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A METHOD OF TEACHING GEOGRAPHY.

BY PROF. MEIKLEJOHN.

LET us now come to the discussion of the evening. I will try to suggest a method which may make the collection of knowledge (in a particular geography he mentioned) a pleasure rather than a grind, an attractive pursuit instead of a burden and a task.

I. First of all I should say that the book should not be given out in lessons; should not be "learned"; should not be "got up." I can suppose a set of young students reading portions of the book aloud with a large map of the world in front of them; discussing each with the teacher (who for the time being is a mere chairman or chairwoman) or with each other; comparing this number with that number, this distance with that distance; and referring each datum to some standard or table of standards which they have made for themselves and fastened to the wall of the schoolroom. The differing productions of each colony and many other things would form easy subjects for discussion during the hour. After reading a chapter, each member of the class might write

a short summary of the chapter—not from memory but with the book before them. This exercise would give a training in an art of great value for the cultivation of the judgment—the art of estimating the relative value and importance of each fact and statement. To the untrained mind, one fact is as important as another; and his mental picture is as devoid of perspective as the painted picture of a Chinese. It is, indeed, remarkable how, even in the case of practiced writers, facts and incidents of small importance occupy as much space and are printed in as large type as events which are almost revolutionary in their results. This defect is seen at its worst in the case of writers of school histories. I looked into one of these histories a few days ago; and I found twenty-two distinct events—all of the most various value—recorded in twenty lines.

II. I will suppose this or any other book, read through in this not unpleasant fashion—a map accompanying the reading, and summaries closing up its results. Can anything else be done with the subject or with the

book? I think there can. One great end in teaching is, if possible, to look upon the book as so much raw material, and to get out of it as much intellectual play and exercise as the teacher and pupil are able to find. We might have exercises such as the following—and these exercises could be applied to any geography, as well as to this. Let us give out as the subject for inquiry, a town or city, such as Bombay, Melbourne or Quebec. The exercise might be worked out on the following lines:—

Bombay :

1. Distance from the Equator (Latitude) in degrees; distance in miles. Distance from the N. Pole in miles,
2. Altitude (height above the sea-level).
3. Foundations of its life : (a) Industries ; (b) Commerce.
4. Temperature : (a) Maximum in summer ; (b) Maximum in winter.
5. Prevailing winds : (a) Trades ; (b) Monsoons ; (c) Storms.
6. Supply of rain : (a) Quantity during the year ; (b) How distributed ; (c) Rainy seasons.
7. Soil of country round : (a) Crops ; (b) Mines.
8. Population of Town : (a) As compared with other towns in the same country ; (b) As compared with other towns of a similar character in other countries.
9. Communications : (a) Land : Rail, Highway, Canal ; (b) Sea : Steam-lines, Sailing-ships.

This form—or something like this—might be printed on a large black-board. But I would not have it given out as a lesson. I would regard it simply as giving a line for research and for discussion; and I would invite contributions from the class. One pupil might hunt up one

part of the subject; another, another. They would look not only through the book they were using; they would hunt up the facts in encyclopedias, in gazetteers, in year-books, in books of travels, and in magazines. The purely intellectual rivalry and friction would create in the class a social glow, which would end by attaching, entangling and interesting even the dullest. The type of ninety per cent. of our school-work is grind and cram—the forceful appropriation (learning “by heart”) and fearful reproduction of other people’s work; the plan I am recommending would introduce into our schools the method and habit of research, which enlists the hunting passion—the strongest passion that lives in the constitution of man.

What geography wants is not facts and figures—true geography is almost crushed to death under the weight of them—but seminal ideas, germs, living nuclei, which may become centres of a new life, and which may attract to themselves the raw material in the shape of facts and figures which lie around them. Such ideas need not be difficult or recondite; they may be perfectly simple. But it is the art of the true teacher to find them out and to employ them in teaching. Let us glance at a few.

Taking a series of questions like the following, the answers would probably give rise to thoughtful and animated discussion between the class and the teacher:—

1. What are the conditions of the prosperity and size of a seaport?

A seaport, to grow large, ought to have : (a) in front of it a deep sea or ocean ; (b) behind it, navigable rivers and canals ; (c) around it, a rich agricultural country ; (d) near it, mines of coal and iron. Chicago fulfils most of these conditions. It stands, practically, both on fresh water (the Great Lakes) and on sea water

(having now free access for large ships to the Atlantic); and hence it bids fair to outstrip New York (which has 2,000,000 inhabitants) both as a city and as a port.

2. What country or colony has the largest mileage of railway and of telegraph?

The first gives a trustworthy comparative idea of the wealth of a country and of its travelling habits; the second gives a fair idea of the extent of its business. An exception to the latter statement is Russia—more than half of whose telegraphic messages are on the part of the Government, and represents no business but the barren bureaucratic.

3. What are the chief conditions of the prosperity of a commercial river?

(a) It must flow from a colder to a warmer climate. The Mississippi flows from north to south, and carries the products of several climates. The Mackenzie and the Yenisei flow from south to north, and have hardly any traffic. (b) It must flow from a manufacturing to an agricultural region. The Rhine flows from Switzerland to Holland. The Danube flows from manufacturing Germany to corn-growing Wallachia and Roumania. (c) It must have a tide. The Thames has two currents: that of the tide which carries the traffic up; and that of its own stream, which takes boats down.

5. What are the functions of islands in the commercial life of the globe?

(a) If an island lies between two continents, it will probably trade with both. Great Britain trades with Europe and with America. Japan is beginning to trade with Asia and with North America. Sicily used to trade with Africa and with Italy. (b) It may be a good coaling station. Hong Kong and Singapore are coaling stations for the commerce of the east.

(c) It may be a telegraph station. Valentia, off the coast of Ireland, holds one end of the Atlantic cable. Christian Island, in the Pacific, supports the cable from San Francisco to Australia, etc.

Or let us suppose that the teacher selects an article of commerce as the subject of research. Then the line of study might be something like the following:—

1. Iron:

(a) Where found most largely; (b) Where consumed most largely; (c) How consumed most largely (in ships, or in houses, or in machinery); (d) How conveyed; (e) Sold to what countries, etc.

2. Wheat and Rye:

(a) Where chiefly grown; (b) Where most largely consumed; (c) How conveyed (cart, boat, rail); (d) What determines their prices, etc.

3. Railways:

(a) What countries have most for square mileage; (b) What countries have most for population; (c) What countries charge cheapest fares, and why; (d) What countries box you up, and what give you the free run of the whole train, and why, and with what social results; (e) What countries are entirely without railways, and why; (f) What parts of England are most densely railwayed, and why; (g) Why the railways in Australia all run from the east coast to some point in the interior, and stop there; (h) Whether agriculture or mining, commerce or manufactures foster the making of railways most, etc., etc., etc.

It would also be useful if there were painted on the wall of the class-room a set of units of measurements, or standards for reference. Thus we might have:—

1. A standard of size for countries (taking England or Scotland as the unit).

2. A standard for the size of towns (taking three units here: one of 50,000; one of 100,000; and one of half a million, for the purpose of comparing Manchester, Liverpool, etc., with London).

3. A standard of population to the square mile (taking West Australia on the one hand, with one-twentieth of a man to the square mile, and Belgium, on the other hand, with over 500 persons to the square mile).

4. A standard of altitude above the sea-level (with 1,000 feet above; 2,000 feet, and so on; and, also marked,

the pretty regular fall in the temperature of 3° for every thousand feet).

The facts and figures, by this method of research, become joints and crossings and paths in the associative process, and, being appropriated by the associating memory, are less likely to be forgotten. The passion of hunting—a passion strong and permanent in human nature—is attached to the geographical car, and drags it along with ease and pleasure. The sense of task and duty gives way to the passion for searching.—*The Educational Times.*

SCHOOL DISCIPLINE — METHODS AND MEANS.

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THE law of the creation of power, namely, that power is created by the use of power, requires that the work of training should be done by the pupil and not by the teacher. The question is not how you can govern a class of children, but rather how you can develop in them the power and inclination to govern themselves. The method of discipline is one of indirection. The teacher is to create power of self-restraint and self-direction in pupils by inducing them to exercise what power of self-restraint and self-direction they already possess. Stir pupils to right action, put into their minds the right motives for right action, and then subtract your own personal influence as far as possible. How many teachers are to-day worrying themselves into conditions of nervous prostration by trying to do for their pupils what the pupils should be doing for themselves. First, learn to govern your pupils perfectly, then learn how to get along without governing them at all.

The law that habits are formed by the repetition of similar processes

requires that the pupil act constantly as he ought to act, and that his efforts at right conduct be continued till it costs him no effort to act right. Suppose your most wayward pupil should, by some wonderful means, be induced to obey you promptly for a thousand times; what would be the probability that he would obey you promptly when you spoke the next time? Correct acts of speech, deportment, thought, feeling, and volition may be performed times without number, and, yet, if they are interspersed with frequent opposite acts, no correct habits will be formed. The disciplinary effect of an occasional act of obedience is very slight. You may make a great display of power at times, and thus compel every pupil to continuous stillness and application, but if quiet order and continuous work are not secured with regularity, little or no progress is made by the pupil in establishing the habit of orderly conduct and continuous effort. Vacillation in the conduct of pupils, resulting from vacillation in the requirement of the

teacher, is the great obstacle to the establishing of correct habits of action. What you require once, always require. What you insist upon once, insist upon at all times. Let the pupil feel constantly the sense of personal responsibility. Let him know that personal conduct is a personal matter for which he is personally responsible.

The whole doctrine of methods of school discipline may be summed up briefly thus: Be uniform in your requirements; teach your pupils to govern themselves; and see that they mature into fixed habits all those actions which they should habitually perform.

How can this be done? By what means can school discipline be enforced? I confess, at the outset, that it is much easier to lay down the law than to indicate efficient means for its enforcement. The reason for this lies in the fact that efficient forces of discipline consist largely of the personality, the knowledge, and the habits of the teacher himself. If you do not possess the qualities needed by a good disciplinarian, you cannot discipline well till you develop them in yourself. Keeness and rapidity of observation, firmness of purpose, uniformity of aim, kindness of heart, cheerfulness of disposition, agreeable manners, a pleasant voice,—if you lack these characteristics, you need not expect to discipline a school well till you acquire them. In such a case, your disciplinary efforts should be subjective; they should be directed to the creation of the very elements of disciplinary power. Young teachers often ask for specific rules that may be applied in special cases. Such rules are useless, because so much depends upon the teacher. A teacher once asked me this question: "What would you do in case of whispering, or disobedience?" My reply was, "I would stop it." The further ques-

tion came, "How would you stop it?" My answer was, "With the force of my moral character." This was not an answer to the real question in the teacher's mind; but it was about as near to it as I could go. And yet it may be of use to state some of the more important agencies which, in the case of teachers who are capable of applying them, are useful in securing order in school, and in securing it in such a way as to produce those elements of character which should be taken from the school to active life.

1. The first that I will mention is activity, or employment. Leave no time for mischief. Provide for work deliberately and in advance of the time when the work is to be done. If you depend upon inventing a programme for each day and hour, monotony or confusion is likely to result. Your own idiosyncracies will manifest themselves too often; and they may not be agreeable. You are likely to give too much time to what you like best; but your pupils may not be prepared for your special method of work. Provide in your programme for each full hour's work. Do not trust too much to inspiration for providing for the last part of the hour; you might not be inspired at the right moment. When the time for physical exercise comes let the exercise be vigorous. Let it be as much of a luxury to sit down at the close of the exercises as it was to stand up at the beginning. Monotonous lifeless motions are not only useless in themselves, but they do not prepare the pupils for the quiet of the study hour. Make the exercises so lively that the blood will dance and tingle in the veins, and that the muscles will need rest; and then rest will be sought, and quiet will come unsought.

2. Teach your pupils to work. Herbert Spencer predicts the time, in

the development of the race, when there will be a close competition for the privilege of doing the work that will need to be done in the world; and a later stage, when there will be competition in the self-sacrifice of allowing others to do the needed work. But we have not yet reached the first of these stages. We are still willing to concede to others the privilege of doing all the work they wish, and we are not over anxious for the drudgery of work ourselves. As the world is at present constituted there is more work to be done than is agreeable. There is still a vital difference between work and play, and children may as well face the disagreeable truth early in their lives and be taught to act accordingly.

Teach work by your own example. Do not pretend that hard work is always agreeable; yet work, and work earnestly, because there is work to be done. Lay upon your pupils the duty of work. Banish the idea that the world owes any man a living till he has earned it,—or any woman. Teach the children that what one gets that he does not earn, another earns that he does not get. Teach them that idleness is sin, and that indolence is robbery. Show them that every human being is dependent upon others for all the means of physical and mental pleasure which he enjoys, and that no one is exempt from the duty of creating equal means of enjoyment for others, and that this involves work. Impel children to work by your example, by your precepts, and by a sense of duty. Have a time for play; but also have a time for work, and insist that neither trenches upon the rights of the other.

There is no greater fallacy of the age than this: that no child should work up to the fatigue point. Work that causes no fatigue is usually defective. It is either too short, or lacking in

vigour. Teach children the manliness of vigorous, energetic, efficient work. Teach them how to work,—how to study, how to read,—but teach them that work is that without which school life and all other life is a fraud upon the world.

Of course the work of the school is to be directed by the teacher. The pupil is to work while the teacher teaches. But he is to work when there is no teaching. There is, or ought to be, in every school, such an exercise as study. I am inclined to think that most of us teach too much and require too little independent study by the pupils. I have finally settled down to the practice, in my own school, of requiring as much study as teaching. Every hour's teaching is to be followed, or preceded, by an hour's study by the pupils. I think it would be well in all grades of schools to have a portion of time set apart for study, and then to have it regarded as a misdemeanour for the teacher to speak or stand during that time. No teacher can teach continuously, and no child can study well if constantly interrupted. During the study hour let dead silence reign. Work is one of the most efficient means for securing order and developing character in school.

