that the plaintiff had put himself out of Court by calling legal evidence which went to shew that the disease was contagious. It was pointed out in the course of the trial that no general power seems to be vested in trustees to exclude a case which they may deem desirable to exclude or that they may pass regulations limiting in any way the right of children to attend school. There may be cases in which no contagion exists but where it would not be desirable that the child should attend school.

THE LORD CHANCELLOR ON STUDY.
—The *Lord Chancellor* (Lord Herschell), after distributing the prizes at the Birkbeck Institute on the 1st inst., said: A few years ago he was speaking to one of the most eminent physiologists of our country, who said: "Some thirty years ago, if I had said that I knew all that was known about

physiology, it would have been no vain boast. To-day I can only say that I know a single branch of it; with all the rest I can claim only a general, and not an intimate, acquaintance." One could hardly have more vividly brought before him the enormous additions that had been made to the store of knowledge in but a single branch. (Hear, hear.) The same remark applied in a greater or less degree to every department of science. The extent to which chemistry had become important in industrial and commercial concerns could not have been imagined forty or fifty years ago. If we turned to electricity, we lived in a new world. Fifty years ago how little men dreamed of the part which electricity would play in our every day life! (Hear, hear.) All this had its depressing side. That there was so much that could be learned made it depressing to think how little it was possible for any one person to know. (Hear, hear.) He feared that the tendency must be to become to a certain extent specialists. We could master only a very limited portion of the stock of knowledge, and no doubt many were somewhat perplexed as to the course they should pursue. Of course the decision must be regulated to some extent by opportunities and to some extent by taste. The question might arise: "Had I better devote myself to one particular subject or try to obtain some general idea of the field of human knowledge?" No one would ever regret learning something about as many subjects as they could. (Hear, hear.) If he might borrow an illustration from the natural world, they might get some general idea of the rivers, the mountains, and the seas of other countries and of the relations they bore one to another. He was sure that the amount of knowledge necessary to obtain this general survey of the relations of one department of

knowledge to another would repay the student. Whether the survey was extensive or whether it was minute, it should be qualified by thoroughness and accuracy. (Hear, hear.) It was possible to be thorough, while at the same time the student was conscious that it was not deep. Let them take care that their knowledge was orderly and systematic. He had known many learned men who could never get hold of any particular part of their vast knowledge when they wanted it. Their minds were like curiosity shops stored with articles that had no relation to each other, and that were of very little use to their possessor, or to anybody else. (Hear, hear.) To a certain extent this orderly systematised knowledge might be acquired. Some persons, no doubt, found it easier than others, just as some persons were tidy and others untidy in the ordinary affairs of life. There was a slovenly habit of thought as well as a slovenly habit of body, and while that slovenliness might be overcome in youth, it would, unless combated, become hopelessly incurable. (Hear, hear.) Having determined upon their studies, let them take every care that their knowledge was accurate, for it was infinitely better to know a little accurately than to know a great deal more inaccurately. (Hear, hear.) He was glad to see that so many of the students were studying the European languages. There was a time when we were so proud of our insular position that we resented an Englishman who could speak fluently any language but his own. This had operated to our disadvantage in commercial competition—(cheers)—for whereas travellers for foreign firms could speak the languages of the countries in which they travelled, English travellers had not been able to do so, and the heads of firms naturally preferred to do business with men who could make them-

selves intelligible in their own language.—*The School Guardian.*

ALUMINUM SHOES FOR HORSES.—Russia has tried experiments with aluminum shoes for cavalry horses. A few horses in the Finland dragoons were shod with one aluminum shoe and three iron shoes each, the former being on the fore foot in some cases and on the hind foot in others. The experiments lasted six weeks, and showed that the aluminum shoes lasted longer and preserved the foot better than the iron ones. *The School Journal.*

PARIS TO HAVE A BIG TELESCOPE.—It is proposed to construct the largest telescope ever known for the next Paris exposition, which will be held in 1900. The telescope is to be on the reflecting principle, a mirror instead of a lens being employed to converge the rays of light to a focus. This concave mirror will be made of silvered glass and will have the colossal diameter of nine feet ten inches. It will be mounted at the bottom of a big tube having a length of 132 feet, which is more than double the length of any existing telescope. The largest telescope hitherto made is the Rossé telescope at Birr castle, Ireland, which has a reflector six feet in diameter and a tube sixty feet long. The Lick telescope belongs to the refracting class, the lens having a diameter of three feet.—*The School Journal.*

THE PRIMA PHILOSOPHIA.—Surely, unless we believe in something more than science can give, our work can never be felt to be worthy of the best energies of our souls. Under this head I would place the history of education, of the ideas of great educators, and of the heroes and saints of our

profession, whose lives are a power now—specially the example of the Supreme Teacher, whose wonderful sympathy and insight, whose skill in correcting, and power to call forth all the good, through that insight, we learn to feel more and more. With Him we should ascend the Mount, and see humanity transfigured with a divine glory, as it is in God's ideal; then we shall descend with the power to contend with evil, with the confidence that success may be realized through seeming failure, with the faith that—

“There shall never be one lost good.”

