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THE CANADA  
EDUCATIONAL MONTHLY  
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JUNE-JULY, 1894.

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THE DISCIPLINE OF LIFE AND CHARACTER.

BY PROFESSOR WILLIAM CLARK, D.C.L., F.R.S.C.

PART III.

WE hope that, to some extent, we have realized the importance of the subject before us, as well as its extent and complexity. We must now address ourselves to a consideration of the means by which the character may be purified, elevated, confirmed.

As regards the factors by which character is constituted we have seen that they are diverse and mutually determining. Our original nature as it comes from our parents is the foundation of all, and must always have considerable influence in colouring our lives. We can never, for example, change our temperaments, and in different ways they will show their respective qualities, yet we may discipline them, and of whatever character they may be, we may bring them under the control of the same principle. Hence we can think of good men who are quick and of other good men who are slow, who are phlegmatic and who are sensitive. We are not responsible for the natural qualities of disposition and character: We are responsible for its moral qualities.

As a starting point the religious teacher must needs insist upon a point already noted, the relation of the soul to God and the Spiritual

world. He will not deny that much may be done, or that much has been done by a merely human discipline. In this way men have been taught self-control, the sense of duty, and other noble qualities. But we must hold that life will not find its true unity, or advance towards the realization of its completeness, unless we recognize our place in a spiritual order, unless we are consciously subjects of the Kingdom of God, members of the Divine family. This can be done only in Christ and by the life of faith.

Now faith, from one point of view, is the gift of God—the inspiration of the Holy Spirit, and one might even truly say that it has its origin, its development, and its perfection by the working of Divine grace. But it is also an exercise of our powers of thought and feeling and will, an exercise which is the product of our own voluntary actions, and which like all states and habits is confirmed by successive actings. Granting, as we must do if we are Christians, that faith is the great power of life, the source of energy, duty, devotion, patience—granting that faith is the gift of God, and that it is faith in God reconciled to us in Jesus Christ, and coming to

us by the Holy Ghost, and this only which can be a principle of goodness, and therefore of truth and righteousness and love and harmony in our life—we must yet remember that faith acts by our free agency, and moreover, that faith itself, which may perhaps be said to be the very root of character, is strengthened by every true and just and loving and self-denying action that a man performs.

We have spoken of original constitution, of early education, of divine aid. We must say something further on our own business in the work of forming ourselves, from the time when we more especially take this work into our own hands.

“The only things,” says Epictetus, “which are really in our own power are our actions.” Under actions we include thoughts allowed, words, deeds, prayers, sacred exercises of every kind, reading, study, and all conscious and voluntary intercourse with others. In the moral sense, all these are acts. Involuntary thoughts, sensations, emotions, and the like are only states. These we can control only indirectly. We are only indirectly responsible for them. They are rather the signs and the results of character, than stages in its formation. But every voluntary act which comes from a man is not only the outcome of his character: it is also a distinct contribution towards its formation.

This is a matter of the deepest importance. It is the one point in which we are responsible for the formation of our character, for the fashioning of our life, for the making of ourselves. Our nature, we repeat, such as it is was given us by God. We had nothing to do with it. God's grace is given to us freely; and only in so far as it is determined by our own actions have we any responsibility as to its nature. But for what we do, for what comes by our own effort or co-operation, we are strictly responsible.

No one can doubt that our acts do, as a matter of fact, form our character. It is a point on which it is unnecessary to insist. Every one knows that his habits are the results of his actions. When we have done a thing a great many times, we have acquired the habit of doing it; and the sum of our habits is our character. Men complain that they cannot come to faith. They think that, in some way, it is their misfortune. If they knew their own inner history well, they would understand that faith is no accidental quality, no gift arbitrarily bestowed. We may foster or quench the sense of the eternal, the invisible, the spiritual, the divine. Every word and deed, every thought and purpose has gone towards the clearing or the blinding of the Spiritual vision, towards the strengthening or enfeebling of the energy of the will.

It is clear then that *self-denial* must have a very important place in the formation of character; because it is the power of self denial or the lack of this power which determines most of our actions. Whether a man shall do what he likes, or shall do his duty; whether a man shall act on a momentary impulse or shall regulate his actions on a principle; this is the difference between a man who cannot or does not exercise self-denial and the man who can and does.

And this is the difference between a strong character and a weak. Self-denial in itself does not make a man good or bad. A man whose principles are utterly selfish and worldly may have great powers of self-denial. But, although it does not constitute the difference between a good character and a bad, it does make all the difference between a strong character and a weak. The man who cannot or does not deny himself shows that he is weak already; but he is making himself ever weaker and weaker.

Do we need to be told what is here

meant by self-denial? It means the steadfast acting on principle. It means the crossing of one's inclinations when they run counter to his sense of right and duty, or it may be, ultimate advantage. It means training and self-discipline, that self-discipline which makes a man endure hardness for the sake of some worthy object. It means living not by mere chance, haphazard, impulse, but by rule. It enters into everything that a man does; it makes him regular and punctual, it makes him orderly and methodical, it makes him resist the temptation to sloth and dawdling and the waste of time and energy. It means the power of enduring contradiction, disappointment, pain. These are the principles on which, and on which alone, we can discipline ourselves, and fashion our lives aright; on which alone we can form, in ourselves or others, a character which will stand us instead when it is called upon to act, and which will be trusted by man and acceptable to God.