3. Make the school attractive. The schoolroom should be pleasant,—neither too hot nor too cold, neither too light nor too dark. Have the seats and desks just high enough for comfort; if two sizes of seats will not secure this, use three or four. Adorn the walls with a few pictures. Keep a few green plants, not for analysis, but for beauty. See that the black-board is neat. Write beautifully and draw the same. Be attractive yourself. Dress well. Dress need not be expensive, but should be in good taste. It is wonderful that a bit of bright colour should give so much pleasure to a class of children. Grudge not

the expense of a new ribbon as a means of discipline. Cultivate in yourself the graces of manners and speech. Put off your official manners and act like a human being among other human beings. Speak in human tones. Laugh at anything ridiculous that occurs; and see that something ridiculous does occur, and that it occurs often enough to sweeten school life. Do not look cross. Be cheerful, be animated. Look, act, and speak as though you thought it a good thing to live in this world. Keep yourself in sympathy with your pupils. Be helpful to them. Cheer and encourage the dull and despondent. Make yourself felt as the light, life, and joy of the room. Make your teaching so clear that it will carry intellectual light into every mind. There is nothing that renders intellectual life so attractive as the clear perception of the truth. Teach before you examine; and never blame your pupils for the bad effects of poor teaching. In all reasonable ways make the school a delightful place.

4. Use your authority. Nobody believes in a pleasant, cheerful schoolroom more than I; but as human nature is at present constituted, most children, at times, need something more than the influence of cheerfulness, sympathy, and love to keep them up to the standard of action necessary to develop them into the most efficient manhood. They need to feel the necessity of obedience and industry. When they leave school, there will be work to be done and laws to be obeyed, and there will be no teacher to follow them around and administer continual admonitions and to exert the constant influence of affection. The laws will be obeyed or punishment will follow. The habit of obedience needs to be established. Much of the work of the school needs to be done when the teacher directs, and because he

directs. There is no time for persuasion, no time for explanations, or reasons. The sufficient motive is the will of the teacher. Make this felt as an irresistible force.

Be careful to discriminate between indolence and crime, and between love of fun and malice. Not every trick in school is designed to annoy the teacher. Always assume that the pupil was acting under the influence of the better motive. Give full credit for everything good that is done. Give credit for unsuccessful efforts to do well. Never blame pupils for the results of stupidity. Taunting a pupil with his dulness never makes him bright; it only makes him hate you. Few pupils are so stupid as not to know that they ought not to be blamed for their stupidity.

But after due allowance has been made for the waywardness of human nature, for natural love of sport, and for stupidity, hold every pupil responsible for the results of his own conduct. Let your displeasure be instantly felt, if a pupil is inattentive, idle, or disobedient. Crime is to be punished in school as well as out. School is not a place for amusement merely. It is a place for work as well. It is a place for forming habits of industry and obedience. It is a place for becoming acquainted with the serious side of life. How can a child learn the duty of self-control if he is continually controlled by another? My own judgment is that we have gone too far in our efforts to avoid the tyranny of the old-fashioned schoolmaster. We are not to be brutal; we are not to be severe; but we are to enforce our authority. I know that a long and strong movement has been made against corporal punishment. I sympathize with this. Much good has come from it, and much more is to come. But while waiting for the coming good, we must not raise up a generation of lawless

citizens. I believe we sometimes destroy a boy's respect for law by permitting him perpetually to break laws with impunity. Ordinances of the state, or of the school committee do not at once change the nature of children, or the customs of society. And then I think it will be a long time before children will be so much wiser and better than full-grown men as to need no compulsion to cause them to do their duty. Is a record of punishment required? and do you fear the effect of the record? My advice is to make history first, and write it afterwards. Know your duty;

do your duty; and then, if necessary, tell what you have done. More than this,—the neglect of one punishment often causes four; if not by you, by a more conscientious and less timid teacher into whose hands the unpunished pupil subsequently comes.

Authority should be a powerful means of discipline in school. Authority should be enforced by sufficient means. And yet, authority should be a constantly decreasing force. Authority should be so blended with other means of enforcing discipline as to be felt less and less by the pupils — *Education.*

SOME WAYS IN WHICH COLLEGES MAY HELP SECONDARY SCHOOLS.*

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THE facts of the situation stated:—

(1.) There has lately been much talk by college instructors about the work in Secondary Schools, as they are pleased to call them. In some way or other it was found out that the average college graduate was too old to begin with advantage the active pursuits of life, *i.e.*, bread-winning of some or another kind. The fault must lie somewhere and with somebody, and, since the college could not but be all right, the lower or preparatory schools must be the place where, and their managers the persons upon whom, to lay the blame. No claim has been made that the schools do not meet the requirements made by the colleges themselves; on the contrary, the work is even better done now than before. But it must be done sooner. At the same time the requirements of the college have been in-

creased in amount so that the problem at present is, not how shall the schools do better work or the same amount of work as before in a shorter time, but how shall they do a much larger amount in a shorter time?

(2.) No thinking man in the full possession of his senses would try to maintain that the work in the preparatory schools is in a satisfactory condition, nor would he deny that much time and effort are lost in the attempt to carry side by side special preparatory and general courses of study. He would admit that these courses have no intimate relation to one another, that they do not grow out of the schools below them or into the colleges above them. We are working on the "block" system, with gaps between the blocks.

(3.) The question often heard by preparatory teachers, "What have you for us this year?" reveals more than a long discussion might of the relation that has existed between the schools and colleges. It has been a market

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relation with the sorrowful difference that the school has never been allowed to ask the question of the college as it certainly has the right to do. When now the general public, upon which the finished product is thrown, begins to complain of the quality of that product, and the college still insists that the trouble lies with the schools, can it be wondered that the school men do not take the charge kindly? The college men ask, "How many are you going to send us this year?" and lay the blame on us if the product does not turn out well and quickly enough. We feel that while they have the zeal of improvement it is often zeal "not according to knowledge."

(4.) Both the college men and school men have, at heart, the same desire: to promote right education and sound scholarship. No well-informed, intelligent man can but be alive to the great good the colleges are doing in this direction or to the immense difficulties with which they have to contend in the way of insufficient funds and scant accommodations for work. No one at all acquainted with the facts and in sympathy with true education, can deny to hundreds of men in the colleges high praise for their self-sacrificing work. Least of all would the school men, most of them sons of the colleges, deny to them the honour they deserve or add even a straw's weight to their difficulties. For we, too, are deeply and vitally interested in the same work, being members of the same body. All we ask is that our difficulties shall have a fair measure of intelligent and friendly attention. I take, therefore, as the motto of this paper the words of Mrs. Alice Freeman Palmer, "To understand one another kindly is the business of the hour."

Having thus briefly stated the facts of the situation in respect to what has been said by the college men, the work of the schools, and the feeling

and desire of both parties in the controversy, I wish briefly to offer some suggestions from the standpoint of a school-man as to how the colleges may give us substantial help in doing better work, not only for them, but for the larger public whom we serve.

And first, I suggest a more thorough acquaintance on the part of the colleges with the schools, their aims, the place which they occupy in educational work, the actual condition of their work and their difficulties. School men, as a rule, believe the college and university are rightly regarded as the head and crown of our educational system, and this for two reasons: (1) we are nearly all college-bred and are therefore imbued with the college spirit; (2) we all love learning and are never so glad as when we can induce those under our care to go on to something higher after leaving our hands. Our aims are one with those of our *Almae Matres*, so that it is simply impossible that there should be anything but an earnest desire on our part to serve the colleges well.

But the peculiar place occupied by the schools ought to be carefully considered. Except in the case of a very few schools, preparing pupils for college is a comparatively small part of our work. To the majority of our pupils we are the last of their educational opportunities and this adds greatly to our difficulties, from the fact that a college preparatory course is not the best equipment with which to send out those whose school life ends with us. A careful consideration of this one fact ought to convince the colleges that some sort of accommodation must be made with the schools and that for the former to be too unyielding is fraught with danger to themselves, and through them to the cause of general education: to themselves in the loss of some of their best and most desirable pupils; to the

cause of general education in the loss of these men to it. The loss to the schools would also be great, but this is only an added reason for avoiding the danger if possible.

In the matter of the actual work done in the schools, there has too often been a lack of thorough acquaintance on the part of the colleges. Frequently, harsh judgment has been passed through lack of knowledge, and comprehensive condemnation, from insufficient data. We are told that we must be judged by results, and we do not find fault with that. But what we do desire is that the results as the colleges see them shall *really* be a fair test of the work done. It is my fortune to work under the shadow of a great university of which I have the honour to be an alumnus; nevertheless as official head of a school which sends yearly from twenty to thirty to its halls I have yet—in six months' time—to record the first visit to the school of any member of the university management, and that too though some of them are personally interested by the presence of their children in the school. This is not said by way of complaint, but it reveals a condition of things which ought not to exist and which cannot exist permanently if there is to be an intelligent adjustment of our work to the need of the colleges. From whom have we a right to ask an interest in our work if not from the colleges which are so importantly connected with us? How this better acquaintance with the schools is to be brought about must be determined largely by the colleges themselves, for to them certainly belongs the first advance which would indeed come ill from us. At the same time I am confident *we* are much to blame for the state of feeling existing in the colleges towards the schools and school men. I shall hint at this cause and at its cure—so far as we are concerned—by quoting

Milton's words:—"The pious and just honouring of ourselves may be thought the radical moisture and fountain-head from whence every laudable and worthy enterprise issues forth."

Now I am perfectly well aware that college men, as a rule, are already pressed down with work. But for all this, I insist that a little time spent in *showing* the interest they ought to feel, and probably do feel, would be time well spent. The very fact that college men were *interesting* themselves in the schools would do much to remove from the general public the feeling that the college is entirely willing to "pass by on the other side."

If the colleges would help us even more effectively, they must acquaint themselves not only with the schools that lie nearest them, but with the whole range of school work. For the difficulties of which I have already spoken and which lie within the four or five years' work of the preparatory school are not the greatest of the hard things with which we have to contend. The colleges are proud—and justly so for the most part—of being the conservators of the higher education, the theory of which is familiar to every college-bred man, at least, and is expressed in these words of President Dwight:—"The superiority of man to his uses." Second only to the colleges in this work—and sometimes I think not second, since we are closer to the people—are the preparatory schools. Are the colleges aware of the enormous pressure brought to bear upon us by a public opinion largely under the influence of the *peripatetics*, men who are much more skilful in making and airing new theories than in working them out into serviceable practice, and who rarely have any interest further than the adoption of their theory and the sale of their printed ideas?

Do the colleges know that all ele-

mentary education is shaped, not by men in the actual work, but by men who have some "method" or other by which the millennium of the education of the human race will be brought about without any labour on the part of the one educated? "You press the button and we do the rest" is their cry. And this public opinion affects all the schools, public and private, except those fortunate few that are richly enough endowed and sufficiently strong in their management to be practically independent. It seems to me all wrong that men engaged in the actual work of education, especially the college men, should not have had a more important part in shaping education, and I lay the charge at the door of the college men that they have not sufficiently informed themselves of the work done in the schools.

But there is another aspect of the matter. No college or university exists simply for the purpose of preserving within itself sound learning and education in its highest and best sense. Though this is a high privilege and sacred duty, there is still a higher and holier one: that of service to the people. This I take to be the fundamental purpose of the existence of colleges and the noblest reason for them. No college or university, therefore, in order to perform its highest function can afford to be out of sympathy with the people. It must touch them somewhere. The disposition of the colleges has too often been to perform the first duty, but to stand aloof from the second. But this is Pharisaism, for there can be Pharisaism in learning as well as in morals, and both are diametrically at variance with the Christian idea, and carry in themselves the seeds of the decay of that which they thought to preserve. At what point or points the colleges will put themselves in touch with the people must be left for them to determine. All that I am pleading for now

is that as a first and important step in that direction they interest themselves in becoming thoroughly acquainted with the schools which might form a direct and vital link between them and the people, but which do not in the present condition of affairs.

For, to state the matter somewhat broadly, there is no continuity in the work. We receive our boys and girls from the lower schools prepared for—what? To pass the examination set for their entrance into the high school. And what then? We immediately set to work to "put them through" a course which apparently has been made partly because it contains some things which a school of about our grade ought to teach and children of about fourteen to eighteen years ought to learn, and partly because some of them want to prepare for college. Any vital connection with the work of the schools below or colleges above? None whatever. The lower schools get them ready to pass the examination into college. After they have finished our "block" the college takes them and does what it can with them. Is it any wonder that under this "block" system—why not call it a blockhead system?—the conception on the part of the pupil is that the college is not something towards which they are to grow in their school work, but something into which they are to be "boosted," when they have arrived at a certain age and have "bolted" a sufficient number of slices of learning? And so by feeding our boys and girls on the milk of methods in the lower schools, on "scraps" in the secondary schools, we lift them into the college not only weaklings unfit for the strong work the colleges ought to give them, but with a total misconception of the meaning of the world into which they have been thrown. Let me not be misunderstood. I am not pleading for any great system which shall take in all colleges as part of it, for it seems

to me much better that they should preserve their independence, but what I do hold is that if the college work is in reality the crown of a sound education, then all the work preparatory to it must also be sound, and that a boy or girl prepared for the colleges will also have the best preparation that can be given him, thus far, for life. Or to put it in other words, if by any chance a boy or girl, having finished the preparation for college, should be deprived of the opportunity of going on with college work, such an one ought to be the best prepared for life in the highest and best sense. Who will say that it is so now?

I am sure that a planning of the work so that it should have continuity in it—not to say growth—we could do one of two things: either give the colleges their students two years earlier fully as well prepared as now, or what would be much better, send them up at the same age as now two years in advance of their present work. But to aid in bringing this about, the colleges can no longer stand aloof watching our labour with unsympathetic if not with critical eyes, but must realize that their interests are bound up in ours as much as ours are bound up in theirs.