And if you are so happy as to know some inspired teachers of to-day, cultivate their friendship. We older ones can remember such, most, alas, passed for us out of sight, some to whom have been given keys of the kingdom of heaven, who have opened for us a vision of space, or time, or quivering atoms, who have helped us to see what the poets and prophets of our race have to reveal, who have enabled us to trace, as Bunsen has said, the march of God through the ages. They have made the facts of Astronomy, Science, History, no longer dry and barren and isolated, but our souls have fed on the truth and prospered in the sunlight. The facts are far better retained, too, than before, because they fit into the whole, because we need them.

The ideal teacher cannot stop short of the *prima philosophia*, “the furthest end of knowledge,” as Bacon calls it, —and for us, it must surely be the education of man, of his true personality, his character, through the experiences of time, through joy and sorrow, through contest and defeat and victory. If we can do a very little towards opening the vistas of philosophic thought, the denying spirit, the spirit of darkness and death, will not long be able to shut up the soul in the prison-house.

The young teacher needs not only knowledge, but discipline, which we may describe as practice founded on principle; the law of duty must be learned not only as an intellectual but as a practical thing—in the exercise of punctuality, in painstaking preparation, in diligent correction of exercises; and he must learn to cast aside mean ambitions and the vulgar love of popularity.

And the teacher must never cease learning. We must ever keep our minds and hearts open towards the light, seek the true riches, and never permit any sham knowledge to win honour for our school.—*Dorothea Beale in the Journal of Education, (Eng.)*

PAPER.—The first paper of which mention is made was manufactured from papyrus at Alexandria, and was used by the nations living upon the shores of the Mediterranean. The art of making paper from fibrous matter reduced to a pulp by water is supposed to have been discovered by the Chinese about eighteen hundred years ago. The Saracens, it is thought, acquired the art of making cotton paper about the year 704. The oldest manuscript written upon paper of this kind is in the Bodleian collection of the British Museum, and bears date 1049. In 1085 paper was made of rags instead of raw cotton. A specimen of linen paper is found bearing date 1100. In 1390 a paper mill was established at Nuremburg by Ulman Stromer, operated by two rollers which set eighteen stampers in motion. The first paper mill in America was established by William Rittinghuysen and William Bradford on a small stream called Paper Mill Run near Philadelphia. The second 1710 at Germantown, Pa. In 1719 a paper mill was built upon Chester Creek, Pa. The first paper mill in Massachusetts was

built at Milton in 1730. At the beginning of the Revolution there was three small mills in Massachusetts and one in Rhode Island. Now large quantities of paper are made in this country and exported to England, Ireland, Australia, Mexico and the West Indies.

UNIVERSITY OF TORONTO.—The following schedule gives the number of arts' students in University College in the various years, and other interesting matter relative to Toronto University and Victoria Colleges:

MAT.	NON. MAT.	OC.	TOTAL.
4th year, 104	..	7	111
3rd year, 137	..	21	158
2nd year, 180	20	14	214
1st year, 151	62	17	230
572	82	59	713

	T. Univ.	Vic.	U. Coll.
Res. of Ontario,	816	121	695
“ other Provinces,	9	..	9
“ other Countries,	9	..	9
	834	121	713
	T. Univ.	Vic.	U. Coll.
Presbyterian....	310	1	309
Methodist.....	307	114	193
Anglican.....	123	2	121
Baptist	41	..	41
Roman Cathol c.	17	..	17
Congregational .	7	1	6
Disciples.....	8	..	8
Jews	2	..	2
Lutheran.....	1	1	..
Unitarian	1	..	1
Evangelical Asso	2	1	1
Unknown	15	1	14
	834	121	713

Heaven doth with us as we with torches do, not light them for themselves.—*Measure for Measure, i, i.*

PUBLIC OPINION.

MENTAL GROWTH.—The true means of intellectual and moral growth is then vigorous effort towards a definite end. A clear aim and an earnest purpose must go hand in hand. A certain half-truth current now-a-days declares that “we learn to do by doing,” and there is an old maxim which says that practice makes perfect. But it depends on the kind of practice whether it makes perfect or not. We do not always learn to do by doing. You have seen pages of school-boys' copy books where every line grew poorer from the top to the bottom of the page. Sometimes practice results in listlessness, sometimes in celerity rather than in good work. There are men whose business requires them to sign their names so often and so rapidly that their signatures are almost illegible. We find many persons who have done one thing so long that they do it poorly.