This involves, of course, *living by rule*, which is one of the chief forms of self-denial. And by this phrase we do not mean that the whole of a man's life is to be a series of actions prompted merely by a formal precept. Such a life would have no real unity and so no real power. There must be, underlying all our thoughts and words and deeds, a sense of the high purpose of life, the sense of a principle which contains all rules within itself, which is ever ready, so to speak, to promulgate a law when the occasion comes on which it should be obeyed. In this sense, we say that the Gospel of Christ is not a system of precepts, but a living principle which, when consciously realized, does not fail a man when he needs direction and guidance for conduct. Yet, on the other hand, the man who lives under the dominion of the ideas and principles of Christ, will in the course of

his life and spiritual education, have shaped for himself, rules for the application of those principles to the actual business of life. The rule of truthfulness, of uprightness, of the punctual discharge of duties, of the careful keeping of engagements—the rule of subordinating recreation to labour, of preventing amusement from passing over into dissipation—rules like these will be present to his mind and will come with promptness to his aid in moments of temporary doubt and indecision. They may not be hard and fast rules in all cases, although the greater of them must be so, but they will always set forth the general line which should be followed in the conduct of life.

A very important point in this connexion is the influence of reading and *companionship*; and, in a certain sense, these two are one. Our books are our companions and friends, as well as our fellow men. On this point some thing may be said hereafter. At present we restrict ourselves to human companionship.

It is an old conviction that he that walketh with wise men shall be wise, while the companions of fools shall be destroyed. It is impossible to over-rate the gravity of this subject. It is seen among men of all classes and of all ages. Of course its influence is greatest when people are young and when they are comparatively uneducated. It is seen in families: a bad child has often corrupted a whole household. It is seen in schools. Two or three bad boys have sometimes brought great schools to the very brink of ruin. It is seen in Society. Some men raise the tone of all with whom they come into contact, whilst the lowering influence of others is equally conspicuous. There are cases in which we cannot choose our associations to any great extent. But these are not the instances with which we are here principally dealing. We

are thinking of men and women who are taking the guiding and fashioning of their life into their own hands; and we are reminding them of the solemn responsibility involved in their friendships and intimate acquaintances. We are continually helping to make others even as we are perpetually being made by others. We may not be always able entirely to escape from the influences which we know to be hurtful; but we may at least avoid them when we can, and we may watch against their power. A slight amount of care may prevent the poison entering into our system, when it would require a great strength of constitution to cast it out.

The fashioning of the life and character is a process that goes on as long as life endures. Indeed we may, perhaps, suggest that something similar will be continued through man's endless existence. It is true indeed that the more important part of this work is done in our youth, or when we are comparatively young. Here, of course, as we have said, a considerable portion of the work is done for us by others. But it is a mistake to suppose that the formation of character terminates with our childhood. It is indeed a matter of great difficulty to eradicate qualities which have become confirmed in us by long practice ending in confirmed habits, but it is quite certain that character is greatly modified in men after the period of youth, nay that it is fundamentally changed, that great crises occur in which the character receives a new bent, sometimes for the better, sometimes for the worse.

There are cases, alas! not few, of deterioration. Sometimes a character becomes debased by evil influences even after a man has long passed the meridian of life. But here we would practically insist on the other side of this truth. A man may be changed after he has left his boyhood and his youth behind him; and many such

have been changed from evil to good, from the world to God. Thus, men have conquered a besetting sin; and that conquest has altered the whole complexion of their lives. Men have adopted a new principal of life, have yielded themselves to God, and so have begun to live the life of grace and faith and devotion, instead of the life of nature, of worldliness, and selfishness. It has been done, and it may be done again. It generally involves a very hard struggle, but it is not impossible, and it receives great and special help and blessings from God.

May we not add that our sense of the greatness of this work will be intensified when we remember that it is done not merely for time but for eternity. We do not undervalue the life of man on earth, still less would we speak as though the divine life were only for the future. We are now the sons of God, if ever we are to be so. The Divine life is as truly lived on earth as in Heaven. Yet surely we who believe in immortality may rightly and reasonably consider the scope of our existence as reaching onwards into the unseen and the eternal. And there is no chasm between the present and the future, there is no break in the continuity of a man's life and character. What is meant by this? "God will judge every man according to his works." Does it mean that every act of a man's life will be enumerated, scrutinized, pronounced upon? It is not likely. But, whether this be so or not, one thing is certain, that our works make our character, and our character will determine our position for ever. Every man will go to his own place. It is the law of man, of nature, of the universe—"Whatever a man soweth, that shall he also reap." It may be well that everyone of us should consider whether we are such as we should desire to be when the fire of the Divine judgment shall try every man.

## BRITISH NORTH AMERICA ACT.

PETER MCEACHREN, B.A.

## MONEY VOTES; ROYAL ASSENT.

*Appropriation and tax Bills.*

53. Bills for appropriating any Part of the Public Revenue, or for imposing any Tax or Impost, shall originate in the House of Commons.

NOTES: The constitution of Canada is "similar in Principle to that of the United Kingdom." It is therefore interesting to note the time at which the Commons established their right to originate Bills of Supply. Since 1339 the division of Parliament into two Houses has continued permanent. During the long reign of Edward III, the Commons succeeded in firmly establishing as essential principles of our government three great rights:

1. That all taxation without the assent of Parliament is illegal.
2. The necessity for the concurrence of both Houses in legislation.
3. The right of the Commons to inquire into and amend the abuses of the administration.

Growing out of these main rights, the Commons exercised the right to examine public accounts and appropriate the supplies.—*Taswell Langmead.*

*Recommendation of Money Votes.*

54. It shall not be lawful for the House of Commons to adopt or pass any Vote, Resolution, Address, or Bill for the Appropriation of any Part of the Public Revenue, or of any Tax or Impost, to any Purpose that has not been first recommended to that House by Message of the Governor General in the Session in which such Vote, Resolution, Address, or Bill is proposed.