Before making my next suggestion I desire to analyze the entrance examination system in order to see what sort of thing it is and how it affects the schools. First, what is its purpose? The question would usually be answered by the college man's saying, "To maintain our standard, and to satisfy ourselves that those entering are fitted to go on with our work." On any fair construction of language, "standard" must mean either standard of entrance or standard of scholarship. If the former is meant, then to make the entrance examination hard is like the farmer's putting up a high fence about his field so as to keep out all but the "high jump-

ers." In that case, all the cattle need to do is to practice high jumping diligently for a sufficient length of time and they will be sure to get in, be they never so thin and poor. But I presume it would not be fair to understand "standard" in any other sense than standard of scholarship. To raise the standard of scholarship in school or college means nothing less than to inspire in students love for learning. And this rests ultimately upon the personal power of the teacher, especially of the teacher in the lower schools. To suppose that a hard entrance examination or one covering a great deal of ground raises the standard of scholarship, is so laughably absurd when one looks at it frankly and honestly, that argument upon it seems a waste of time. I hope to be able to show before I finish this paper that it not only does not raise the standard of scholarship—so far as the schools are concerned, at least,—but is a constant degradation of it, and a very serious obstacle in the way of the best work.

As to the second purpose of the entrance examination, that the college men may satisfy themselves that those entering are fitted to go on with the work prescribed one naturally asks, Is the entrance examination a test of fitness for further work? Do the college men themselves really believe it to be so, or have they found it so? There can be only one answer: no! Let us look at the matter a little more closely. Suppose a professor in Harvard College, eminent in some department not classical, who had taken a regular college course, fifteen years ago, should desire to enter the classical course at Yale next June. Suppose him to be unknown at New Haven, if that were possible, and to present himself simply as a candidate for admission, not having meanwhile looked up his preparatory work. What are the chances that he would

fail to enter? Certainly 100 to 1. Who would say he was not prepared to enter the freshman class! Now suppose an average boy of seventeen or eighteen who had by dint of hard work on the part of schools, some private tutoring, and a diligent coaching on the examination papers of "preceding years sent upon request," to present himself at the same time for the same examination. The chances are 100 to 1 that he will pass, and very likely without condition. I do not say this boy is not ready to go on, but the examination says yes to a raw youth of eighteen, and no to the learned professor. You

will say that an extreme case has been chosen! Let me take another. Suppose the whole graduating classes of '91 should present themselves at their respective colleges in '92, without having meanwhile freshened their preparatory work, for entrance into the same departments from which they graduated. How many would pass? About one in five. But of the unfledged youth who will really present themselves, about four in five will pass. Is it possible the recent graduates are not so well fitted to go on with the work as those who do go on with it?—*School and College.*

(To be continued.)

ON THE BEARING OF OUR BURDEN.

WE all have our burdens. Of course they are not the same in all. Some are more apparent than others. There are people whose burdens we all see. These get our sympathy; we come up to them with love's warmth and help. There are others, however, whose burdens are not visible. They seem to us to have no trouble, no struggle, no loads to carry. We envy their lot. Probably, however, if we knew all about their lot that the angels know, our envy would change to sympathy. The burdens that the world cannot see are oftentimes the heaviest. The sorrows that wear no weeds of mourning, and bar no shutters and hang no crape on the door-bell, are often the bitterest and the hardest to endure.

It is not wise for us to think that our load is greater than our neighbour's; perhaps his is really greater than ours, although he seems to us to have no load at all. We sometimes wish that we might change places with some other person. We imagine that our life would be a great deal easier if we could do this, and that

we could live more sweetly and beautifully than we do, or more usefully and helpfully. If we could change places with any one, the one who, of all we know, seems to us to have the most favoured lot; if we could take this person's place, with all its conditions, its circumstances, its responsibilities, its cares, its duties, its inheritance, there is little doubt that we should quickly cry out to God to give us back our own old place and our own burden. It is because we do not know all, that we think our neighbour's load lighter and more easily borne than our own.

There are three Bible words about the bearing of burdens. One tells us that "Every man shall bear his own burden." There are burdens that no one can carry for us, not even Christ; that no one can even share. This is true in a very real sense of life itself, of duty, of one's relation to God, of one's personal responsibility. No one can live your life for you. Friends may help you by encouragement, by sympathy, by cheer, by friendship's warm inspirations, by counsel, by guidance;

but after all, in the innermost meaning of your life, you must live it yourself. No one can make your decisions for you. No one can have faith in God for you. No one can obey the commandments for you. No one can get your sins forgiven for you. No one can do your duties or meet your responsibilities for you. No one can take your place in any of the great experiences of life. A friend might be willing to do it, but it is simply impossible. David would have died for Absalom—he loved his son well enough to do this—but he could not do it. Many a mother would take her child's burden of pain, as she sees its anguish, and bear it for the child, but she can only sit beside it and watch it suffer; she cannot take its place. Every one must live his own life.

There is another Bible word which tells us that we should "bear one another's burdens." So there are burdens in the carrying of which others can help us. No one can do our duty for us, or take our load of suffering, but human friendship can put strength into our heart to make us better able to do or to endure. It is a great thing to have brotherly help in life. We all need each other. Not one of us could get on without others to share his burdens. And we begin to be like Christ only when we begin to help others, to be of use to them, to make life a little easier for them, to give them some of our strength in their weakness, some of our joy in their sorrow. When we have learned this lesson we have begun to live worthily. Miss Emily Dickinson writes:

If I can stop one heart from breaking,
I shall not live in vain;
If I can ease one life the aching,
Or cool one pain,
Or help one fainting robin
Unto his nest again,
I shall not live in vain.

There is another inspired word

which tells us to "cast our burden upon the Lord." The word "burden" in this passage, in the margin of our Common Version, is rendered "gift"—"Cast thy gift upon the Lord." In the Revised Version the marginal reading is "Cast that he hath given thee upon the Lord." This is very suggestive. Our burden is that which God has given us. It may be duty, it may be struggle and conflict; it may be sorrow; it may be our environment. But whatever it is, it is that which he hath given us, and we may cast it upon the Lord.

The form of the promise is also suggestive. We are not told that the Lord will carry our burden for us, or that he will remove it from us. Many people infer that this is the meaning, but it is not. Since it is that which God hath given to us it is in some way needful for us. It is something under which we will best grow into strength and beauty. Our burden has a blessing in it for us. This is true of duty, of struggle, of the things which to us seem hindrances, of our disappointments and sorrows; these are all ordained of God as the best means for the development of our life. Hence it would not be true kindness to us for God to take away our burden, even at our most earnest pleading. It is part of our life. There is a blessing in the bearing of it.

The promise is, therefore, not that the Lord will remove the load we cast upon him, nor that he will carry it for us, but that he will sustain us so that we may carry it. He does not free us from duty, but he strengthens us for it. He does not deliver us from conflict, but he enables us to overcome. He does not withhold or withdraw trial from us, but he helps us in trial to be submissive and victorious, and makes it a blessing to us. He does not mitigate the hardness or severity of our circumstances, taking away the uncongenial elements, re-

moving the thorns, making life easy for us; but he puts into our hearts divine grace, so that we can live sweetly in all the hard, adverse circumstances.

This is the law of all spiritual life—not the lifting away of the burden, but the giving of help to enable us to carry it with joy. Much human love, in its short-sightedness, errs in always trying to remove the burden. Parents think they are showing true and wise affection to their children when they make their tasks and duties easy for them; but really they may be doing them an irreparable harm, dwarfing their life and marring their future. So all tender friendship is apt to overhelp. It ministers relief, lifts away loads, gathers hindrances out of the way, when it would help far more wisely by seeking rather to impart hope, energy, courage.

But God never makes this mistake with his children. He never fails us in need, but he loves us too well to relieve us of weights which we need to carry to make our growth healthful and vigorous. He never overhelps. He wants us to grow strong and therefore he trains us to toil, to

struggle, to endure, to overcome, not heeding our requests for the lightening of the burdens, but, instead, putting into us more grace as the load grows heavier, that we may live ever sweetly and victoriously.

This is the secret of the peace of many a sick room, where one sees always a smile on the face of the weary sufferer. The pain is not taken away, but the power of Christ is given and the suffering is endured with patience. It is the secret of the deep, quiet joy we see oftentimes in the home of sorrow. The grief is crushing, but God's blessed comfort comes in gentle whispers, and the mourner rejoices. The grief is not taken away. The dead is not restored. But the divine love comes into the heart, making it strong to accept the sorrow and say "Thy will be done."

Nothing that hour was altered;
I had still the weight of care;
But I bore it now with the gladness
That comes from answered prayer.
Not a grief the soul can fetter,
Nor cloud its vision, when
The dear Lord gives the spirit
To breathe to his will, Amen.

— *Westminster Teacher.*

OVER INTENSITY.

A DISTINGUISHED professor, whose life had been divided between college instruction for girls and boys, was accustomed to formulate his experience somewhat in this wise: "In a week, I can wind up a class of college girls in science work to a furor of enthusiasm, so that the average student will work within an inch of her life, and even the most trifling girls will flare up with a new excitement. A similar class of boys will jog along in a not very satisfactory way till, some day, a sleepy fellow, off in the corner of the room, will wake up

and ask a question which reveals him as a born expert." This seems to be only another way of saying that, after all the protest from the women's colleges, there is something which, for want of a better name, may be called "Sex in Education." Whether from the original make-up of our double-sided, mysterious human nature, or from some of the marvellous tricks of evolution, which make that "potency" more inexplicable than the Almighty himself, there would seem to be this notable difference in the way that the man or woman of similar capacity goes

to work in earnest to do anything. Either from an original coarseness of the material in his nature, or from the habit caught by generations of doing many things at a time, even the ablest and most absorbed man seems always to have a considerable margin of fallow ground outside his realm of cultivation. Into that wilderness he can retire, either as sportsman, athlete, loungeur, or what-not, for the time putting off the weightiest responsibilities or the most harassing trials, and return refreshed and ready for better work. The most ambitious male student in college seems always to have his eye out for a back door through which he can "skip" when the pressure is too hard. The boys that are destroyed by overwork in college are invariably of the fine-grain, feminine type, who cannot be interested in this outside life of their companions. The girl, whether studious by nature, or otherwise, is always in peril of an over-mastering and dominating interest that wholly absorbs her life, and for the time leaves no margin beyond its horizon. The superior types of womankind, whether in religion, culture or art, seem instinctively to take on this attribute of absolute consecration to the uppermost idea. In society, in business, in public administration as far as we have the experience, the same tendency to absolute absorption invariably appears. The effect of this is very marked to every close observer of the higher university for girls. It may be that the health of the upper strata of students in Vassar, Wellesley and similar schools, while in college, is in no special way more affected than the physical condition of the similar strata of boys in Harvard and Yale. The difference seems to be that the graduate of the woman's college leaves her Alma Mater with a fixed habit of intensity which is apt to become a confirmed habit the longer she re-

mains in any occupation connected with educational work. Without sleepless vigilance in overlooking the suburbs of her own nature, she becomes more and more a devotee, losing interest in society, often indifferent to her own physical well-being, burning up with the fire of her own consecration. At fifty the man, with ordinary care of himself, is on the threshold of his grandest achievements, while his sister—in the vast majority of cases—is laid on the shelf, or working with the remains of exhausted mental and bodily vitality. It does not exactly touch the point to ascribe this to the achievement, social, physical, or what-not, of the woman student. If you put her at gymnastics, the same thing happens. If you awaken a real interest, she is apt to lash herself into the imitation young man, now somewhat fashionable, who goes about, clad like her brother from the waist up; a boy in everything excepting—that she is a girl. We are compelled in the last analysis to recognize this radical difference in the manner in which the two classes of earnest and ambitious students go to work in the higher education, and adjust our methods according to the wise and benevolent ordering of Nature.

The warning from this experience would seem to be, that our really superior schools for girls, which have done playing with and gone seriously to work about the higher education, should revise the curriculum, and insist on a more limited range of subjects than they now indulge in. Even were it not for this constitutional habit of the girl student, the previous training of the vast majority of American girls would furnish this caution. The attempt to drive the girls' college, four-in-hand, with a crowded curriculum, with the inevitable excitement of the Music and Art department, becomes a two-edged

sword of destruction. With the lower two-thirds, it simply sets the mind of the girl bubbling in half a dozen directions, the enthusiasm of to-day swallowed up in the craze of to-morrow, until she graduates in the condition of dishevelled mentality and moral restlessness in which we find multitudes of American young women, ready to be caught up by any one of the social, philanthropic, religious, or more perilous crazes that ravage American society. The remaining third, who come for serious study, are almost invariably damaged in body by over-intensity; or more fatally graduated into the state of per-

manent fixed idealism, which makes so many of the noblest women in the land something a little off from common humanity,—too often nearing the perilous brink of mental collapse. The ideal higher school for girls will draw more sparingly on this treasury of divine enthusiasm, demand a longer period of better graded study, and surround the entire course with a physical, social and commonplace human environment, that will be a foil to the danger we have indicated. In this way lies, to our mind, the only probability of avoiding a reaction of educational sentiment.—*Education.*

THE VALUE OF PRACTICE TEACHING.

WILLIAM J. MILNE, STATE NORMAL COLLEGE, ALBANY, N.Y.

A SCHOOL for practice is an essential part of an institution for the training of teachers. Teaching is both a science and an art. The science may be learned in any institution, but the art can only be acquired by practice, in the same manner in which all other arts are acquired. A man who is familiar with legal principles, may be ignorant or bungling in the practice of the law; a man who understands the science of mechanics, may be unable to make a machine. In every department of human activity, including teaching, the principles underlying the effort should be known, but the successful application of the principles can be attained only by the skill that is gained through practice. There are also many things that cannot be discovered or known without coming in contact with children. Their relations to each other in the schoolroom and on the playground are a revelation to many, indeed to most, teachers. Consequently, in

order to secure that kind of ability which is necessary for success in teaching, an opportunity must be afforded for meeting and mingling with children in their sports and in their classes, not as an observer, but as a teacher.

Again, almost all Normal Schools give to their graduates a license to teach. This license specifies that the holders of it have the scholarship, mental ability, moral character, knowledge of methods, and tact in managing, that are essential to success. A statement of that kind, given to a person before he has had an opportunity to display his powers as a manager of children, or as an instructor of youth, is on its face a falsehood. Very few people are able to judge of the fitness of a person to engage in the work of teaching by looking at him. It requires intimate knowledge of his views of life and of his acquaintance with human nature, of his character as a man, of his skill as an instruc-

tor and of his tact as a disciplinarian, to enable the persons who certify to his ability to make a statement that is worthy of acceptance or credence. Such a statement cannot be made by anyone intelligently or honestly, until he has seen the teacher at his work and studied his peculiarities of thought and of method.