They take little interest in their work and it becomes a dull routine. Mere repetition makes men mechanical rather than skillful. The element of interest, clear apprehension and eager purpose is also necessary. Practice makes perfect when there is a definite aim. We must clearly apprehend the exact thing to be done; we must muster our energies to do it most effectually. Did you ever watch the pitcher in a base ball game! How his eye guides his hand as he sends the ball spinning past the bat? A good pitcher illustrates the kind of practice which makes perfect. The intellect and the will must unite in vigorous action if we are to learn to do by doing.

Have you a lesson or a class exercise to prepare? Set before yourselves the highest standard; be content with no slovenly work. Bring all the energies of your mind to the pre-

paration. Train your faculties to respond to your demands upon them as the pitcher trains his muscles. Do not allow yourselves to spend two hours upon what should be done in forty minutes. Permit no interruption, no wandering thoughts. Learn to concentrate all your powers and compel them to act every time with their utmost vigor. This is the secret of growth.—*President Bradley in the Public School Journal.*

TIPS.—Referring to the remarks we made last week on Professor Mahaffy's article on 'Sham Education,' a head-master writes to us as follows: 'I most emphatically endorse every word said by both writers. If either article errs it is on the side of leniency. The Education Act of 1872, with its everchanging code of requirements, is

gradually but surely driving honest education out of the country. It tends to the destruction of individuality in teacher and pupil. It puts a premium on duncedom, while the scholar of parts is at a discount. Look at the number of "tip" books in the market.—Tips in Arithmetic, Wrinkles in Algebra, &c., &c.' Our correspondent continues: 'It was a good saying of the late Dr. Robertson, Head master of Warrender Park School, Edinburgh—"I have only one examination tip," he was fond of saying, "that of making the boys *understand* their work." The arithmetic in code schools is put on in slices, this year's slice presenting to the pupil apparently no point of contact with that of the year preceding. God bless the code makers—they are merry men.'—*The Publishers' Circular.*

GEOGRAPHY.

A WEST INDIAN PICTURE.—I. The West India Islands extend from the peninsula of Florida to the mouth of the Orinoco and are divided into three groups—the Bahamas, the Greater Antilles, and the Lesser Antilles. The Greater Antilles include Cuba, Hayti, Port Rico, and Jamaica. The Bahamas, Jamaica, and most of the Lesser Antilles belong to England. Of the remainder of the Lesser Antilles, St. John, St. Thomas, and Santa Cruz belong to Denmark; St. Bartholomew, Guadaloupe, and Martinique to France; and Curaco and two adjacent islands on the coast of Venezuela to the Dutch.

2, Cuba, the largest island belongs to Spain. Its length from east to west is 750 miles, and its area is 43,000 square miles. A range of mountains runs through the length of the island, and in its eastern portions

attains an elevation of nearly 8000 feet. Copper is very abundant, and gold, silver, and iron are also met with. The population is about 1,500,000. The chief exports are sugar, coffee, and tobacco, along with mahogany, cedar, and other timber. Havana, the capital, possesses a fine harbour, and is by far the most important town in the West Indies; the population is 200,000.

DIAMONDS.—Diamond merchants in Hatton-garden, London, buy up the rough diamonds from the Cape, India, Brazil, and Australia. The earliest known diamonds came from India, and it is said that the history of the Koh-i-noor may be traced back for 5000 years, for it is mentioned in the songs of the Vedas. Nearly all

the celebrated crown jewels of Europe have been derived from India. The Deccan mines were practically closed at the beginning of the last century, when the Brazilian mines were opened.

In their turn the Brazilian stones have been largely displaced by those from Kimberley which furnishes four-fifths of the diamonds annually supplied to the world. Australian diamonds are not numerous in the market. They are noted for excessive hardness, which renders polishing very difficult; but they are admirably suited for dressing stones, rock drills, and a variety of mechanical purposes.

Diamonds differ very greatly in size, colour, and shape. They vary from a pin's head to a stone of $428\frac{1}{2}$ carats in the rough—the largest ever found in South Africa. It was cut, losing 200 carats in the process, and exhibited at the Paris exhibition in 1889. A native tried to take it from the mine, but his brother informed upon him. It measured $1\frac{3}{8}$ inches through the longest axis, and $1\frac{1}{2}$ inch square. The diamond occurs in all shades of colour, from deep yellow, which are high-priced, to straw yellow, which are of low value, and there are stones of deep and light browns, green, blue, pink, orange, blue-white, pure white, and opaque.

After the diamonds are received in the rough they are cut and polished, principally in Amsterdam. The industry is also carried on largely at Antwerp, and is extending to Paris, Switzerland, and America. It is practised in London also. The world now purchases about £5,000,000 worth per annum, of which it is estimated America takes about £3,000,000—*The School Newspaper*.