NOTES: S. 53 restricts the power of originating money votes to the Commons. S. 54 restricts the power

of the Commons in dispensing with supplies. In sending messages to the Commons recommending the purposes for which money is to be voted, the Governor-General acts on the advice of his Cabinet. Any member of the Commons who desires to secure an appropriation for an enterprise in his constituency must therefore obtain the assent of the Cabinet before the appropriation can be granted, Lord Durham's Report attributed the misgovernment of the Canadas before the rebellion partly to the abuse of the system of Provincial Grants for local public works. Section LVII of the Act of Union 1840, contains the following: "Provided also that it shall not be lawful for the said Legislative Assembly to originate or pass any vote, resolution, or bill for the appropriation of any part of the surplus—to any purpose which shall not have been first recommended by a message of the Governor to the said Legislative Assembly during the session in which such vote, resolution or bill shall be passed."

"Before 1840 there was no such restriction."—*Houston.*

*Royal Assent to Bills, &c.*

55. Where a Bill passed by the Houses of the Parliament is presented to the Governor General for the Queen's Assent, he shall declare according to his Discretion, but subject to the Provisions of this Act and to Her Majesty's Instructions, either that he assents thereto in the Queen's Name, or that he withholds the Queen's Assent, or that he reserves the Bill for the Signification of the Queen's Pleasure.

NOTES: The Governor-General is to be guided by three considerations—his Discretion—the Provisions of the B. N. A. Act—Her Majesty's

Instruction. He may take any one of three courses: Assent—withhold assent,—reserve the Bill for the Signification of the Queen's Pleasure.

It would be the duty of the Governor-General, as the representative of the British Government, to refuse assent to any bill that was contrary to the interests of the Empire, that would for instance be contrary to treaty obligations.

*Disallowance by order in Council of Act assented to by Governor General.*

56. Where the Governor General assents to a Bill in the Queen's Name, he shall by the first convenient Opportunity send an authentic Copy of the Act to One of Her Majesty's Principal Secretaries of State, and if the Queen in Council within Two Years after Receipt thereof by the Secretary of State thinks fit to disallow the Act, such Disallowance (with a Certificate of the Secretary of State of the Day on which the Act was received by him) being signified by the Governor General, by Speech or Message to each of the Houses of the Parliament or by Proclamation, shall annul the Act from and after the Day of such Signification.

*Signification of Queen's pleasure on Bill Reserved.*

57. A Bill reserved for the Signification of the Queen's Pleasure shall

not have any Force unless and until within Two Years from the Day on which it was presented to the Governor General for the Queen's Assent, the Governor General signifies, by Speech or Message to each of the Houses of the Parliament or by Proclamation, that it has received the Assent of the Queen in Council.

An Entry of every such Speech, Message, or Proclamation shall be made in the Journal of each House, and a duplicate thereof duly attested shall be delivered to the proper Officer to be kept among the Records of Canada.

NOTES: The power of disallowance is exercised with great caution both by the British Government with respect to Dominion legislation and by the Dominion Government towards Provincial Legislation.

"The same powers of disallowance that belonged to the Imperial Government previously to 1867, with respect to acts passed by colonial legislatures, have been conferred by the B. N. A. Act on the government of the Dominion." "Nearly 8,000 Acts have been passed, from 1867 to 1887 inclusive" by provincial legislatures, "but not more than 45 altogether have been disallowed" by the Dominion Government.—*Bourinot*.

## THE NEW NORTH-WEST PASSAGE TO THE ORIENT.

BY J. MACDONALD OXLEY.

IT has been very well said that the Canadian Pacific Railway was a national enterprise, is a national highway, and will be a national heirloom; and yet there were many times during the various stages of its promotion and prosecution when, judged according to all human standards, the chances seemed to be ten to one that it would prove the cause of national ruin, perchance irreparable.

burdened with cash, and having a population numbering less than six million souls, thinly scattered across a continent, to undertake the longest continuous line of railway yet constructed, for the purpose of binding her sundered provinces together, was one of those daring enterprises the wisdom of which can be justified only by their success, and it is pleasant to have the knowledge that in this case

the results have, to quote the phrase of the market, "exceeded the most sanguine expectations of the promoters."

One requires to exercise a vast deal of self-repression to avoid dropping into statistics in dealing with such a subject as this, there were so many marvels in connection with the construction of the Canadian Pacific that can be properly exploited only through the medium of arithmetical symbols. But the editorial blue pencil is a thing to be deeply respected, and to obviate excuse for its exercise the seductive statistics will be sternly shut out from this article.

A few dates and prefatory data may, however, be permitted. British Columbia was the immediate cause of the Canadian Pacific, as this otherwise isolated province made it the essential condition of her joining the Dominion, in 1871, that the railway should be begun at once and be completed within ten years.

The task of fulfilling this national contract was a mighty one; and three companies were formed and failed, and one government fell from power in trying to carry it out, with the result that British Columbia at last, in 1875, had to consent to a ten years' extension of the time allowed. Even then construction proceeded very slowly and spasmodically until 1878, when Sir John Macdonald regained office and put new life into the work. Two years later he succeeded in transferring the bulk of the enterprise to a syndicate of Canadian, American, and European capitalists, out of which developed in due time the present corporation, and this company went at the work with such extraordinary vigor that their entire portion of it was completed in less than half the time stipulated, and the government, not to be outdone, took only a few months over the five years to finish up its part.