It need not be thought that a school for practice is a place where young teachers are simply criticized for their faults; in fact, a school conducted in such a manner is a misrepresentation of a proper school of practice. It is rather a place where whatever is excellent in their character or their modes of management and methods of teaching, is commended, and where they are encouraged to strengthen themselves in every proper way for doing the best work that they can do. The first act of a teacher who supervises the novices in their practice, should be an act of commendation, if it be possible. The beginner is to be encouraged both by illustration from model lessons and by gentle and wise counsel from his teachers, to supplement his deficiencies and overcome his defects. In this way only can the best possible results be secured. The student teacher is not restrained in any wise in the manifestation of proper individuality, but he is not permitted to experiment upon his pupils for the purpose of disclosing some new and original methods of presenting subjects, unless the teaching is in accordance with the known and acknowledged principles of the science of education. Neither is he restrained from doing something new, simply because it is his own. A school of practice becomes thus a place where teachers are trained for their work. When they have completed their course in such a school, they go into the public schools with some definite knowledge of how they

are to proceed; they have methods of teaching, modes of administering and managing schools, they have principles on which to base their future work, and, best of all, they know their own weakness and strength as viewed by persons who have their interests at heart.

If the Normal Schools of the country have any right to existence, it must be because they are successful in preparing teachers for their work; and, right or wrong, the average man regards the ability to control or manage pupils as a chief element in success. If we are ever able to state that a teacher is successful, it must be from seeing him actually doing the work of teaching. The value of a teacher's work should be estimated from the use he makes of principles which he should employ, and his skill in controlling and directing pupils; consequently, no one should certify to excellence in these respects unless he has himself seen the teacher at his work. In view of these facts, it becomes evident that a school of practice, which also affords an opportunity for the pupil-teachers to witness the best kinds of teaching, is an absolute necessity, if a certificate is given vouching for the proficiency and efficiency of the person holding it.

Viewed from any standpoint whatever, from that of benefit to the pupil-teacher, or of benefit to the pupils taught, a school of practice is an excellent institution. It is more, it is a necessary part of every school in which the training of teachers is sought. I cannot understand how it is possible for Normal Schools to exist and receive popular commendation without this adjunct, which shall be in itself a model for the students as to discipline and instruction, as well as a school for training and testing the teachers for their responsible duties.—
Educational Review.

HISTORICAL MURAL TABLETS AND TOMBSTONES OF GOVERNORS, GENERALS, AND OTHER PERSONAGES.

WOLFE.

IN a previous article under this heading we gave an account of the first monument erected to Wolfe in this country. The first step taken by the English nation to show their deep sense of gratitude to the memory of him, who in giving up his life at Quebec, and who, in the words of Canon Farrar, "Secured for Great Britain the possession of Canada," was the nomination by the King in Parliament of a Monument Committee, over which the Duke of Devonshire presided. Walton's design was chosen, but the sculpture was not finished until 1772. On the 4th of October, 1773, the national monument was uncovered in Westminster Abbey. It is chiefly composed of white marble, and a large oval tablet on the middle of the sarcophagus contains this inscription:—

To the memory of
JAMES WOLFE,

Major-General and Commander-in-Chief of the British Land Forces, on an expedition against Quebec, who, after surmounting by ability and valour all obstacles of art and nature, was slain in the moment of victory, on the xiii. of September, MDCCLXIX.

The King and Parliament of Great Britain
Dedicated this monument.

MONTCALM.

The long epitaph prepared to the memory of Montcalm, by the Academy of Inscriptions, of Paris, in 1763, as previously stated, was lost at sea. It is proper to mention that on the occasion of the centennial anniversary of the death of this gallant French General in 1859, through the public spirit of Mr. G. B. Faribault and friends of Quebec, a subscription was made, and amid much pomp and

ceremony, a copy of the original marble tablet was prepared, and to-day graces the right hand side of the chapel of the Ursulines. On this latter occasion and in connection with the imposing funeral services, the skull of Montcalm, which was all that was found of his remains when disinterred in 1833, was exposed to view on the catafalque during the mass for the repose of the soul of the dead.

CHAMPLAIN.

So far, Canada, and especially Quebec, has done little in honouring the memory of its founder, Champlain, in the way of a public monument. This neglect was continued even in old France till 1878, when a handsome, tall obelisk, or pillar, somewhat after the form of that to Simon MacTavish on the edge of our Mount Royal Park, was erected at Brouage, in the Province of Saint Onge, where he was born. The inscriptions, simple, direct and to the point, are as follows. The first was engraved on the column:

A la memoire de
SAMUEL CHAMPLAIN,
Le Conseil Generale de la Charente Inferieure. 1878.

The second, on a plaque of white marble incrusting the pedestal of the column, says:—

Samuel Champlain, né a Brouage, vers 1570,
Fondateur de Quebec, 1608,
Relations de voyage, 1632,
Mort en 1635.

The erection of a bronze monument to Champlain, through the exertions of Mr. J. M. Lemoine and the Quebec Literary and Historical Society, would be the crowning success of a well-spent life.

GLOBENSKY.

The last survivor of the Voltigeurs of 1812 lies buried in the old cemetery at St. Eustache. A small brown stone pyramid, on one side inscribed in French, reads :—

Lt.-Col. Max Globensky, one of the heroes of 1812. At twenty he was commissioned Lieutenant in the Canadian Voltigeurs of 1812 under DeSalaberry, and was at Lacolle, Ormstown and Chateauguay ; 300 repulsing 6,000 to 7,000 men under Gen. Hampton. Afterwards his pay was continued by the English Government to his death. He was decorated with two medals, and was the last survivor of the Voltigeurs. He died in the 74th year of his age.

AMHERST.

It fell to the lot of Sir Jeffery Amherst to receive the surrender of Montreal from the French general, Vaudreuil. On his return to England he settled on a charming spot near Riverhead, in Kent, and erected a handsome old style residence, which, with pride, he named "Montreal," and where living to a good old age, he passed the remainder of his days. Here he received a visit from the King and Queen of England. Very soon after settling down to the enjoyment of a quiet life, he erected a monument some 36 feet high, on a pleasant eminence, almost opposite his house, with the inscriptions on four sides, as follows : First side, facing almost south-east :—

Dedicated to that most able *statesman, during whose administration Cape Breton and Canada were conquered, and from whose influence the British arms derived a degree of lustre unparalleled in past ages.

*Wm. Pitt.

The second side, north-east, reads :—

To commemorate the providential and happy meeting of the three brothers on this their parental ground, on the 25th January, 1764 ; after a six years' glorious war, in which the three were success-

fully engaged in various climes, seasons and services.

The third side, north west, reads :—

Louisbourg surrendered and six French battalions, prisoners of war, the 26th of July, 1758 ; Fort du Quesne taken possession of the 24th of November, 1758 ; Niagara surrendered the 25th July, 1759 ; Ticonderoga taken possession of the 26th of July, 1759 ; Crown Point taken possession of the 4th of August, 1759 ; Quebec capitulated the 18th of September, 1759.

The fourth side, south-west, reads :—

Fort Levi surrendered the 25th of August, 1760. Isle-au-Noix abandoned, the 28th of August, 1760. Montreal surrendered, and with it all Canada, and ten French battalions laid down their arms, the 8th of September, 1760. St. John's, Newfoundland, re-taken, the 18th of September, 1762.

The death of this commander—whose name has been perpetuated in one of the streets of this city—was announced at the time, as follows :—

LONDON, August 3, 1797.

DIED.—At his seat, at "Montreal," near Seven Oaks, Kent, in his 81st year, the Right Hon. Jeffery Lord Amherst, of Holmesdale, K. B., Privy Councillor to His Majesty, Governor of Guernsey, Field Marshal in the army, and Colonel of the 2nd Regiment of Life Guards, and of the 60th (or Royal American) Regiment of Foot.

Admiral Amherst, a second brother to Lord Amherst, died on the 12th of February, 1778.

COMMANDER SIMCOE.

Old St. Andrew's Church, at Cotterstock, Northamptonshire, England, contains a beautiful marble epitaph to the memory of the father of the first Governor of Upper Canada, Commander Simcoe. It reads thus :—

To the memory of John Simcoe, Esq., late Commander of His Majesty's ship "Pembroke," who died in ye royal service upon that important expedition against Quebec, in North America, in the year 1759. Aged 45 years.

He spent the greatest part of his life in the service of his king and country, ever preferring the good of both to all private views. He was an accomplished

officer, esteemed for his great abilities in naval and military affairs, of unquestioned bravery and unwearied diligence. He was an indulgent husband, and tender parent, and sincere friend. Generous, humane and benevolent to all, so that his loss to the publick, as well as to his family, cannot be too much regretted.

This monument was erected in honour to his memory by his disconsolate widow, Katherine Simcoe, 1760. Underneath lie Pawlett, William and John, sons of ye above John and Katherine Simcoe.

Lake Simcoe was so named by General Simcoe, out of respect to his father, Captain Simcoe of the Royal Navy, who died on the river St. Lawrence. In the year 1755 it is said this able officer had furnished the British Government with the plans of operations against Quebec. Captain Cook, the celebrated navigator, was master of his ship, the *Pembroke*.

MONTEGOMERY.

On the eighth of July, 73 years ago, the remains of General Montgomery were removed from Quebec and interred under old St. Paul's Church, on Broadway, New York. William Smith, who wrote the first history of Canada, published in Quebec in 1815, did much to assist the relatives and the State of New York in procuring his remains, as well as the cordial co-operation of our Governor General, Sir John Cope Sherbrooke, after whom our most fashionable thoroughfare has been named. How singular, too, that the commemorative monument inserted in the front of this religious edifice, designed and executed in Old France for him who had been killed in New France, was ordered by the philosopher, Benjamin Franklin. It was this famous printer who brought into this city its first printing press. The bas-relief and marble tablet on St. Paul's, evidently engraved at different periods, reads:—

This monument is erected by order of Congress, 25th of January, 1776, to trans-

mit to posterity a grateful remembrance of the patriotic conduct, enterprise and perseverance of Major-General Richard Montgomery, who, after a series of successes, amid the most discouraging difficulties, fell in the attack on Quebec, 31st December, 1775, aged 37 years.

The State of New York, in honour of General Richard Montgomery, who fell gloriously fighting for independence and liberty of the United States before the walls of Quebec, 31st of December, 1775, caused these remains of the distinguished hero to be conveyed from Quebec and deposited on the 8th day of July (1818) in St. Paul's Church, in the City of New York near the monument erected to his memory by the United States.

ROBINSON.

Many years ago, in the old cemetery at St. John, N.B., the writer came across an old tombstone lying flat on four supports erected to the memory of a relative of Lieutenant Governor Beverley Robinson of Ontario, inscribed:—

Sacred to the memory of the
HONOURABLE JOHN ROBINSON,
late Mayor of this city, and a member of
His Majesty's Council in this Province,
who died on the 8th of October, 1828, in the
67th year of his age.

During the Revolutionary War in America, he served as Lieut. in the Loyal American regiment raised by his father, Colonel Beverley Robinson, President of the Province of Virginia, and in the peace of 1783, came to this Province, where he married in 1787, Elizabeth, daughter of the Honourable Chief Justice Ludlow.

GOVERNOR SIMCOE.

Lieutenant-General John Graves Simcoe, the first Governor of Upper Canada, has been honoured with an epitaph in old Exeter Cathedral. It was erected through a liberal public subscription, at the head of which was the Prince Regent and the most prominent members of the nobility. The sculpture and design is that of the celebrated Flaxman. Simcoe's bust rests on a sarcophagus supported by a North American Indian and a British volunteer with the appropriate

emblems of the two countries, on which is inscribed :—

Sacred to the memory of
JOHN GRAVES SIMCOE,
 Lieutenant-General and Colonel of the 22nd
 Regiment of Foot.

Who died on the 26th of October, 1805, aged 54, in whose life and character the virtues of the hero, the patriot and Christian were so eminently conspicuous, who, it may be truly said, served his king and his country with a zeal exceeded only by his piety towards his God.

Those friends who honoured and loved him have erected this monument.

BOUVERIE.

In the old military cemetery of Papineau Road lie the remains of Lieutenant-Colonel Bouverie, of the 89th Regiment. His funeral at the time was a great event, as he was the first commandant of the Regular military garrison in the city who had died in Montreal. A flat bluish-coloured limestone, surrounded by a substantial iron rail, all in the best of order to-day, is inscribed thus :

In memory of
LIEUT. COLONEL JAMES WILLIAM BOUVERIE,

Commanding Her Majesty's 89th Regiment, youngest son of Edward Bouverie, Esq., Delapre Abbey, Northamptonshire, who died in this garrison on the 25th Feb., 1845, aged 43 years.

This tribute is erected by his brother officers, to record their deep and unfeigned regret at his early death and their sense of the loss they sustained in him as a kind friend.

The following is an account of the funeral: Yesterday, Friday, the remains of the late Lieut. Col. Bouverie of the 89th Regt., commanding the Garrison of Montreal, were consigned to the grave. It was the first time that the funeral of a commandant of this Garrison had taken place in Montreal, and it excited general attention at the same time that the popular virtues of the deceased induced a large attendance of civilians

anxious to testify their respect for the memory of the gallant Colonel. At 1.15 p.m., the 89th Regt., which composed the firing party under the command of Major Lewis, was drawn up with its band and colours, lining the street from the officers' quarters, Dalhousie Square, towards Victoria Road (which on account of the troubles of 1837 had been changed from Papineau Road). On the appearance of the corpse, the Regiment presented arms. The order was then given to reverse arms, and the procession was then put in motion at 1.30 p.m., in the following order :—

89th regiment by ranks.
 Band of the 89th Regiment.

Pall-bearers. **CORPSE** Pall-bearers.

Chief Mourners.
 Servants and horse.
 93rd Highlanders.
 Royal Artillery.
 Civilians.
 Officers of Departments.
 Officers of Regiments.
 Officers of Staff.