THE SWISS WATCHMAKING INDUSTRY.—According to the latest report from the British Legation in Berne, the Swiss watchmaking in-

dustry is assured a long period of stability by the commercial treaties concluded with Germany, Austria-Hungary, and Italy, while the exports to the Danubian States, British India, and Australia are steadily increasing. The recent creation of commercial schools in several of the watchmaking centres is regarded with much satisfaction by the trade as likely to complete the work already done by the technical schools in which watchmaking is taught. The combined instruction of these two classes of schools will train a set of men fitted by their technical and commercial education, and by their knowledge of languages, to represent the great export houses abroad, and to dispose of their goods directly in the best markets. The smaller and less important houses which cannot afford to have a representative of their own will probably combine together to appoint one to represent their common interests. Many of the disadvantages of the present system, such as the excessive profits of middlemen, will thus, it is hoped, be done away with while manufacturers will be enabled to ascertain with more ease and greater accuracy than at present the real demands of foreign markets. Good results are also expected from a law recently passed in the canton of Neuchatel on the subject of apprenticeship, by which apprentices are placed under the supervision of competent authorities, delegated for that purpose by the communes, who are to see that all receive thorough instruction in their adopted callings, while the technical knowledge and professional aptitude of the apprentices are to be ultimately tested by an examination.—*The Financial Standard and Imperial Post (Eng.)*

Every man has in himself a continent of undiscovered character; happy is he who acts the Columbus to his own soul.

EDITORIAL NOTES.

A SUGGESTION.

TO make the study of history fruitful to the pupil, we suggest to the teachers of history to follow two lines of thought. First, to study the biographies of the leading men of the age, and secondly the history and practical workings of our civic institutions. The development of our civic institutions is most helpful to the teacher in enlisting the active co-operation of the pupils in the study of the history of their own country. Any teacher who will direct the attention of his classes to the practical workings of our township and county councils, to our provincial and Dominion parliaments and especially to the British North America Act will confer a lasting favour on, we will not say, his pupils, but on his country. A knowledge of civics is a good preparation for the duties of citizenship. Our country is rich in the slow and historic development of its governmental institutions.

FREE EDUCATION.

WHAT is free education? The answer given to this question was, that the child could attend school without paying fees or a rate bill. All the expenses of keeping the school open; that is the teachers' salary etc. etc, were provided for in the annual amount of taxes each rate payer had to pay. Each taxpayer, rich or poor, childless or otherwise has to pay according to the amount of property, he may happen to have. We all know how difficult it was to get all the taxpayers to agree to this levelling measure.

Is this free education? The answer comes from several quarters: No. Some claim, that in order that educa-

tion may be free, we must provide text-books for the pupils. All the books a child requires for school purposes must be provided by the taxpayers; for, otherwise, the child without the proper books will not be in a fair position to compete with the child provided with all the books; and moreover, the pupils all having the school requisites will make more uniform progress—at least, if all the pupils do not advance equally, it will not be for want of proper books. Well, we now have all the children attending school provided with text-books and the cost of such provision charged in the annual tax-bill: Have we free education now? The answer is not slow in coming: No. One parent says, by way of answer: My child is poorly clad; that is, not so well clad as some one else's child. And another says My child is hungry, only gets one meal a day, while yours gets three good meals each day. The contest is not fair as between such children. Evidently, it is not fair. As we see things, in what community can you find the race of life fair?

Then does free education mean, that the tax-payer is to provide free tuition, food, clothing for all the children attending our public, or state schools? This is the latest development of the modern free education theory—In Ancient Greece, there were states which took charge of all the children and educated them at the expense of the public. We all know how this was done and what a complete failure the result was. But to our thinking, the ancients were more logical than the moderns in this matter, for they began at the beginning of life and took charge of the conditions of marriage, as well as the conditions of governing the child after birth.

Is the final outcome of Christian

civilization going to be the same as that of heathen civilization? If not why not? English people have a factor in their civilization which the Greeks and Romans had not in theirs. We freely and most thankfully acknowledge this great truth. But we must ask the question, are the thrifty, the industrious, the thoughtful people to be compelled to feed, clothe, and educate the children of the thoughtless, the reckless and the lazy people of a community? This is the serious question with respect to the large cities, that is forcing itself upon the attention of the thoughtful people of Great Britain and the United States of America. It does not press us yet very much in Canada but it is present in Quebec, Montreal and Toronto. What are we going to do with it? Will Great Britain deal with this most difficult problem as Ancient Greece did?

IMPROMPTU.

Teacher of teachers! Yours the task,
Noblest that noble minds can ask,
High up Aonia's murmurous mount,
To watch, to guard the sacred fount
That feeds the streams below,
To guide the hurrying flood that fills
A thousand silvery rippling rills
In ever-widen'g flow.