Thus it came about that in June, 1886, the first through-train for the Pacific coast left Montreal, and safely accomplished the most memorable railway journey in the history of Canada.

By that time the company, though scarce five years old, was in sole possession of nearly five thousand miles of railway fully equipped and in capital working order, for whose panting engines and luxurious Pullmans and gaping freight-cars there was, strange to say, already waiting a large and profitable traffic in goods and passengers.

The subsequent eight years have been marked by an enormous extension of the system and development of business. Not content with a practical command of the situation in Canada, the company reached out its arms for the teas and silks of China and Japan on the one hand and the products of the European marts and factories on the other. The main line was extended eastward from Montreal to a connection with the railway system of the Maritime Provinces, while a superb line of steamers, to which further reference will be made, was set running between Vancouver and Yokohama, and the day is possibly not far distant when another line of ocean greyhounds will speed from Halifax to Liverpool, and thus complete the chain of connection between Yokohama and London.

In addition to this a line has been built from Sudbury, to Sault Ste. Marie at the outlet of Lake Superior, where a fine steel bridge effects a connection with two important American lines leading westward,—one to St. Paul and Minneapolis and thence across Dakota, and the other through the numberless iron-mines of the Marquette and Gogebic district to Duluth. Still another line carries the company's cars from Toronto to Detroit, where the way is open for



them to Chicago, St. Louis and the great Mississippi valley.

By these extensions and connection the Canadian Pacific has amply earned the right to be considered one of the greatest railway systems in the world, and besides that, owing to the homogeneity of its management, it is probably unsurpassed for economy in working expenses, achieved without any sacrifice in the matter of the comfort and safety of the passengers carried, or expedition in the transport of freight.

From the earliest days of its inception until some time subsequent to the laying of the last rail there were would be prophets of evil persistently foretelling that the earnings would never be sufficient to pay for the oil necessary to lubricate the axles of the rolling stock. As an answer to this, the balance-sheet for the year 1893 showed total earnings of \$20,962,317, which after payment of all working charges left a net profit amounting to no less than \$7,741,416.

To the officials and stock-holders the economical management of the road and the securing of good dividends are doubtless matters of far livelier interest than all the magnificence of the Selkirks or the marvels of Japan; but in the eyes of the great public, to whom railways simply furnish facilities for sight-seeing, the Canadian Pacific is notable because it has unlocked one of nature's most glorious treasure-houses of beauty and offers a new and supremely attractive highway to the Orient.

One commanding advantage that it possesses over all transcontinental rivals I must not fail to mention. There are no dreary distances of desert, no depressing leagues of sage-bush and alkali, to be traversed. From the time that the train pulls out of Winnipeg until the huge Mogul engine begins to push its panting way up among the foot-hills of the Rocky

Mountains, there is not one tie embedded in barren ground. The whole illimitable prairie, if not already under cultivation, is simply waiting to be asked for the harvest it lies ready to yield.

Along this thousand miles of railway are strung many places of promise: Portage-la-Prairie, the centre of a prosperous farming region; Brandon, big with elevators and flour-mills; the famous Bell farm, well-nigh as large as a German principality, and yielding a far better revenue; Regina, the ambitious capital of the Northwest Territories, where the Mounted Police may be seen in their glory; Moosejaw and Medicine Hat, two flourishing towns that will no doubt ere long in very self-respect be applying to Parliament for more elegant and euphonious titles; and Calgary, snuggling at the base of the Rockies, three thousand feet nearer the clouds than Montreal, and over four thousand feet above sea-level.

But it is only after the train has left Calgary behind and is well on its way towards Banff that the scenic riches of the route break upon the traveller in all their splendor. Thence forward until he reaches the Pacific he is passing through a sea of mountains, where serrated peaks and vast pyramids of rock with curiously contorted and folded strata are followed by gigantic castellated masses, down whose gleaming sides the snow-white glaciers, like the water-falls of Tennyson's Lotus Land, "to fall, and pause, and fall do seem," or the cascades, "like a downward smoke, slow dropping veils of thinnest lawn do go," while others, yet again,

Through wavering lights and shadows break,  
Rolling a troubled sheet of foam below.

Amidst such sublime scenery as this, before whose grandeur Mont Blanc and the Matterhorn must perforce bow their humbled heads, Cole-

ridge might have caught inspiration for a yet nobler hymn than that which he penned in the Vale of Chamouni. Even as it is, his glowing lines seem strikingly appropriate :

Ye ice-falls ! Ye that from the mountain's  
    brow  
Adown enormous ravines slope amain—  
Torrents, methinks, that heard a mighty  
    voice,  
And stopped at once amid their maddest  
    plunge !  
Motionless torrents ! Silent cataracts !  
Who made you glorious as the gates of  
    Heaven ?

I am sorry for the passenger who is in too much of a hurry to linger for a few days at Banff. It is a place of peculiar interest. Within easy reach of the home-like hotel provided by the railway company are the Canadian National Park, inside whose ample boundaries may be found every possible variety of wonderful and charming scenery, the renowned mineral springs, which have already brought back health and strength to thousands of sufferers, and, for the mountain-climber and sportsman, unlimited scope for the satisfying of their lofty ambitions.

Not content with the apparently inexhaustible wealth of natural beauty already at their command, the company have been extending their explorations into the surrounding regions, with the happy result of discovering a trinity of mountain lakes so lovely as to beggar description. These are Lake Louise, a full thousand feet above the line of railway ; Lake Agnes, nearly two thousand feet higher still ; and then, five hundred feet below Lake Agnes, which feeds it by a torrent from its own pure bosom, lies Mirror Lake, a perfect circle of pellucid water, fringed with trees that with the blue dome of heaven are mirrored in its depths.