In this order the mournful procession proceeded through St. Mary Street to the military burying-ground, Victoria Road. On the leading files reaching the gate of the graveyard the regiment halted and faced inwards, leaning on their arms reversed. The procession then moved through between the vaults, and the corpse having been taken into the chapel, the 89th was moved into the graveyard and formed by wings upon each side of the grave. The body having been deposited in its last resting place, the regiment gave their military farewells to their beloved commander and companion-in-arms. The flag at the Quebec gate barracks was hoisted half-mast, at noon, and so continued until sunset.—*Montreal Witness.*

IN MEMORIAM.—MISS CLOUGH.

BY AN OLD STUDENT.

WRITING precisely twenty-three years ago, upon the then novel agitation for the higher education of women, Mr. F. W. H. Myers sympathetically says that when, after any such struggle, "victory is at length secured, it is almost always found that, beneath the turmoil, some quiet unostentatious energies have been at work, and have done not a little towards the ultimate discovery of right and removal of wrong. The prison-house has not only been shaken by the storm, but sapped by the stream." Such a quiet, unostentatious agency for the bettering of women's lives, such a steady stream, undermining prejudice, and wearing away obstacles, was Miss Clough, late Principal of Newnham College. Doubtless, the worth of her work has, of late years, been fairly recognized, but the last thing she ever strove to gain was public notice; and it must be a marvel to many that one so unpretending and simple minded, and who started from such a meagre basis, should have effected so much.

When lectures were being given to women in all large towns by University men, it naturally occurred to some people to start similar lectures in Cambridge. A committee of ladies and gentlemen was formed to organize these lectures; and, as women from a distance were anxious to attend, a place of residence was provided for them in 1871 by Professor Sidgwick, and Miss Clough undertook the management. This was the embryo Newnham College—only five or six aspiring girls residing in a private house with Miss Clough, and attending outside lectures! The small body was, however, informed with a strong and nimble spirit, before which vast visions rose of a Women's College, affiliated

to the University and enjoying the privilege of the best lectures and the highest examinations it provided. These visions, as everyone knows, have gradually taken substance; but they would long ago have vanished, had it not been for the care, patience and wisdom, with which Miss Clough managed her little community. Many were the crises through which it passed. There were no precedents to fall back upon, and new problems kept cropping up day by day. The public eye was staring hard and rather coldly at these women students who had ventured to invade the sacred precincts of the University; and many were ready to prophesy disaster. Miss Clough had to steer clear of public offence, and to manage the students at home without too much interference with their liberty. And it was no easy task. The students were elated by their position of pioneers, and were eager to enjoy at once all the privileges that could only be obtained by submitting, for a time, to restrictions. The young do not care to feel their way: they want to claim victory as soon as they have won in the first skirmish. So, in these early days, Miss Clough had many dilemmas to face, and much friction to overcome, without and within.

But, for all that, she declared that the true happiness of her life dated from the time when she came to Cambridge. It was then that she first had the work that satisfied her, and the life that suited her. There was plenty of scope in it for her many plans and projects, and plenty of close human interest. Talking once to some one who was complaining of scant happiness, Miss Clough said: "My dear, you must not expect it all at once; I had to wait for it till I was fifty!

How glad one is to know her happy even then!—she who took such unflagging interest in other people's happiness.

Her liking for originality made her very appreciative of different types among the students. She preferred variety, both in their gifts and characters; and she would tolerate one who was indolent, on the ground that she had æsthetic tastes and was musical, and another who was narrow and dogmatic, on the ground that she had plenty of energy. This width of view, and geniality, were manifested in a respect for the individual which is often lacking in people who are wedded to big schemes. She never lost sight of the person in the class, nor, in her devotion to an end, sacrificed the human instruments that served it. She was always concerned that those who were at work in any good cause, educational or other, should themselves have lives that were not only tolerable but enjoyable. And she put a high value upon social pleasure.

Her way of dealing with people individually, instead of collectively, was the great secret of her influence over them; and similarly, her success in carrying out her schemes was mainly due to her attention to minute details—details that to other people might appear tiresome and even unnecessary. She had an imagination so vividly concrete that it almost obliged her "to take each case on its merits," and deal with things bit by bit. She fought shy of abstractions, and hard-and-fast systems she could not abide. She dreaded anything in human affairs that was stereotyped or inelastic; she liked to have an open horizon, and to leave room for "the unexpected which always happens."

It was not mere admiration for a woman who had done a great deal for women, or a sense of the public respect due to the head of their College, that brought such numbers of

old students up from all parts of the country to stand sad and silent by Miss Clough's grave scarce a month ago: it was a feeling of personal affection. And many went away that day with a new sense of solitude in life. She had helped them in their difficulties, and planned their pleasures, and taken all their welfare to heart; and she had given them, by the touch of her spirit, a wider and better outlook in life. And now, as one of them writes, "No one will ever care again in the same true disinterested way for all one's life and work—why should they?"

The lonely and unhappily circumstanced may miss her most, but the successful and happy miss her too; and some who had looked forward to helping in some small way to make old age pleasant to her, even though it had to be idle, are disappointed that they never had an opportunity. But perhaps she would have chosen to die as she did, still at work and in the College. Others who have little children—her "grand-children," as she liked to call them—are grieved to think that those children will never know her.

So short a time is it since she was with us, and so strong still are all one's associations with her, that involuntarily one imagines her reading what has here been written, and finds oneself wondering whether she will approve.—*Extracts from an Article in the Journal of Education.*

[Miss Clough, who was a sister of the poet Arthur Hugh Clough, came of an old Welsh family settled in Liverpool. Her earliest years were spent in the United States, and when she returned to Liverpool she engaged in educational work. After a journey to Florence in 1861, where she arrived a few days before her brother's death, she resumed her efforts in regard to higher education for women in this country, out of which, in 1868,

the Cambridge Higher Local Examinations arose. Her labours in Cambridge commenced in 1871, and culminated in the foundation of Newnham Hall in 1875, of which Miss Clough was the first Principal].

PUBLIC OPINION.

NO ANNEXATION.—At the Towns-end street school, Lansing, Mich., Feb. 19, one of the teachers was punishing a ten-year old pupil named Guy Cottington, when the boy pulled out a revolver. Pointing the weapon at the teacher he said if she struck him again he would shoot her. After the struggle the teacher succeeded in taking the revolver from the boy before it was discharged. A canvass of the school was made and thirteen boys of tender age were found who carried revolvers.—*The School Bulletin*.

A BEAUTIFUL FACE—I don't know where I have seen a more beautiful face than that of the late Miss Clough, whose portrait has been printed in *The Pall Mall Budget*. The beauty is not only of feature, but of expression, even more. No wonder the sweet girl graduates and the sweet girl undergraduates loved her! It will be hard to replace such a woman. It is said that no dignitary of Oxford or Cambridge was ever buried with greater honours than were accorded the late Principal of Newnham.—*The Lounger, in The Critic*.

Q. E. D.—“It is evident that the days of the cast iron system of uniform attainment as the only step to promotion are fast being numbered. It is also evident that the apathy and false economy of farmers in the country, in keeping districts so small as to preclude the payment of living salaries to teachers must be removed. The country school needs as good teaching as the city school. Many of our best men and women have

been trained in the old district school, which was, in many respects, better a generation ago than it is to-day.”—*Judge Draper*.

THE HIGHER DUTIES OF LIFE.—Their true function was to educate not merely children, but men; to train to a higher civilization not merely the rising generation, but the actual society, and to do this by diffusing the spirit of affection, of fidelity and purity—not by writing books or preaching sermons, but by manifesting them in each home by the magic of the voice, etc. The repetition of this commonplace might sound like a jest, but it was necessary to repeat what gross sophistry had forgotten and was beginning to deny. The higher duties of life could only be performed by women, and by them so long as it was recognized to be their true and essential function.—*Frederic Harrison*.

THINGS MONEY CAN NOT BUY.—How much the happiness of individual lives is made up of priceless things, unsalable in the coin of the land, yet found quickly when the heart of the searcher honestly desires them! Many of these real treasures are qualities that simply diffuse themselves through the moral and mental atmosphere, and are sometimes little valued, because they seem too vaporous and too illusive to be practically grasped; but they are genuine possessions, and won by heart service.

Who does not rejoice to have an honourable name—not necessarily a distinguished name, but a clean one? Truly, pride in such an inheritance,

which cannot be bought, is justifiable if with it there are mingled a feeling of humility and a desire to do one's own part to transmit the name as unsullied as it has been bestowed. What makes home love dearer and sweeter than all else, and treasured while life lasts? Not the tables and chairs, not the delicacy of porcelain, or the æsthetic beauty which the loom achieves. These minister to the comfort, taste and artistic nature; but beyond these there is something which ministers to the heart and soul, glorifying plain surroundings and homely details—something illusive to measure or weigh, yet potent to guide, to comfort and to help. What is this but the sympathy, the trust, the spirit of sacrifice, the gentleness, the faith, the readiness to do and to bear which, blended together, make the chain that binds us to our homes?

What beautiful prospects, what luxurious surroundings, what wonders of nature or art but lose their mysterious charm when viewed by eyes that

see not, or when shared with cold thankless heart? The power to enjoy, the power to appreciate, these are what render pleasures real and bring the joy into them. This thankful receiving of pleasures great or small, and extracting the honey of enjoyment from them, is not to be found at any store, yet it is another and large factor in true happiness?

Contentment, too, that balm against the ravages of worldly unrest, where can it be found, and what is its price? Not silver or gold, but patient striving with a thankful heart will bring it to the soul who desires it, and in its possession lurks the charm to chase away unhappy visions, to still unwise longings, and to open the inner vision to the peaceful delights of the home, the friends, the advantages which may be ours. And so through all the phases of human happiness we may go, finding always that its true essence is something that must be gained without money and without price.—*Harper's Bazar.*

GEOGRAPHY.

THE statistics of the average size of families in the various countries of Europe are as follows:—France, 3.03 members; Denmark, 3.61; Hungary, 3.70; Switzerland, 3.94; Austria and Belgium, 4.05; England, 4.08; Germany, 4.10; Sweden, 4.12; Holland, 4.22; Scotland, 4.46; Italy, 4.56; Spain, 4.65; Russia, 4.83; Ireland, 5.20.

THE length of the Suez Canal is 92 miles; depth, 26 feet, and it was thirteen years in construction. Tolls average \$4,300 per vessel. Steamers pass through in forty hours. For sailing vessels tugs are provided at a charge of \$1,000 extra. The entire cost of constructing the canal was \$85,180,000. The British Government owns

one-fifth of the shares of the canal, having bought 176,602 from the Khedive in 1876, for £4,976,600, being 12½ per cent. premium. The coupons having been cut off, the Khedive pays the interest till 1892. The canal shortens the voyage between England and the East by one-third; that is, it enables two vessels to do the same work that would require three by the Cape of Good Hope.—*Age of Steel.*

A QUARTZ CAVE.—The quartz cave in the side of Mount Stephen, in British Columbia, is said to have been almost entirely rifled of its contents by tourists and dealers. It should have been preserved in its integrity as a natural curiosity. It may be

compared to an immense geode, for the roof and walls were covered with fine, large crystals, equal in transparency and size to those of Ellenville, that are to be found in the older cabinets. This magnificent peak, one of the most stupendous in form and bulk and steepness on the line of the Canadian Pacific Railroad, has other treasures in its rocky heart. On one side is a mine that yields silver and lead, and in the gray strata that line its castellated front is such a mass of fossil trilobites as can be found nowhere else on earth. These fossils are flattened in clay slate that is fragile. As the mountain has never been climbed much higher than timber line it is impossible to say what else may eventually be secured there.

Minerals.

TRINIDAD PITCH.—Most of the mineral pitch that is now in use comes from the famous asphalt lake of Trinidad. Within ten years it has assumed a large commercial importance, for a Philadelphia man, Charles F. Stollmeyer, has begun to work it and has removed about a million dollars' worth of the substance. He leases the lake from the Government for nearly \$200,000 a year. A curious Indian legend has it that an entire tribe was suddenly engulfed in the tract for the offence of shooting humming birds, which were supposed to be souls of the dead. It is about 100 acres in extent and stands on a plateau eighty feet above the sea and less than a mile from it. The geologists who surveyed Trinidad hold that the lake is not due to volcanic action or convulsion of any sort, but results from a slow process by which decaying vegetable matter is changed, in the hot soil and under a hot sun, into pitch and oil, instead of coal or peat—a change that would probably occur in a temperate climate. The pressure of neighbouring strata, partly lateral,

partly overlying, forces the pitch through the opening that it has found and the supply may endure for centuries. Vegetable origin is suggested by the emergence of tree trunks that project above the surface. For some distance about the place the soil is soft and pitchy, and as the lake is approached, vegetation grows poor and stunted, the grasses and weeds being sustained largely by the rain-water that forms puddles here and there. The lake itself spreads out as a black mass, edged with woods, creased with rifts from three to thirty feet wide and two to six feet deep. These rifts usually contain water that tastes a little of bitumen, but is pure enough to drink and for fish and alligators to live in. Tiny islands of firmer soil dot the surface, their existence being indicated by clumps of bushes, but these firm places do not extend for any depth; they are literally floating islands, and those who often visit the lake notice that their position is frequently shifted, while once in a while an island will sink and emerge again with its leaves and branches crusted and daubed with bitumen. There is a slight but constant motion, imperceptible to the eye, in this strange reservoir, and it is only the pitch about the edge of it that hardens by loss of its oil and moisture. Beyond this firm edge it would be unsafe to venture, for the foot sinks deep at every step, and none can tell what gulfs of asphalt lie below. The mixture of earthy matter with the asphalt gives substance to it, and prevents it from becoming sticky or gummy. It will not adhere to the fingers and can be moulded into any shape, like putty. The oily smell, with occasional whiffs like sulphuretted hydrogen, that emanate from the lake are said to cause the avoidance of its immediate vicinity by birds and animals so plentiful in adjacent woods.

—*Minerals.*

NOTES FOR TEACHERS.