Rich is the harvest from the fields
That bounteous Nature kindly yields,
But fairer growths enrich the soil
Ploughed deep by thought's unwearied toil
In Learning's broad domain,
And where the leaves, the flowers, the fruits,
Without your watering at the roots,
To fill each branching vein?

Welcome! the Author's firmest friends,
Your voice the surest Godspeed lends.
Of you the growing mind demands
The patient care, the guiding hands,
Through all the mists of morn.
And knowing well the future's need,
Your prescient wisdom sows the seed
To flower in years unborn.

Oliver Wendell Holmes

SCHOOL WORK.

PROMOTION AND REVIEW EXAMINATIONS.

EAST MIDDLESEX.

Spelling.

Value, 50 marks; for every error in spelling deduct 3 marks; in capitals and apostrophes, 2; in punctuation 1. Dictate the punctuation marks.

1. In Holland mothers scream to their children not to swing on the garden gate for fear they may be drowned.

2. The otter resembles land animals in shape, hair, and general conformation. It is found in tropical islands and on the bleak coasts of Alaska and Siberia.

3. His pine trees whisper "Trust and wait!"

His flowers are prophesying
That all we dread of change or fate
His love is underlying.

4. The ruby-throat alights on a twig near by and awaits the result of your unwelcome visit in a state of despair.

5. The conjecture of the experienced old seaman proved true for in a few minutes the huge animal fell on the sea with a turbulence equal to that of a launching of a vessel into its proper element.

6. We study grammar, geography, composition, arithmetic, and writing.

7. Thames, St. Lawrence, Dominion of Canada, United States of America, Christmas Day, New-Year's-Day.

Geography—Time $2\frac{1}{4}$ hours.

LIMIT OF WORK.—Definitions continued first, accurate knowledge, then the memorizing of the definition. The great countries large cities and most prominent physical features on the Map of the World. Maps of the county, of the Province of Ontario, of Canada and America. Map drawing

Motions of the earth, season, zones.

Written answers to be awarded full value, must be correctly spelled, and, if not tabulated must be in complete, correct sentences.

1. Draw a full page map of Canada; [10]

Mark off and name the Provinces and Capitals; [14]

Mark the oceans, country, lakes and rivers on the boundary; [10]

Mark two islands and two gulfs. [4]

2. State briefly the chief occupation of the people of each province. [14]

3. Name four important independent railways running easterly and westerly through Canadian territory, and tell the situation of two important stations on each. [12]

4. Tell (a) the exact situation and (b) for what each of the following is noted:

San Francisco, Yokohama, Cape of Good Hope, Suez Canal, Alps, St. Petersburg, Gibraltar, Liverpool, Panama and Amazon.

5. Of Canadian productions used:

(a) as *food* name one mineral and nine plants;

(b) as *clothing* name one plant and five animals;

(c) as *building material* name four plants (trees) and four minerals. [18]

6. If the earth did not revolve on its axis how long would the day and night each be? [4]

Maximum 106; count 100 marks a full paper; 33 minimum to pass.

Composition—Time, 2 hours

LIMIT OF WORK.—Capitals continued: punctuation marks: ; , : . ? ! " ' . Composition based on object lessons, pictures, local events, relation of stories, subject matter of reading lessons. Familiar letter writing. Simple business forms, such as accounts, promissory notes and receipts. Exercises to train in the correct uses of apostrophes, and of common words and phrases that are liable to be misused, such as: older and elder, healthy and wholesome, "there is" and "there are."

Insist on neat, legible writing, and complete sentences. One mark off for every mistake in spelling.

1. Copy the following sentences, putting

fall, stop, can, raise, fell, stay, rise, may in the appropriate blanks: [9]

Mr. B.—"Charlie, if your ankle is not too lame,——you——off your lounje and help me to——this window?" Charles—"Yes, sir, and then——I——there to watch the man——hat tree?"

2. Put *shall, will, should, would* in the appropriate blanks.

—— you lend me your pencil? Yes, I ——with pleasure. I——think you ——like to write with this pencil. I ——get one of this kind if I can. (7)

3. Write the story from the following suggestions:

Sat., 8 a.m.—Willie in bed—sister say, breakfast ready,—Willie rolls over but does not get up. 9.00 a.m. he gets up—looks out—mother and the others except the oldest sister driving off in a carriage—Willie disappointed—cries—learns a useful lesson. (20)

4. Answer this letter as tho' you were Alice Brown, stating that the relic is lost or mislaid and that you cannot spare a week from school.

SARNIA, 9 h Nov., 1892.

To Miss Allie Brown.

Ingersoll, Ont.

My dear Cousin,

Mother has invited some of my girl friends who live near here to my birthday party on the 23 inst. She wishes me to invite you to come too and stay a week.