But, after all, the chief interest taken by the world in general in the Canadian Pacific to-day is based upon

the fact that it offers tourists from the Old World and the New alike the shortest and pleasantest route to the marvellous, mysterious Far East, towards which all eyes are for the moment turned. Time and distance alike have been reduced to the very verge of extinction by modern machinery, and the trip from New York to Yokohama takes little longer now than did the voyage from Liverpool to New York but a few years ago. In fact, it is possible, with only a two months' holiday at one's disposal, to leave New York, cross the continent and the Pacific, spend a full four weeks seeing the lions of the land of the chrysanthemum, and return to New York without exceeding the time limit.

In order to perfect their connection with the Orient, the Canadian Pacific Company have had built for them at Barrow-in-Furness three steamships which are the supreme efforts of the master-builders of that birthplace of marine marvels. Four hundred and eighty feet in length, and fifty-one feet beam, with hurricane deck, cabins, and staterooms amidships, they furnish abundant space, air, and security to each of the hundred and fifty cabin passengers that can be carried. Electric lights and electric fans give brilliancy and coolness, while Chinese servants in snowy blouses minister silently with velvet tread, and nothing is lacking in the way of luxurious comfort. These steamers do justice to their imposing names of "Empress of India," "Empress of China," and "Empress of Japan." They are each of six thousand tons burden, and are painted pure white, which adds greatly to their beauty.

It was a proud day for the company when, thanks to these steamers and to the despatch shown by the various railroads interested, the London *Times* was able to say that "the delivery of mails in London within

twenty-one days of their leaving Yokohama is a feat never before accomplished, sufficiently remarkable in itself, and pregnant with untold issues for the future of the British Empire."

The itinerary of these mails is worth giving in outline. The Empress of Japan left Yokohama in the morning of August 19, 1891, and reached Victoria, British Columbia, before daybreak of August 29. By noon the mails were at Vancouver, and an hour later they started eastward on a special train that whirled them to Brockville, Ontario, in seventy-seven hours. Having been ferried across the St. Lawrence, they were taken up by the New York Central, and the three hundred miles to New York accomplished in seven hours, thus enabling

them to be placed on board the City of New York, which sailed an hour later with them for Liverpool.

Many precious English lives, and over one million pounds sterling of English gold, were expended within the past century in fruitless efforts to find a short straight route to the Indies through the Arctic regions.

Now, even though the utter impracticability of such a short cut were not sufficiently demonstrated, there would no longer be any need for it, for in the Canadian Pacific Railway and its steamship connections the British Empire is furnished with a highway to the Orient, over her own territory, surpassingly better than any possible North-west Passage.—*Lippincott's Magazine.*

## HISTORY IN SECONDARY EDUCATION—I.\*

BY RAY GREENE HULING.

"WHOEVER has weighed the demands of history," says Gerwinus, "and yet attempts it, must have the courage of the moth and not fear to burn his wings for love of light." Doubtless it was the writing of history to which he alluded; but his thoughts is no less applicable to the teaching of history. The subject is not a traditional one in secondary education. The ancient "grammar school" knew it not, neither does it appear that the academy of a century ago offered it to its pupils, save in some fragmentary way. Its introduction as a substantial study is a modern idea, and even yet in but few quarters are its claims to educational value recognized as comparable with those of the languages, mathematics, or the sciences. But with youth there is always a tendency to self-assertion. Together with the other new subjects

history now claims a time-allotment proportionate to its value; it demands an equipment adapted to its needs; and if one may venture to prophecy, the day is not far distant when it will in both respects prevail. But that day will be sadly delayed unless the teaching of history becomes more intelligent and less aimless than it is often found to be. Instruction in history must reform itself into training through history.

The present discussion will lead me to consider successively what should be the aims, the organization, the methods and the equipment, in order that historical teaching may do its perfect work.

The aims of historical teaching cannot with difficulty be expressed in a single sentence. Perhaps we shall best arrive at the comprehension of them by a method of gradual approach. It is plain that one aim should be the acquisition of a fund of historical facts.

\*Read in the Pedagogical Seminary of the Graduate School of Harvard University.

The value of such facts is sometimes depreciated, but in the interest of definiteness some things must actually be learned. There is a time element in all history; therefore the student must fix in memory a modicum of dates and must retain them. History deals with places, and geographical facts often assume the highest importance. "Chronology and geography," says Carlyle, "are the two lamps of history." There is a personal element, also; hence the names and characteristics of individuals must be learned. History is a matter of incidents, of laws, of institutions, of a thousand various elements of knowledge. Without the planting in the mind of these concepts we cannot have history really known. Therefore, I repeat, we must aim to teach historical facts. But like the facts of the multiplication table, they must be taught less for their own sake than as a means to an end—indeed to more ends than one, though to one chiefly. This end is training, and the training should be both of the head and of the heart.

Secondary education, as the term implies, is not the first stage in the child's preparation for life, but presupposes elementary education. When our work begins the child is passing into the period we term youth. All his faculties have found a beginning of action; all, nevertheless, lack steadiness, clearness, and precision. At this stage his mind comes under the influence of the studies we term secondary. These studies may all be so taught as to give exercise to nearly all the faculties of the mind, but it is obvious that for specific purposes some are better adapted than the rest. To the study of history must be relegated especially the development in combination of the imagination, of judgment, and of reasoning, as applied to the conduct of life. Whatever phases of development these powers receive

from other subjects, their most useful unfolding must come through actual experience, and that next in rank from a study of the experience of others. The distinctive educational value of history, then, is that it trains the imagination, the judgment, and the reasoning power of the growing youth by an experience transmitted from past generations. Through this training these powers mature and become steady, clear, and precise in action—"a consummation devoutly to be wished." Let me enlarge upon this thought.