THE PARLIAMENTARY OAK.—The old "Parliamentary Oak," Clipstone Park, England, is believed to be 1,500 years old. The tallest oak in that country, called the "Duke's Walking Stick," is higher than the spire of Westminster Abbey, and the largest is the "Cowthorpie," which now measures seventy-eight feet in circumference, and, at one time, with its branches, covered more than an acre of space.—*Public Opinion.*

CORK PAVEMENT.—A new material for paving is being introduced into London. It is composed of granulated cork and bitumen pressed into blocks, which are laid like bricks or wood paving. The special advantage of the material lies in its elasticity. When used for pavement it gives a soft tread which is exceedingly pleasant, recalling the feel of a carpet. In roadways it furnishes a splendid foothold for horses, and at the same time almost abolishes the noise which is such an unpleasant feature of city traffic. A short piece of pavement is to be seen in Liverpool Street, E. C.; while the outlet to Pickford's yard in Gresham Street is laid with this material. It yet remains to be seen how it will bear the ordinary traffic of a London street, but there is evidence to show that in Australia short pieces of roadway have given good results.—*Glasgow Herald.*

TOUCH HANDS.—If the literature and language teaching of our schools has been hitherto a thing of shreds and patches, let us find a more permanent way. The greatest debt that many of us owe, is to the mother from whose lips we first learned to love the best authors. Many children come to us in this respect orphans indeed; and if ever their hearts and minds are

to be moved in this direction, the teacher must give the bias. The development of noblest people through noblest literatures has been conditioned and impeded by the vision of our teachers more than by the vision of our writers, and where there has been no vision the children have perished. The precise system of teacher or philosopher may die; but being dead it yet speaks—speaks in an infinity of new lives, the inherited language, ideas, aspirations and beliefs born of, the new philosophy. The young have been made to touch hands with great men, great thinkers, great poets, men of noble life and lofty thought.—*Mrs. Sara D. Jenkins, in The Teacher* (New York).

KNOWLEDGE AND MORALITY.—My love has been to lead you, my young friends, if I have not deceived myself, along the twin paths of knowledge and a rational morality; and, however much I may have erred in execution as a guide, my aim has at least been lofty and my conception of the instructive principle broad and high. I have endeavoured to be, not a mere passive machine for the grinding out of stereotyped examinees for the annual sacrifice—the sacrifice of the fair child of culture to the departmental Moloch of a stultified fashion, but an active, aggressive intellect, combating what I considered errors, attacking superstitions, ignoring fads that have no foundation save in custom, prejudice or ignorance, and pointing, as a sentient, rational finger-post to many paths, suggesting what I have considered the best, those bordered by rectitude, sanctioned by sense, albeit of the somewhat uncommon order, and converging to the great centre of a feasible mentality, with which has ever been connected a practical

morality and an intelligent and practicable spirituality.—*From a Farewell Address, by Mr. A. H. Morrison M. A., Brantford C. I.*

SENSIBLE ADVICE.

BY W. W. STETSON, AUBURN.

[Extracts from letters to his teachers.]

The regular work of the school is the work that should have your best efforts.

Strive to devise some better methods for doing your work than you used last term.

It is what the pupil is inspired to do that makes him stronger and better.

Have a personal interest in your pupils.

Deal with pupils as individuals and not in the mass.

If you can inspire a few it will react and become an inspiration to others.

Aid the average child to do his best. Make him feel that he is capable of something better than he is. Recognize and reward effort as well as achievement.

You cannot be successful in the best sense unless your pupils and their parents are impressed with the fact that you feel kindly toward them and that you are straightforward and fair in your treatment of them.—*Journal of Education* (Boston).

ASTRONOMICAL NOTES—MAY-JUNE.

THOMAS LINDSAY, TORONTO.

THE most interesting observations of real practical value which the amateur can make with the aid of moderate optical power, are those of occultations by the moon, several of which occur in every lunation, visible in any given locality.

It is well known that the lunar tables are not claimed to be absolutely correct, and one most excellent method of determining the amount of error is to note with care the contact of the moon's limb with a star and compare the observed with the calculated time. The calculations are very laborious, however, involving a rigorous computation of the moon's parallax in R. A. and Dec., the latter increasing the polar distance while the former increases the hour angle when the moon is off the meridian.

In the "American Nautical Almanac" the times of immersion and emersion of the occulted stars visible at Washington are given; but these predicted times are rigorously true for Washington only, and for any

other place a re-computation is necessary.

The rule, easily remembered, is: the farther the moon is east of the meridian of the observer the farther she is in advance of her true place, contrary when west of the meridian.

The occultation of Uranus on April 12th was very successfully observed in Toronto. One very careful record made at a 10 inch reflector gave the time of immersion 11h. 51m. standard time, agreeing very closely with the computed time.

The time computed for Washington was five minutes later by reason of the difference of parallax in R. A.

Mercury reaches his greatest elongation on the morning of May 17th, being then $25^{\circ} 36'$ W. of the sun and rising at 4h. in the direction E. $12^{\circ} 15'$ N. Venus attains her greatest brilliancy on June 2nd. She has now assumed the crescent phase and is most favourably placed for observation. Observers with good instruments should endeavour to watch the

planet closely this month in the evenings before sunset. The position of rotation period should be settled this year, and doubtless will.

In the southern evening sky during this month we have Saturn as the object of greatest interest. He is easily found about half way between Regulus and Spica. The latter, one of the brightest stars in the heavens, is of a bluish tint, and is a most beautiful object in a telescope perfectly achromatic. Uranus transits the meridian on May 10th at 11h. 4m. at an altitude of $30^{\circ} 11'$. At the recent occultation of this planet, the disc was very well defined in a telescope of $2\frac{1}{4}$ inch aperture, power 60. Jupiter rises at 2h. 30m. at the end of the month. During last winter the attention of observers was called to the appearance of Satellite IV. by Dr. Donaldson, of Fergus. He had observed peculiarities of colour in this Satellite not shown by the others. This would suggest differences in physical condition, and during the present year, when the planet is more favourably

placed for observation than at present, it is hoped observers with good optical aid will note carefully any observations made.

Still more remarkable is the record of Satellite I., which has long been suspected to be double. The transit of a double shadow over the disc of Jupiter has been noticed at the Lick Observatory, and a Toronto observer last year was fortunate enough to observe the same phenomenon in one of the best instruments in Ontario. A sketch made at the telescope is reproduced in the Transactions of the Astronomical and Physical Society. It is expected that the question of the duplicity of the Satellite or other cause of the double shadow will be settled this year.

The recently discovered comet known as (Swift) comet b 1892 may be seen in the early mornings during this month. It will rise on May 10th at 1h. 30m. a.m., in the direction N.E. by E. It is decreasing in brilliancy, but will continue to be visible during May and June.

EDITORIAL NOTES.

THE season for summer schools is at hand, and efforts are being made to improve them in methods, location and teaching power. Dr. L. Sauveur's excellent school (noted for the successful teaching of French and German by the natural method) has been removed from Burlington, Vt., to Exeter, N.H., where its Seventeenth Session will be held from July 11th to August 19th, 1892.

FOR years past, every census taken in Great Britain, Canada or the United States of America, makes it more clear to every reader that the trend of population is to the towns and cities. This movement of population to towns and cities, whatever the full

and proper explanation may be, is not confined to English-speaking communities—it is universal. Every civilized country shows the same inclination of its people to city life, and the more civilized the country, the more rapid the movement of the people. The fact is undeniable. Measures are being recommended and adopted in Britain and elsewhere to check this tendency, which, if carried too far, would be disastrous to the best interests of any country. No better place has yet been found to bring up strong boys and girls than the country. The complaint in Great Britain is that the schooling given in the elementary schools influences boys to leave the farm and to seek their

fortune in the cities. This is a complaint heard in every English speaking community. The remedy proposed by those conversant with the needs of the country, is, to have much more attention given to matters relating to farm life: such as clearing of land, improving of soils, different kinds of soils, what soils are best adapted for raising certain grains, changing of crops, etc., etc.; how best to take care of the stock found on a farm, improvement of the stock, etc. In short, in the country schools should be found and taught to the children attending them those subjects, which, in the natural order of things, will, in all probability, be related to the life work of those children. The farmer states, that the instruction given in our public schools leads his sons and daughters away from farm life. Account for it as we may this seems to be the fact. The effect made on the minds of the pupils in our schools seems confessedly to be discontent with country life. How can this be explained? The master is the school. Are the teachers and their appliances such as necessarily lead to this undesirable result? The complaints against the school may be put in the following way: You ignore the literature dealing with country life; you pass by unnoticed the subject which every one living in the country must know something of, agriculture. You emphasize mere scholastic attainments, courses leading to higher institutions; you make it imperative on each pupil to have some knowledge of drawing, book-keeping, etc., as if they were all to be shop-keepers instead of farmers or instructors of farmers. So runs the tone of complaint, of unfriendly criticism, against school, programme of studies and administration of educational affairs. Evidently a change of the programme of studies is in the air. High Schools must take less by comparison with public schools from the

general taxpayer, and agriculture must not any longer be shouldered aside for more attractive if less useful studies.

THE CONVENTION OF 1892.

THE Thirty-First Convention of the Ontario Teachers' Association came to a close on Thursday, 21st April, in the usual loyal fashion followed by the Convention for many years by heartily singing "God Save the Queen." This is the first time the teachers have met in Annual Convention at Easter. To provide time for the meeting of the Annual Convention was one reason amongst others why the Easter holidays were restored. The evidence, so far, is that the change both as regards holidays and time of meeting of the Annual Convention will be amply justified by the beneficial effects on the educational, and therefore on every other, interest of Ontario.

The Convention just closed is noteworthy for several things. (1) The number of teachers present from the higher institutions of learning, colleges, universities and high schools. Every university in Ontario, except Trinity, was represented by two or more of its professors. We hope next year that we shall have Trinity men with us at our annual meeting, to contribute their share towards the improvement of educational work in Canada. (2) The heartiness and vigour of the many discussions engaged in during the Convention, especially in that part of the Convention hitherto known as the High School section, but hereafter to be known as the University and College Departments, and the High School Department. The amount of good and influential work done in the sub-departments of Modern Languages, Classics, Science and Mathematics and Physics was great indeed, and more and better than that accomplished at any previous meeting of our teachers.

(3) The revision of the Constitution.

Owing to various causes, such as the effect of holding annual meetings at Niagara-on-the-Lake, and change of time of meeting, it became evident to the well-wishers of educational progress that a thorough revision of the Constitution was necessary. Accordingly, a special session of the Convention was devoted to this delicate business. In this revision we notice the change of name from Ontario Teachers' Association to "Educational Association of Ontario," also the division of educational men into six departments, viz.: University and College, High Schools, Public Schools, Inspectors, Training and Kindergarten, and lastly, reserving the evening sessions for the Association in order to overtake the proper consideration and discussion of general topics in which all educators of the Province are interested, thus leaving a large amount of time for the work of specialists and at the same time avoiding the unseemly procedure of holding any meeting when the sessions of the general body are in progress.

All these matters are of importance to the well-being of the country; for we hold that the teachers and their doings have much to do with the real life of a people. They are the makers and prophets of a people.

Happy the people and well-favoured who have a dauntless, seeing, speaking, spiritual Association of prophets, nurtured in freedom, robed with intelligence and girdled with truth. In perpetuity may the Educational Association of Ontario besuch: let it preserve and hand on for generations the same lamps of liberty and progress. The future looks fair and the promise of an abundant harvest is in sight.

HON. ALEXANDER MACKENZIE.

BORN in Perthshire in 1822, an emigrant to Canada in 1842, elected to Parliament in 1861 as representative for the County of Lambton,

Mr. Mackenzie took a leading place among the public men of the country. On the defeat of the Government of Sir John Macdonald in 1873, Mr. Mackenzie became the Prime Minister of the Dominion, holding that position till the defeat of his administration in 1878.

During the past few years Mr. Mackenzie's health has been so poor that he was not able to take an active part in parliamentary life, but all the while he was solicitously interested in all that concerned his adopted country.

Mr. Mackenzie's career affords another illustration of the open field which the British Empire offers to all her sons. He began life in his native land as a stonemason; in that calling he did good and honourable work in Canada; carefully husbanding his time, as many a one before him did, he prepared himself for the onerous and anxious duties of public life. The institutions of his country place no bar in the way of such a man, and when his country called for a Prime Minister, Mr. Alexander Mackenzie was ready. All men honour the upright conduct and good intentions of the departed ex-Prime Minister. All Canadian youths will be inspired by observing the recognition which all men are ready to bestow upon integrity, talents and diligence. To the conscientious public servant, we say, *Requiescat in pace.*

IN MEMORIAM: MISS A. CLOUGH.

DIED FEBRUARY 28, 1892.

Esteem'd, admir'd, below'd,—farewell!

Alas! what need hadst thou of peace?

Our bitterest winter tolls the bell,

And tolls, and tolls, and will not cease.

It tolls, and tolls, with plangorous tongue,

For empty lives and hearts unblest'd

And tolls for thee whose heart was young,

Whose life was full of hope and rest.

Thy meditative odd replies

Cast out like arrows on the air,
The humour in thy dark blue eyes,
The wisdom in thy silver hair.

These will grow faint, shade after shade,
As those who loved thee pine and pass;
But all thy being was not made
To shrink like breath upon a glass.

Thou with new graces didst maintain
The uncharm'd, outworn scholastic seat,
Throned, simply, with an ardent train
Of studious beauty round thy feet.

Those girls, grown mothers soon, will teach
Their sons to praise thy laurell'd name,
Thy hand that taught their hands to reach
The broader thought, the brighter flame.

So thou, though sunk amidst the gloom
That gathers round our reedy shore,
Shall with suffused light illumine
A thousand hearts unlit before.

—Edmund Gosse, in the *Critic*:

“DON'T break uniformity of discipline,
but break uniformity of teaching.”

Saint-Marc Girardin.

SCHOOL WORK.

MATHEMATICS.

I. E. MARTIN, B.A., R.M.C., KINGSTON, EDITOR.

(Continued from page 155.)

TRIGONOMETRY.

Solutions by *Genl. Cadet Batt. Serg.-Maj.*
W. Dumble, R. M. C., Kingston.