Please bring that Indian relic you found in the woods to show the girls.

Your affectionate Cousin,

Olive Clark. (24)

5. Albert Carter, St. Thomas, gave a promissory note at six months for seventy dollars in payment of a horse bought of Charles Craddock. Write the note. (12)

6. Write a composition of five or six lines on the thought of this stanza:

Beautiful faces are they that wear
The light of a pleasant spirit there;
It matters little if dark or fair. (12)

7. Write a composition containing just two paragraphs, each containing two or more sentences on one of these two subjects, The Fall Fair or Birds.

Maximum 108; count 100 a full paper; 33 minimum to pass.

TRIGONOMETRY. (1892)

SENIOR LEAVING

SOLVED BY MISS EMMA MORGAN, Student Hamilton Collegiate Institute.

1. (a) Birchard's Trigonometry, "The Trigonometrical Angle," articles 12, 18, 20.

(b) "Measurement of Angles," articles 25, 26, and 36, 37, 38.

(c) Let a be the length of arc which subtends angle at the centre of 2.5 radians.

Whole angle at centre is 2π radians

$$\therefore \frac{a}{c} = \frac{2.5}{2\pi}$$

where c = circumference of circle

$$\begin{aligned} \therefore c &= 2\pi r \\ &= 8\pi \end{aligned}$$

$$\frac{a}{8\pi} = \frac{2.5}{2\pi}$$

$$\frac{a}{4} = 2.5$$

$$\therefore a = 10 \text{ ft. Ans.}$$

Let b be the length of arc which subtends an angle at the centre of 70° .

$$\therefore \frac{b}{8\pi} = \frac{70}{360}$$

$$\therefore b = 4\frac{8}{9} \text{ ft. Ans.}$$

2. (a) Birchard's Trigonometry, chap. 3, art. 43.

Prove, $\sec A + \sin^2 A + \cot^2 A = \operatorname{cosec}^2 A + \cos^2 A (\sec^2 A - 1)$

$\sec A + \sin^2 A + \cot^2 A - \operatorname{cosec}^2 A - \cos^2 A (\sec^2 A - 1) =$

$$\sec A + \sin^2 A + \frac{\cos^2 A}{\sin^2 A} - \frac{1}{\sin^2 A} - \frac{\cos^2 A}{\cos^2 A} + \cos^2 A =$$

$$\sec A + \sin^2 A + \cos^2 A + \frac{\cos^2 A - 1}{\sin^2 A} - \cos^2 A =$$

$$1 - \frac{\sin^2 A}{\sin^2 A} =$$

$$1 - 1 = 0$$

$$\therefore \sec A + \sin^2 A + \cot^2 A - \operatorname{cosec}^2 A - \cos^2 A (\sec^2 A - 1) = 0$$

$$\therefore \sec A + \sin^2 A + \cot^2 A = \operatorname{cosec}^2 A + \cos^2 A (\sec^2 A - 1)$$

(b) Take your two axes at right angles to one another.

On X -axis mark off OL containing 13 units; on Y -axis mark off OM containing 5 units. With O as centre and OL as distance describe a circle. Through M draw NP parallel to SQR , meeting circumference at N and P , join OP , ON , draw PR and NS perpendicular to SR .

$\angle ROP$ and $\angle RON$ are the angles having sin

$$\frac{5}{13}$$

2. (b) Because $OM = RP = NS = 5$ units, and $OL = OP = ON = 13$ units

$$\sin ROP = \frac{RP}{OP} = \frac{5}{13}$$

$$\sin RON = \frac{NS}{ON} = \frac{5}{13}$$

$\therefore ROP, RON$ are the angles of which the sine is $\frac{5}{13}$

First take \angle to be $\angle ROP$.

$$OR^2 = OP^2 - RP^2$$

$$= 13^2 - 5^2$$

$$= 144$$

$$\therefore OR = 12$$

$$\sin(90^\circ + d) = \cos d = \frac{12}{13}$$

$$\cos(90^\circ + d) = -\sin d = -\frac{5}{13} \text{ etc.}$$

$$\sin(180^\circ - d) = \sin d = \frac{5}{13}$$

$$\cos(180^\circ - d) = -\cos d = -\frac{12}{13} \text{ etc.}$$

Next take d to be $\angle RON$.

The $\triangle OSN$ is geometrically equal in all respects to $\triangle OLP$; but trigonometrically $OR = -OS$.

$$\text{But } OR = -12.$$

$$\therefore OS = -12$$

CONTEMPORARY LITERATURE.