For the training of the imagination, history has evident facilities. Childish fancy is active enough, but its activity needs direction in youth by the sense of what is true, lifelike, and probable. This is accomplished by turning the youth's attention to reading and learning about the facts of the real world. Thus only can accurate and clear mental pictures enter into imagination after its range transcends personal experience. But by such exercise there results also positive growth. After a time imaginative work of greater complexity can be mastered, like the visualizing of a battle scene, and combinations still more remote from experience, as the life of a primitive family. Sometimes fancy will need to be restrained: more often it will need guidance into healthy channels by the presentation of appropriate objects, by which interest shall be aroused and attention secured. Various subjects can be employed for this purpose, but at every step history, and its companion study geography, have magnificent resources on which to call. Their chief rival, I apprehend, is literature; under a skilful teacher it is hard to say which can be used to better effect.

In respect to training in judgment, however, history shares the throne with no rival, if the end in view be what we term practical judgments.

The process of judging may be brief and simple or prolonged and intricate. In either case it involves four steps: first, fastening attention upon the materials at hand; second, reflecting upon them in order to see to what result they point; third, deciding as to their logical relation; and fourth, expressing the result in suitable language. The materials of the judgment may come through personal observation or through testimony concerning the observations of others. To prepare the child for judgments in actual life, these materials must resemble as nearly as possible the conditions of actual life. Such materials are found in history, and found there in greater degree than in any other subject. For history is, indeed, "past politics," as Mr. Freeman avers: but it is much more—it is past life. In teaching history aright we are simply giving the pupils the means of reaching conclusions about the experience of their predecessors in precisely the same way in which they will be called upon in their own future to form judgments about their own experience and that of their contemporaries. The second step, reflection, involves some volition. The irrelevant must be set aside; what is pertinent must be given its full weight. Things that resemble each other must be noted; things that differ must be discriminated. How finely the facts of history give the teacher opportunity to direct such activities as these! In the third step, the formation of the decision, feeling and inclination must be repressed. The youth must be led to decide, not as he wishes, but as the facts reveal the truth to be. Respecting the last step, expression, history is no better than any other subject that compels close thinking. Clear expression aids clear thinking in every subject, and should be insisted on as a part of the process. Moreover, it is only through an examina-

tion of the expression of the judgment that we can tell whether the process of judging has been clear, accurate, prompt, and independent, and whether it gives promise of stability.

Since history is thus an excellent means of training judgment, and since reasoning is simply passing from certain judgments to certain other judgments, it follows that history is an excellent means of training in reasoning. Furthermore let us remember that reasoning about facts of one kind may not develop power to reason accurately about a different kind of facts. There are those who hold that there is no such thing as training in reasoning apart from the contents of the judgments from which and to which we pass in the process. If this be true, and I am inclined to accept it, history is certainly the best means by which to develop the power of reasoning about the conduct of everyday life by individuals or by institutions.

From the foregoing it seems possible to declare that in secondary education there is no subject which offers a better field for the training of imagination, judgment and reasoning, applied to social, ethical, and political considerations, than the subject of history.

This intellectual service, however, is not all that should be claimed from history. "The education of the knowing faculties," said President Thomas Hill, "is a very imperfect and unimportant culture, unless we at the same time impart the power of expression and of action, and awake sentiments and feelings worthy to be expressed and embodied." The graduate of the secondary school ought not only to be wise, but, so far as we can influence him, to be good. The training of the judgment should be moral as well as intellectual, and should lead to discipline of the will. History is

very largely the representation of human character. Certainly, to a maturing lad,

Just at the age 'twixt boy and youth,  
When thought is speech, and speech is truth,

the personal and moral element in history is its most impressive feature. The mistakes and misdeeds of individuals, and, later, the failures of institutions and of nations, become suggestive warnings. The course of human progress revealed in history has an ethical content to which the older pupils in secondary schools can be directed with the result of a marked impulse towards good. Out of this aspect of the study should come an intelligent acquaintance with patriotism and other civic virtues and a conviction of personal duty to illustrate them. It is from this side of historical study, also, that we often find springing a stimulation of interest which renders history forever after a delightful department of reading and investigation.

We are now prepared to state succinctly what should be the aims of the teacher of history. He should so employ historical facts as to stimulate and train to orderly action the intellectual faculties of the student, particularly the imagination, the judgment, and the reasoning power. Meanwhile he should lead to the discovery of the ethical lessons resident in history, and should apply them to the development of the moral and civic virtues. And in all he should aim to secure literary expression which shall be as vigorous and graceful as the action of the mind is strong and true.

Let me now turn to my second topic, the organization of this study. Under this head we may properly ask what position history should have in the course of study, what subjects should be taught, and how many teachers, with what qualifications, should be provided.

We have alluded to the fact that history as a disciplinary study is a new subject. One reason why it has not earlier taken rank with the traditional subjects of culture is found in the ridiculously small amount of time commonly devoted to it. Says President Eliot in his New Haven address: "If the same pupil studies history twice a week for one year, history cannot be made for the pupil to compare in educational value with the Latin which he studies five times a week for four years." The first claim to be made, then, is the very modest one that history be given a sufficiently long period in school life for the leisurely development of intellectual activity under its direction. Taking the standard mentioned by President Eliot, which is a common provision for the study of Latin in high schools, five hours a week for four years of forty weeks each, we have a total of eight hundred school hours, each of which would yield about forty-five minutes in the clear. This I would suggest as a proper amount of time to be given to history during the periods of childhood and youth.