NOTE.—Candidates are required to take all the questions of section A and any two of section B.

A.

1. (a) Define an angle according to the usage of Plane Trigonometry.

(b) Define the common units of angular measure.

(c) Express in sign and magnitude in each of the units, the angle described by the minute hand of a clock between the times 9h. 5m. and 11h. 55m.

1. (a) Book work.

(b) Book work.

(c) Time elapsed = 2h. 50m., during which min. hand passes over $-720(-) \frac{1}{4} \cdot 360 = -1020^\circ$.

$$\frac{A}{180^\circ} = \frac{\theta}{\pi} \quad \frac{-1020}{180} = \frac{\theta}{\pi};$$

$$\therefore \theta = \frac{-17\pi}{3} \text{ circ. meas.}$$

$$-\frac{1020 \cdot 10}{9} = -1133^\circ 33' 33'' \cdot 33 \text{ grades.}$$

2 (a) Define $\sin A$, $\cos A$, $\tan A$, and $\cot A$, when A is less than a right angle.

(b) Deduce from a geometrical construction the algebraic value of $\frac{\pi}{2} + a$, when a is less than $\frac{\pi}{2}$.

(c) Find the value of each of the following:

$$\sin \frac{\pi}{4}, \cos \frac{\pi}{3}, \tan \frac{\pi}{6}.$$

2. (a) Book work.

$$(c) \sin \frac{\pi}{4} = \sin 45^\circ = \frac{1}{\sqrt{2}} \cdot \cos \frac{\pi}{3} \\ = \cos 60^\circ = \frac{1}{2} \cdot \tan \frac{\pi}{6} = \tan 30^\circ = \frac{1}{\sqrt{3}}$$

3. (a) Express all the Trigonometric functions of a given angle in terms of its *sine*.

(b) Find the value of θ and of ψ from the equations $\sin \theta = \frac{1}{3}$, and $\tan \psi = \sqrt{3}$.

(c) Given $\sin 2\theta = \cos 3\theta$, find θ and $\sin \theta$.

3. (a) Book work.

(b) $\sin \theta = \frac{1}{3} \therefore \theta = 30^\circ$ or 150° . $\tan \psi = \sqrt{3} \therefore \psi = 60^\circ$.

(c) $\sin 2\theta = \cos 3\theta$ or $2 \sin \theta \cos \theta = 4 \cos 3\theta - 3 \cos \theta$. $\therefore \cos \theta = 0$ or $2 \sin \theta = 4 \cos 2\theta - 3$. $\therefore \sin^2 \theta = 4 \cdot 4 \sin^2 \theta - 3$. $4 \sin^2 \theta + 2 \sin \theta = 1$.

$$\sin^2 \theta + \frac{\sin \theta}{2} + \left(\frac{1}{4}\right)^2 = \frac{1}{4} + \frac{1}{8} = \frac{3}{8}$$

$$\therefore \sin \theta = \frac{-1 \pm \sqrt{5}}{4}$$

$\sin 2\theta = \sin (90 - 3\theta) \therefore 2\theta = 90 - 3\theta$
or $5\theta = 90$. $\therefore \theta = 18^\circ$.

4. (a) Prove that $\sin \alpha + \sin \beta = 2 \sin \frac{1}{2}(\alpha + \beta) \cos \frac{1}{2}(\alpha - \beta)$, and write the corresponding value for $\cos \alpha + \cos \beta$.

(b) Show that $\sin 41^\circ + \sin 67^\circ - \sin 31^\circ - \sin 77^\circ = \sin 5^\circ$, given $\sin 18^\circ = \frac{\sqrt{5}-1}{4}$

(c) Express $\cos m\theta \cdot \cos n\theta \cdot \cos p\theta$ as the sum of four cosines.

4. (a) Bookwork.

(b) $\sin 41^\circ - \sin 31^\circ + \sin 67^\circ - \sin 77^\circ = 2 \cos 36^\circ \sin 5^\circ - 2 \cos 72^\circ \sin 5^\circ = 2 \sin 5^\circ (\cos 36^\circ - \cos 72^\circ) = 4 \sin 5^\circ (\sin 54^\circ \sin 18^\circ) = 4 \sin 5^\circ \sin 18^\circ (\cos 36^\circ) = 4 \sin 5^\circ \sin 18^\circ (1 - 2 \sin^2 18^\circ) = \sin 5^\circ, 4 \sin 18^\circ (1 - 2 \sin^2 18^\circ) = 1$.

(c) $2 \cos A \cos B = \cos(A+B) + \cos(A-B)$. $\cos p\theta \cos m\theta \cos n\theta = \cos n\theta (\cos m\theta \cos p\theta)$
 $(\cos m\theta \cos p\theta) = \frac{1}{2} \cos p\theta [\cos(m+n)\theta + \cos(m-n)\theta]$
 $= \frac{\cos p\theta \cdot \cos(m+n)\theta + \cos p\theta \cdot \cos(m-n)\theta}{2}$

$= \frac{\cos(m+n+p)\theta + \cos(m+n-p)\theta + \cos(m-n+p)\theta + \cos(m-n-p)\theta}{4}$

5. In any triangle prove that :

(a) $\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c} = \frac{1}{2R}$.

(b) $\tan \frac{1}{2}(B-C) = \frac{b-c}{b+c} \cot \frac{1}{2}A$.

(c) $\tan A + \tan B + \tan C = \tan A \cdot \tan B \cdot \tan C$.

5. (a) Book work. (b) Book work. (c) Book work.

6. Find an expression for

(a) The radius of the incircle (inscribed circle) of a triangle.

(b) The radius of an excircle (escribed circle) of a triangle.

(c) The radius of the circumcircle (circumscribing circle) of a triangle.

6. (a) Book work. (b) Book work. (c) Book work.

7. (a) Prove that

$r_1 \cot \frac{A}{2} = r_2 \cot \frac{B}{2} = r_3 \cot \frac{C}{2} = r \cot \frac{A}{2}$

$\cot \frac{B}{2} \cot \frac{C}{2}$.

(b) The centres of the excircles of a triangle are joined. Show that the area of the triangle so formed is $\frac{abc}{2r}$.

7. (a) $r_2 \cot \frac{C}{2} = r \cot \frac{A}{2}, \cot \frac{B}{2} \cot \frac{C}{2}$

if $\frac{\Delta}{s-c} = \frac{\Delta}{s} \sqrt{\frac{s-s-a}{s-b} \cdot \frac{s-s-a}{s-c}} \sqrt{\frac{s-s-b}{s-a} \cdot \frac{s-s-b}{s-c}}$

(i.e.) $\frac{1}{s-c} = \frac{1}{s-c}$.

Similarly for r , $\cot \frac{A}{2}$ and $r_2 \cot \frac{B}{2}$.

(b) Area of escribed triangle

$= \Delta + \frac{a}{2} r_1 + \frac{b}{2} r_2 + \frac{c}{2} r_3$
 $= \Delta + \frac{a}{2} \cdot \frac{\Delta}{s-a} + \frac{b}{2} \cdot \frac{\Delta}{s-b} + \frac{c}{2} \frac{\Delta}{s-c}$
 $= \frac{2s-a \cdot s-b \cdot s-c + a(s-b)(s-c) + b(s-a)(s-c) + c(s-a)(s-b)}{2 \cdot (s-a)(s-b)(s-c)}$

$= \Delta \cdot 2 \cdot \frac{\{s^2 - 2s^2 + s(ab+bc+ca) - abc\} + 2s^2 + 3abc - 2s(ab+bc+ca)}{2 \cdot s-a \cdot s-b \cdot s-c}$

$= \frac{s \Delta}{2 \Delta^2} (abc) = \frac{s}{2 \Delta} (abc) = \frac{abc \cdot s}{2 \Delta}$

now $\frac{abc}{2r} = \frac{abc \cdot s}{2 \Delta}$

EUCLID.

NOTE. — Candidates must take all the questions of section A, and any four of section B.

A.

1. (a) Upon the same base, and on the same side of it there cannot be two triangles that have their sides which are terminated in one extremity of the base, equal to one another, and likewise those which are terminated in the other extremity.—*Eucl. I, 7.*

(b) Prove the foregoing directly from the assumed axiom, "a straight line is the shortest distance between two given points."

2. (a) All the interior angles of any rectilineal figure together with four right angles, are equal to twice as many right angles as the figure has sides. *Eucl. I, 32, Cor. 1.*

(b) A, B, C, D, E are five vertices, in order, of the figure whose sides are AC, CE, EB, BD and DA. Find the sum of the angles ACE, CEB, EBD, BDA and DAC.

3. (a) If a line be divided into two equal, and also into two unequal parts, the rectangle contained by the unequal parts, together with the square on the line between the points of section, is equal to the square on half the line. Euc. II, 5.

(b) If a line be divided into two parts the rectangle contained by the parts is greatest, and the sum of the squares on the parts is least when the parts are equal.

4. (a) The angle in a semi-circle is a right angle; the angle in any other segment is acute or obtuse according as the segment is greater or less than a semi-circle. Euc. III, 31.

(b) If through a fixed point any number of chords be drawn to the same circle the mid-points of the chords lie on a circle.

5. (a) Inscribe a circle in a given triangle.

(b) Show that the problem to draw a circle to touch three straight lines which form a triangle has four solutions, and find them.

6. (a) Give a definition of similar triangles and of homologous sides, and prove that in similar triangles the homologous sides are proportional.

(b) ABC is a triangle and DE is parallel to AC, D being on AB and E on CB. DC and EA intersect in O. Show that BO produced bisects AC.

B.

7. A, B, C, D are the vertices of a square and A, E, F the vertices of an equilateral triangle, both inscribed in the same circle.

Find the angle between BE and DF, and also between DE and BF.

8. A and B are two points on the same side of a line L. Find a point P, on L, such that the sum of PA and PB may be the least possible.

9. Describe a circle, with a given radius, to touch a given circle and pass through a given point.

Show that there are two solutions, and examine the conditions under which the two

solutions become the same, or become impossible.

10. A, B, C, D is a square, and AA', BB', CC', DD' are perpendiculars upon any line L.

Show that the square is equal to the difference between the sum of the squares on AA' and CC', and twice the rectangle contained by BB' and DD'.

11. Two tangents are drawn from a point, P, to a circle whose centre is O, and the chord, joining the points of contact of the tangents, cuts OP in Q.

Show that the rectangle contained by OP and OQ is equal to the square on the radius of the circle.

12. Similar triangles are to one another in the duplicate ratio of their homologous sides.

13. Draw two lines parallel to the base of a triangle so as to trisect the area of the triangle.

14. The rectangle contained by the diagonals of any quadrilateral inscribed in a circle is equal to the sum of the rectangles on its opposite sides in pairs.

MODERN LANGUAGES.

Editors. { H. I. STRANG, B.A., Goderich.
W. H. FRASER, B.A., Toronto.

EXERCISES IN ENGLISH.

The closing scene of French dominion in Canada was marked by circumstances of deep and peculiar interest. The pages of romance can furnish no more striking episode than the Battle of Quebec. The skill and daring of the plan, which brought on the combat, and the success and fortune of its execution, are unparalleled. A broad, open plain, offering no advantages to either party, was the field of fight. The contending armies were nearly equal in military strength if not in numbers. The chiefs of both were already men of honourable fame.

1. Substitute words of equivalent meaning for *dominion, peculiar, furnish, episode, party, chiefs*.

2. "Of deep and peculiar interest." Change the form so as to do without *of*.

3. "No more." What would be the effect of substituting *not for no*?

4. "Than the Battle of Quebec." Complete the clause

5. "Of its execution." Expand into a clause.

6. "Unparalleled." Replace by a phrase.

7. "Offering, etc." Expand into a clause and substitute *not for no*.

8. "The field of fight." Substitute an equivalent phrase, employing words already used in the paragraph.

9. "The extending, e'c." Rewrite this sentence so as to make *strength* and *numbers* the subjects.

10. Rewrite the last sentence so as to make *fame* the object of a verb.

11. Select all the words that show inflection.

12. Form adjectives from circumstance, romance, skill, combat, fortune, number, advantage.

13. Form nouns from scene, deep, peculiar, combat, broad, party, equal.

14. Classify all the words in *ing*, giving your reason in each case.

15. "Brought on the combat." Is *on* a preposition or an adverb here? Why? What is it in each of the following? Put on your cap. He jumped on the sleigh. He lost it on the way. Come on, boys: Sew on these buttons.

16. "Battle of Quebec." By what other name known.

17. "Daring." How was this shown?

18. "The chiefs, etc." Name them. Tell what you know of the previous history of either.

CLASS-ROOM.

BRITISH NORTH AMERICA ACT— EXECUTIVE POWER.

PETER MCEACHERN, B.A.

(Continued.)

Application of provisions referring to Governor-General in Council:

13. "The provisions of this Act, referring

to the Governor-General in Council shall be construed as referring to the Governor-General acting by and with the advice of the Queen's Privy Council for Canada."

It is stated in the preamble that the constitution given to Canada is "similar in principle to that of the United Kingdom." The relation of the Governor-General to the Canadian Cabinet is similar to the relation of the Sovereign to the Cabinet in England.

The Cabinet assumes full responsibility to Parliament and to the country for all Acts of the Governor-General in Council.

Lieutenant-Governors and other officers of the Dominion are appointed by the Governor-General in Council (ss. 58, 67, 131).

Power to Her Majesty to authorize Governor-General to appoint Deputies:

14. "It shall be lawful for the Queen, if Her Majesty thinks fit, to authorize the Governor-General from time to time to appoint any person or any persons jointly or severally to be his Deputy or Deputies within any part or parts of Canada, and in that capacity to exercise during the pleasure of the Governor-General such of the powers, authorities and functions of the Governor-General as the Governor-General deems it necessary or expedient to assign to him or them, subject to any limitations or directions expressed or given by the Queen; but the appointment of such a Deputy or Deputies shall not affect the exercise by the Governor-General himself of any power, authority or function."

Command of Armed Forces to continue to be vested in the Queen:

15. "The command-in-chief of the land and naval militia, and of all naval and military forces, of and in Canada, is hereby declared to continue and be vested in the Queen."