Scribner's Magazine for March contains a notable article in "Audubon's Story of his Youth." The illustrations include several interesting portraits of the great naturalist. Mrs. Burnett's charming auto-biography deals rather morbidly with death in this number. One of the most striking features of the issue is a short story by T. R. Sullivan entitled "The Man in Red" which tells of the French Court of Louis the unfortunate. "The Jaffa and Jerusalem Railway" and "The work of the Andover House in Boston" are among the most interesting articles contributed.

The April *Popular Science Monthly* will contain as opening article an address by David Starr Jordan on "Science and the Colleges." Mr. Herbert Spencer will expose some fallacies connected with the theory of natural selection. Prof. G. F. Wright and his critics, is a defence of Prof. Wright's recent book by Prof. E. W. Claypole. The problem of the education of the colored people is dealt with by Mrs. M. W. Goodwin.

"Reminiscences of Edinburgh Society nearly Fifty Years Ago" is a delightful paper by Lady Eastlake in *Littell's Living Age* of March 4th. A short story rather gruesome in subject is "Caulfields Crime" from Belgravia. "At School in France" is an extremely readable article originally published in *All the Year Round*.

The second prize serial story, "Armajo" in the *Youth's Companion* is nearing the end, the interest is fully sustained throughout. There is an entertaining article on House-keeping in Jamaica by Annie Mauville Fenn and one which will be eagerly read on London Omnibuses by Charles Dickens, Jr. Short and ringing are the verses of poetry which are scattered through the wide page of this feast for young people. The most notable subject of the March *Review of Reviews* is Phillips Brooks. Archdeacon Farrar contributes an English Estimate and

Tribute and Charles F. Thwing speaks of his power as a preacher. With wonderful conciseness and skill the contents of the magazines of the world are summarised. Merely to glance through the pages of this magazine, noting the portraits, gives one an idea of the events of the day.

The March *Overland* is a Hawaiian number, no less than four articles being connected with this subject. The short stories and articles illustrate happily the beautiful climate and productions of the western coast.

"The Stone Rolled Away" by the Lord Bishop of Otago is the opening article in the April *Quiver*. A new serial story by Edith Lister, author of "On Stronger Wing," is begun in this number. There are a number of short interesting sketches and stories, one of which "A Day with A. K. H. B." specially deserves mention.

The *Canadian Magazine* for April opens what we trust will be a long and successful career. There are many promising features about the new magazine, contributions are promised from men who are making the country and the names of the men who form the company ensure honourable dealing. D'Alton McCarthy, Prof. Grant, Prof. Clark, W. W. Campbell and Pauline Johnson are among those who contributed articles and poems to this number.

Worthington's Magazine is a young and vigorous Monthly published in Hartford, Conn. The March number contains a long and fully illustrated article on "The Chicago Woman's Club," "A Study of Phillip Brooks" by Miss L. Whiting, a friend of the late Bishop and the third paper in an interesting series on "O'le Virginny" by Mrs. Livermore. There are many short stories and poems in the number besides various departments interesting to readers.

Another of the many Japanese articles which are appearing now is published in the

March *Dominion Illustrated*. It is on "Japanese Actors and Dancing Girls" and is by Helen Gregory Flesher. "Elsie Lee," "Le Violon" and "Only one Wins" are the short stories of the number. Athletics receive considerable attention in the different articles.

BOOKS RECEIVED.

"Classics for Children," "Chesterfield's Letters." Boston: Ginn & Co.

Heath's *Modern Language Series*. (1) "Andersen's Märchen." Edited by Prof. Saper, 90c. (2) "Legouvé and Labichés La Ciga'e chez les Fourmis." Edited by W. H. Withering, M.A. (3) "Loti's Pêcheur d' Plande." Edited by R. J. Morich, Boston: D. C. Heath & Co.

"Logarithmic Tables" by Prof. Jones of Cornell. Fourth Edition. London: Macmillan & Co.

We have received from Messrs. Ginn & Co. of Boston, a *Greek English Word List*, containing about one thousand of the most important Greek words, carefully arranged. This very convenient vocabulary is the work of Professor Baird, of the North Western University. The typography is beautiful. From the same firm comes a hand-book on Mensuration intended for use with modern books on Trigonometry. It is designed for students in Colleges and Schools and contains a large number of good examples, to which answers are given. The author is Prof. Hall, C. E., of Lafayette College.

Messrs. Moffat & Paige have issued a volume of Examination Papers for Clerks, collected and arranged by J. F. Davis M.A., Asst. Examiner in the University of London.

Messrs. Ginn and Company have just issued the initial number of a Series to be called "The Ethical Series," each volume of which is to present a leading System in the History of Modern Ethics. This volume presents Hume's Ethics, and it is to be fol-

lowed by volumes on Hobbes, by Prof. Duncan, of Yale; Clarke, by Prof. Patton, of Princeton; Locke, by Prof. Sneath, of Queen's; Hegel by Prof. Sterrett, of Columbian University. These books are intended for the use of undergraduates, and the Series promises to be both useful and important.