It will be observed that I have included both childhood and youth in the range of time within which history should be taught. This is not accidental, but of intention. For I believe that in the case of nearly all secondary subjects there should be two well-marked stages, the elementary and the scientific, well marked in the mind of the teacher and the organizer, but so gradually merging, the one into the other, that the pupil shall discover no break in continuity. History should begin in stories told in the mother's arms. In the guise of mythology and stories about heroes and heroines it should form a part of school work even down in the primary grades. In the form of narratives it should be read at the age of ten or

eleven, as soon, in fact, as reading proceeds without conscious effort. In the upper grammar grades it should assume the seriousness of formal study. In the secondary school it has an appropriate place in all the four years.—*Educational Review.*

(*To be continued.*)

The tunnels of the world are estimated to number about 1,142, with a total length of 514 miles. There are about 1,000 railroad tunnels, 12 subaqueous tunnels, 90 canal tunnels and 40 conduit tunnels, with aggregate lengths of about 350 miles, 9 miles, 70 miles and 85 miles respectively.

## FORMAL VS. CONCRETE STUDIES IN THE COLLEGE.

PRESIDENT DE GARMO.

THE educated public is practically a unit in the opinion that the college should furnish a liberal education; in this demand there has been little change. But when we ask, What constitutes a liberal education? we find that the advanced thought of the present differs materially from the current ideas of forty years ago. Then the chief subjects were classics and mathematics; little else was taught.

Language is always the means by which we express thought, and mathematics the means by which we determine the quantitative relations of things. Evidently these are important subjects, for without language our thought would remain undeveloped, while without knowing how the quantity of one thing is related to that of others we should not be able to master the material world. Railroads, bridges, ships, cities and the like, would be impossibilities. It is easy to see, therefore, that should we have nothing more in colleges than what is contained in Latin, Greek, and mathematics, we should still have much knowledge useful for life. So great, however, was the old estimation of the value of formal culture, that men were indifferent to the knowledge worth of

studies. In accordance with this view, the classes were taught largely from the former or grammatical standpoint. The ideas expressed by the Greek and Latin authors were not so much regarded as the grammatical construction of the language. To be sure, it is of immense service to bring pupils into contact with such ideas and views of life as are expressed by Plato; yet on the whole it must be admitted that the focus of the instruction was upon the grammatical construction of the language.

However inadequate this theory may now seem, there are still those who regard it as having so large a measure of truth, that it may be well to examine for a moment the favorable side of this formal discipline. In the first place, grammatical study appeals particularly to intellectual aspects of the mind, for it reveals in a somewhat concrete way its logical workings. All thought is of course expressed in language, and can thus be studied through linguistic forms. When the student devotes his time to the discovery of logical relations through a study of grammatical or rhetorical forms, he is in reality working at the beginnings of such subjects as logic,

psychology, and philosophy. For this reason classical students are likely to be strong logical reasoners.

Furthermore, grammatical and mathematical studies are the easiest to teach. They become powerful pedagogical instruments of mind-training, even with poor teaching. The reason for this is that they are perfectly definite, and are for the most part logically arranged. This being the case, it is comparatively easy to present at each lesson just enough surmountable difficulties for the pupil to overcome. A lesson in Latin or Greek has so many sentences to translate, so many expressions to be noted. A lesson in mathematics has so many problems to solve. These difficulties are perceptible, definite, and surmountable. They are of a nature to make themselves felt to the student; he cannot help seeing them, and, if he learns his lesson, overcoming them. There is consequently in these subjects a movable fulcrum of difficulties upon which the pupil may exert his mental power. This is the reason why linguistic and mathematical studies have always been such incomparable instruments for exercising the intellectual powers of students. It is still their warrant for a large place in the modern curriculum. The college has not yet learned how to teach modern subjects, even modern language, in such a way as to make them equivalent to the old subjects as intellectual disciplines. There are difficulties, to be sure, in the dissection of a bird, but they do not force themselves upon the student, compelling him to master them in order to proceed. There is nothing that the professor of modern subjects needs to study so much as the pedagogy of his branch of instruction, for the probability is that a poorer teacher in the old studies will show better results in the line of strictly intellectual drill.

So much for the old curriculum under

the old methods. We need now to see in what particulars the modern college has departed from the road our fathers trod. The departure has been a double one. Both methods and subject-matter have greatly changed.

Methods have become more concrete and inductive; less dogmatic, formal, and deductive. Instead of spending one or two years in detached grammatical study, before beginning to read a language, the teacher now sets the pupils to reading as soon as they have acquired even the most elementary notions of grammar. He calls attention to regularity of forms and structure, thus building up a knowledge of the grammar from the concrete matter of the text. The result is that the pupils read much earlier than they used to, gaining at the same time a much warmer interest in their study than was formerly possible. The same is, or may be, true in mathematics. This subject also is feeling the influence of the inductive sciences, which have taught us that it is better to proceed from facts to principles, than to attempt an application of principles before they are thoroughly understood.