Seat of Government of Canada:

16. "Until the Queen otherwise directs, the Seat of Government of Canada shall be Ottawa."

The Provincial Governments may at their pleasure change the location of their Seats of Government (s. 68).

CONTEMPORARY LITERATURE.

THE *Overland* for May promises to be a good number. It will contain, among other papers, one on "San Francisco's Famous Street Characters" and "California's Great Raisin Industry."

Littell's Living Age for April 23rd contains the third part of "Conversations and Correspondence with Thomas Carlyle," from the *Contemporary Review*, a short story called "Boommellen," and various interesting articles.

THE leading article in the *Missionary Review of the World* is "A Review of the Work of William Carey," by George Smith, LL.D. There are continued articles on "Spurgeon" and "Are Mission Converts a Failure?" A valuable article is one on "The Training of Missionaries," by Rev. Edward Storrow.

THE *Eclétic Magazine* for April contains the Bishop of Ripon's able article on "Spurgeon" (Fortnightly), and a "New Calendar of Great Men," by John Morley, from the *Nineteenth Century*. "Do the Commonplace Virtues Pay?" and "Helm," a graceful poem, are from the *Spectator*. Other good selections make up the usual excellent variety presented by the magazine.

THE *Illustrated News of the World* of April 30th contains, among the leading illustrations, "The Parliamentary Steeplechase at the Bar of the House of Commons" and a "Reading from Homer." The Oxford and Cambridge sports are described and fully illustrated. One of the most interesting papers is "Sketches of Lincoln Cathedral." Rider Haggard's story is approaching its conclusion.

THE "Travelling Correspondent" of the Journalist Series appears in the May *Lippincott*; interesting experiences and adventures are scattered throughout the paper. There are two articles on "Walt Whitman," one by W. S. Walsh, and the other by W. H. Garrison. An appreciative sketch of "J. M. Barrie and His Work" is by Louise Chand-

ler Moulton. The complete novel, "The Golden Fleece," is by Julian Hawthorne.

Education for April has for leading article "The Schoolmaster and University Reform," by E. D. Warfield, LL.D. In the editorial department there is a discussion on "Sex in Education." "Current Methods in Botanical Instruction" and "Memory Training in Public Schools" will be useful articles to most teachers. Other papers are on "Classics in Grade Work" and "Elementary Science in Public Schools."

THE new cover of the *Book-Buyer* is the most artistic that has appeared for some time. The leading article, accompanied by portrait, is on "Edward Whymper, the Famous Mountain Climber." There is a view of Mr. Gladstone's Library at Harwarden and a reproduction of his book-plate. How "Colonel Carter" was written gives a good idea of Mr. Smith's method of work. "In the Library" is more than usually interesting.

"A DEPLORABLE AFFAIR," by W. E. Norris is begun in the April *English Illustrated Magazine*. A fine portrait of General Lord Roberts, which is followed by a short article on him by Archibald Forbes, opens the number. A paper of great interest is on "A Hampshire Moor," by Rose G. Kingsley. The leading place in "Some Singers of the Day" is given to Madame Altani, the Canadian prima donna. "A Middy Hero," a pathetic little story, is by Arthur Lee Knight.

A BEAUTIFULLY illustrated and comprehensive article on "The Surpliced Boy Choirs of America" opens the *New England Magazine* for April. "Women's Work in Astronomy at Harvard," by Helen Reid, and "Early Visitors to Chicago," are two articles of great value. "Life Cycles," a poem, by Katarine C. Penfield, is of unusual beauty. The short stories are, "A Summer Wooing," "A Family Tree and Lennet's." The stories of Salem Witchcraft are continued.

School-room Classics XIV.: The Place of Comenius in the History of Education. By Nicholas Murray Butler, Ph.D. (Syracuse: C. W. Bardeen.)

Moffatt's Geography Reader: No. II. 8d. (London: Moffatt & Paige.) This Primer is well illustrated, and the lessons (on the conversation plan) are interesting.

French Schools Through American Eyes. A Report to the New York State Department of Public Instruction. By James Russell Parsons, Jr., Inspector of Teachers' Classes and formerly U.S. Consul at Aix-La-Chapelle. (Syracuse: C. W. Bardeen.)

Rand, McNally & Co., of Chicago, have recently issued pocket guide books for Mississippi and California, which are complete and inexpensive. Each contains a map of the State and an index showing in detail the railroad system and express companies, and locating the cities, towns, villages, counties, etc., etc. (25 cents each.)

Heath's Modern Language Classics: Bildebuch Ohne Bilder. Hans Christian Andersen. Edited by Dr. Wilhelm Bernhardt. 30c. (Boston: D. C. Heath & Co.) This is a school edition with good notes, a German-English vocabulary, a short biography of the author, and a number of illustrations. It is admirably adapted for a German reading-book.

A New Elementary Algebra. By Chas. Davies, LL.D. Edited by Prof. Van Amringe. 90c. (New York: The American Book Co.) The newly revised edition of the late Dr. Davies' text book on Algebra is improved by the addition of new problems, simplified, and expanded in the sections relating to factoring, evolution, etc. It is a good text book.

Methods of Gas Analysis. By Dr. Walther Hempel. Translated by L. M. Dennis, of the Cornell University. (London: Macmillan & Co.) 7s. 6d. The best methods of gas analysis are presented in this work, with every aid from illustration, typography, appendices, index, etc. Practical chemists will appreciate this masterly work, in English, and in such a convenient form.

The Second Part of the Dictionary of Political Economy (Beeke-Chamberlaine) has just been issued by Messrs. Macmillan & Co. The editor, R. H. Inglis Palgrave, F.R.S., is to be congratulated on the progress of the work and on its undoubted economic value. Among the articles of special interest in Part II. may be mentioned those on Jeremy Bentham and Thomas Carlyle.

Songs and Miscellaneous Poems. By John Imrie. (Toronto: Imrie & Graham.) We are glad to see that a second edition of Mr. Imrie's poems is now issued. Many of these songs have already appeared in the Canadian press, and they are chiefly on subjects connected with country, love, home and religion. They are modest and sincere in tone, and breathe throughout an excellent spirit. We congratulate the author on his well-earned success.

Clarendon Press Series: Homer for Beginners. Iliad. Book III. M. T. Tatham, M.A., Balliol College. (Oxford: The Clarendon Press,) 1s. 6d. The spirited introduction by the editor is an earnest of the good work all through this book, which is suitable for the use of those who have some knowledge of Attic Greek, and Liddell & Scott's Abridged Lexicon. The text proper is in legible Greek type; the running analysis, grammatical and other notes are excellent.

The Hygienic Treatment of Consumption. By Prof. Holbrook. (New York: M. L. Holbrook & Co.) This is a detailed and careful description of the Prevention and Cure of Consumption, by the use of Hygienic methods and medical common sense. There seems now no doubt that many cases of this dreaded disease might be prevented by care in regard to contagion, etc., and obedience to the general laws of health. It is a convenient and useful book for those concerned.

The Elements of Plane Trigonometry. By R. Levett, M.A., and C. Davison, M.A., King Edward's High School. (London: Macmillan & Co.) We have in the present treatise three parts which deal respectively with arithmetical, real algebraical and com-

plex quantity. The treatment adopted by Professor De Morgan has been largely followed throughout this work, which will be found, we believe, of great service by teachers and students. The subject has been, in some important particulars, simplified and re-arranged, and the excellent collections of problems are of unusual value.

Timber, or Discoveries Made upon Men and Matter. Ben Jonson. Edited by Prof. Felix E. Schelling. (Boston: Ginn & Co.) Coleridge, Dryden, Saintsbury and Swinburne have told us of rare merits of Ben Jonson, the English Virgil. Perhaps none of his works would be a better companion for a quiet half hour than this, though, till recently, it was almost unknown. The surprising variety and extent of the author's reading, his sound judgment and wisdom, his charm of style and the honest and manly spirit of his thoughts cannot fail to appeal to the reader. Prof. Schelling's introduction and notes are serviceable and scholarly, and the publishers' work is beautiful.

Ezra and Nehemiah: Their Lives and Times. (New York: Anson D. F. Randolph & Co.) By George Rawlinson, M.A., F.R.G.S. \$1.00. It would be difficult to praise too highly this excellent series of biographies, written by eminent scholars, each one an authority, and utilizing the latest discoveries and researches. The result is that we seem to live in these ancient times and feel and form resolutions with those whose lives we follow by the author's skilful aid. Canon Rawlinson is the author of other volumes of this series, and we can only say, that anyone who reads this one will almost certainly be the better for it. Somewhat more space is devoted to Nehemiah than to Ezra, and the geography, history, customs and social life of the time are strikingly portrayed.

Thomas Carlyle's Moral and Religious Development. By Dr. Flügel, of the University of Leipsic. Translated from the German by Jessica G. Tyler. (New York: M. L. Holbrook.) \$1.00. "From the 'Silence of the Eternities,' of which he so often spoke, there still sound, and will long

sound, the tones of that marvellous voice." These true words were said by Dean Stanley in Westminster Abbey, on the occasion of Carlyle's death. Still they apply to this little book, written by one of the editors of *Anglia*, the leading German periodical devoted to English literary and philological studies. In tone it is independent and forcible, appreciative in spirit, and interesting in treatment. Quotations largely from Carlyle's works are given, and the insight of the writer is abundantly evident in his book, which is a valuable contribution to the bibliography of Thomas Carlyle.

Joseph: Beloved, Hated, Exalted. By F. B. Meyer, B.A. (New York and Chicago: The Fleming H. Revell Co.) \$1.00. This is really a new book re-written and enlarged by the author, whose good reputation as a writer of devotional and biographical works is, no doubt, known to our readers. While there are many books dealing with the same fascinating story, there are few, if any, possessing the same eloquent style and direct power over the reader. No chapter is lost—the arrow finds its mark—the author gets hold of what he wants to say and of those to whom he says it. One of the best chapters is the closing one, the motto of which is two stanzas of "Crossing the Bar" from which we add one sentence. "We have no unburied bones to animate our faith, nor to revive our drooping zeal; but we have something better—we have an empty grave."

Plutarch's Lives of the Gracchi. Edited by G. E. Underhill, M.A., Fellow and Senior Tutor of Magdalen College. (Oxford: At The Clarendon Press.) 4s. 6d. Another beautiful volume of the Clarendon Press Series has just appeared. In mechanical execution it is all that could be desired, and we need scarcely add, that the reputation of the editor and the Clarendon Press is amply sustained by every detail of the work. We have here an introduction comprising: (1) The Life and Writings of Plutarch, (2) Sources and Materials, (3) *Leges Agrariæ*, then a chronological table, then the text (mainly Sintenis); Appendix I., Fragments of the speeches of C. Gracchus; Ap-

pendix II., Passages from Appian's *Bella Civilia*; Index I., of Greek words; Index II., of names and matters.

Twelve English Statesmen. Pitt. By Lord Rosebery. (London and New York: Macmillan & Co.) Ten of the twelve volumes of this series have now appeared; there remain only "Edward I.," by F. York Powell, M.A., which is in preparation, and Mr. John Morley's "Chatham," which is, we believe, in the press. All the ten volumes have been anticipated with interest and favourably received, but none more so than the present number. Like many of its predecessors, it is probably the best short biography on its particular subject, and that subject a great and difficult one. Lord Rosebery, however, has proved himself equal to it, and has dealt with Pitt and his policy, in war and peace, in a manner which entitles him to the gratitude of the Empire of which he, like his illustrious subject, is a servant. Lord Rosebery thinks the war with France was inevitable, Pitt's management of finances wise, and pleads in answer to his opponents of the present day, that Pitt should not be judged by nineteenth century standards. These are the words of the dedication: "This little book has been written under many disadvantages, but with a sincere desire to ascertain the truth. My chief happiness in completing it would have been to give it to my wife; it can now only be inscribed to her memory." And with these words the book concludes: "From the dead eighteenth century his figure still faces us with a majesty of loneliness and courage. There may have been men both abler and greater than he, though it is not easy to cite them; but in all history there is no more patriotic spirit, none more intrepid, and none more pure."

University Extension Manuals. Edited by Professor Knight of St. Andrews: (1) *The Fine Arts*, 3s. 6d.: G. Baldwin Brown, Professor of Fine Arts, University of Edinburgh. (2) *English Colonization and Empire*, 3s. 6d.: A. Caldecott, Fellow of St. John's College, Cambridge. (3) *The Realm of Nature—A Manual of Physiography*, 5s.:

Hugh Robert Mill, University Lecturer, Edinburgh. (London: John Murray.) University Extension, a movement likely to be important in promoting the general spread of knowledge, is, incidentally, sure to occasion the issue of books acceptable and useful to the general reading public and especially to those who have some charge of the instruction of others. The four or five volumes already issued may fairly be taken as representative of the series, and the verdict pronounced on them can hardly be unfavourable. Edmund Gosse, Stopford Brooke, Alfred Lyall and other names attached to the coming volumes are sufficient guarantees. The three volumes before us possess many excellent features in common: maps, illustrations, diagrams, etc., are presented; typography and binding are excellent, and the matter will be found admirably adapted for thoughtful and intelligent readers. (1) Is a skilful and condensed account of the progress of the Fine Arts—the real aims and conditions of artistic work. It is divided into three parts: I. Art as the Expression of Popular Feelings and Ideals; II. The Formal Conditions of Artistic Expression; III. The Arts of Form. (2) Is the most important of the three, in more than one respect. Naturally the subject is an interesting one. There is a short introduction, then chapters dealing with the Pioneer Period, International Struggle, Development and Separation of America, The English in India, Reconstruction, Government of the Empire, Trade and Trade Policy, Supply of Labour, Native Races, Education and Religion, General Reflections. Accuracy and moderation are conspicuous. We hope an index will be added. (3) We have here a hand-book of Physiography, greatly condensed, but with judgment, presenting in a brief form, at once authentic and recent, knowledge in regard to the natural sciences. A great mass of information is clearly and scientifically given, and there are, besides numerous illustrations, nineteen coloured maps, prepared by Mr. J. G. Bartholemew. One of the best chapters is that entitled, "Action of Water on Land." There is a good index.