Heath's English Classics. "Select Speeches of Daniel Webster," edited by Prof. George. These speeches of the great American orator make a volume that is neither insignificant nor uninteresting to the student of history and literature. The Editorial work is, of course, well done.

Messrs. D. C. Heath & Co., Boston, have added two more numbers to their excellent *Modern Language Series*, viz:—"Schiller's Der Neffe als Onkel," 30c. and "Jules Verne's L'Expédition de la Jeune-Hardil," 25c. Everything required for a student's work is given in these texts. The former is entitled by Mr. Beresford Webb, and the latter by W. S. Lyon, M.A.

The Rev. W. V. Faussett, M.A., Head Master of Ripon Grammar School, has edited for the *Clarendon Press Series*. "Cicero, Orationes Cæsariaræ. Pro Marcello, Pro Ligario, Pro Rege Deiotaro." This edition is designed for use in the upper forms of schools, and the Editor has availed himself of recent German texts. The notes are exceedingly satisfactory—brief, clear, and scholarly. The edition, like all work from the *Clarendon Press* is very good. (Oxford: At the *Clarendon Press*)

One of the signs of national spirit, is the increased attention paid to the work of Canadian writers. We have received from William Briggs, Toronto. *This Canada of Ours and other Poems*, by J. D. Edgar M.P. Mr. Edgar's verse is pleasing in expression and good in sentiment.

As You Like It, has recently been issued by Messrs. Moffat & Paige, (London) in the same series as *Macbeth*, *Hamlet*, etc. We observe in this number the same excellent features as in the others. For those who

are studying alone, or for teachers these Editions must be exceedingly useful—perhaps the notes are a little too exhaustive and complete for class work. Many interesting notes and opinions are quoted from actors and critics.

Prof. Woodrow Wilson of Princeton, author of the valuable treatise on "The State" which we reviewed some years ago, on its first appearance, contributes *Division and Reunion, 1829—1889* to Messrs. Longmans *Epochs of American History*. As might be expected, the book is full of information, which must have been collected and sifted patiently and laboriously. The writer has treated his subject in what appears to us an adequate and spirited way, but he does not point out difficulties and dangers, as one who is writing for citizens should. However, we do not wish to make adverse criticisms on a history that is, in the main so accurate, impartial, and scholarly.

The *Victorian Poets*, by Edmund Clarence Stedman, Revised Edition, Boston: Houghton, Mifflin & Co. A critic with a brain, a heart and a conscience is no such everyday sight that one is in danger of forgetting his name or his book and Mr. Stedman's "Victorian Poets" is a book which one is much the better of having. This is, indeed, the Thirteenth Edition, and it has been enlarged by a supplementary chapter, which brings us to the Jubilee year. Minor matters have been corrected—few corrections were necessary—and the author remarks on some others in a preface which is too interesting to be unrecd. Such studies of literary art and achievement could not be written except by one who possessed rare gifts and skill of different kinds. It is an honest book, impartial, comprehensive and thorough, written from a poet's heart.

We have received through the courtesy of the Publishers, Messrs. A. & C. Black, of Edinburgh and London, the numbers so far issued of the "Guild and Bible Class Text Books," edited by the Rt. Rev. A. H. Charteris, D. D. and the Rev. J. A. M'Clymont, B. D. These are: 1. "The Church of Scotland, Eighth thousand." By Rev.

M'Adam Muir. 2. "Handbook of Christian Evidences." By Rev. A. Stewart, D.D. 3. "The New Testament and its Writers." By Rev. J. A. M'Clymont. 4. "Life and Conduct." By Rev. J. Cameron Lees. Each of these manuals contains a hundred pages or more. They are written by men who are among the foremost of the Church of Scotland's ministers and we do not know of any hand-books accessible to all (the price is only 6d.) on these important subjects that could well be compared with them. Mr. McAdam Muir's book, the first issued, was at once received with that cordiality which the writer's gifts and devotion as well as the importance of his subject, truly deserved. This is the 8th thousand.

"The New Testament and Its Writers" is a model of what such a book ought to be—clear, admirably condensed, thorough and effective. The spirit of these four little books, the beauty and value of their contents will commend them to all who see or hear of them. We hope they will be largely circulated in Canada. Principal Grant of Queen's is to write the next "The Religions of the World."

A POST-CARD

To the Editor of THE EDUCATIONAL MONTHLY:

DEAR SIR,—I sent you a postal card a few weeks ago to stop your magazine to my address. I am sorry I did so.

The last number was such an excellent one it has encouraged me to continue.

I shall remit the amount through the Teachers' Association. Yours &c.

W—, Ont., Feb. 17th, 1893.

MESSRS. W. Drysdale & Co.,
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