But the point in which the present current idea of liberal education differs from the formal one just described, lies in the subject matter. It might be inferred that the modern college curriculum differs from the old only in the number of subjects taught, when the question might at once be raised whether a few subjects well studied might not be better than a large number more superficially taught. The difference is more than quantitative—it is one of kind. Not only were the old subjects taught in a formal manner, but they themselves were largely formal in character. Mathematics is not modern science, yet it underlies modern sciences as a form common to them all. We got a little



of the concrete through the problems in arithmetic, algebra, and geometry, it is true, but pure mathematics is purely formal. In the same way the grammar of any tongue is not thought, but it is a form in which all thought must be expressed. Now, if linguistics and mathematics may fairly be called formal in their nature, the one giving the form in which human thought must express itself, and the other giving the form governing the natural sciences, then it follows that these are largely form studies rather than thought or knowledge studies.

The position of the modern college is that it is perhaps more liberalizing and certainly far more useful to pursue thought studies along with form studies than it is to spend all the time on the formal aspect of instruction alone. The old idea that the student must, in order to get a liberal training, withdraw from lines of thought having immediate relation to life, reminds us of the monastic period when men withdrew to monasteries and hermits' caves in order to live a religious life, thus preparing themselves for the life to come. But just as we now perceive that religion is vital only as it is wrought out in daily life, so the modern college perceives that true liberality in education consists in training the student, not only through the forms of knowledge, but by means of the knowledge itself. Liberality of education consists not so much in possessing a traditional store of ideas, as in having understanding and sympathetic interest for what most concerns the welfare of man. He is illiberally educated whose interests and understanding are measured alone by what pertains solely to his calling.

The studies of which linguistics may be said to be the form are those that pertain to human life and social organizations, such as history, the record of what men have done; political economy, the examination of

the production, exchange, and consumption of wealth; social science, a study of the social problems growing out of our religious, economic, and political conditions; political science, the systematic study of government; literature, the artistic representation of the ideals and strivings of men. On the other hand, the concrete studies pertaining to nature are physics, chemistry, biology, geology, physical geography, etc. If, therefore, we grant the principle that it is as good for the mind to exercise itself on concrete knowledge as upon merely the abstract forms of knowledge, we see that the scope of college work immediately broadens. The old education fitted men for a few professions as they formally existed, such as law, medicine, and theology; but it had little immediate relation to other practical callings. It constituted in reality a special training for a few professions. Furthermore, it gave young men little opportunity to discover their natural tastes and abilities, whereas, the modern college, dealing with a number of lines of actual knowledge, furnishes this very desirable opportunity. The natural results of the old formal training are more apparent in Germany than in this new land, where pioneer conditions still exert an influence. There the cultured and the uncultured form distinct social castes. So powerful has this caste feeling been, that students have been known to commit suicide rather than engage in unprofessional work outside their caste. To this day the "bread studies," *i. e.* those having to do with real knowledge, are theoretically despised though they are in reality diligently pursued by students of the universities. Now, however, in this country, since the modern colleges recognize the dignity and culture value of all the great sciences of life and nature, they bring the advantages of higher education to entirely new classes of society.

Instead of confining college education, as of old, to a few professions or to those who could afford it as a luxury, they now offer it as the greatest instrument of success in practical life for all who have the ability to pursue it and the money to pay for it. The college has, therefore, passed from a state largely aristocratic to one much more democratic.

Along with the admission of several domains of concrete knowledge, comes the necessary differentiation of study into several courses, or general lines of work. Nobody can learn everything. What we need to guard against is a one-sided culture. Each

course of study should have a sufficient quantity of the various types of training essential to a fairly symmetrical development of mind. We need not concern ourselves so much with the question whether a given course is in itself equal to another, as with the more important question whether it is best fitted to develop those phases of mind for which it is established.—*Swarthmore College—In the School Review.*

“I have always said that the greatest object in education is to accustom a young man gradually to be his own master.”—*Sydney Smith.*

## THE FULLER STUDY OF GEOGRAPHY.

ARTHUR MONTEFIORE.

GEOGRAPHY is both unfortunate and fortunate. There is no subject in the school curriculum in which it is so easy to fail, and none in which a more brilliant success can be gained. It appeals as vividly to the youngest and least travelled, in its more local aspects, as to the oldest and most experienced, in its wider. The training which geography, properly approached, conveys to the student is of an unusual order, for, in addition to exercising the memory, it brings into play just that faculty which is so little exercised in the ordinary routine of school or college work—the observing faculty. It strengthens the reasoning power by means of classifying, comparing and summarising, and it may be made to supply infinite exercise to the constructive faculties. And, lastly, it furnishes a mine of the most interesting and useful information concerning the two worlds—physical and poli-

tical—in which we live, and move and have our being.

On close examination it will be found that the great majority of geographers are agreed that geography, broadly considered, is the science which traces the development and character of the earth's surface and their influence on man and his varying condition. I might define it differently, and say that “*geography describes and connects the natural and artificial features of the earth's surface, and traces their influence on the distribution and condition of the earth's life.*” But I would rather contract than expand it, and so I may say that it is, to put it as concisely as possible, the science of man's environment.

### METHODS.

This being so, it becomes the office of the teacher to place the human environment before his pupils in

the simplest, clearest, and most *usable* manner possible. Above all, his aim must be to put the exact truth before them; and as exactness and truth are the heart and lungs of science, it follows that the scientific method should recommend itself to him as not only the most correct, but the most practicable.

The first point, then, to be noticed is that the aim is not to pile fact upon fact within the brain until a veritable tower of geographical confusion has been built; but so to arrange the facts that they may almost explain themselves; to appeal, by careful selection of geographical *data*, to the faculties of observation first and reflection afterwards; to continually provide opportunities for the pupils to work out the simple problems unaided; to train them in the art of accurate definition, so that they may crystallise their knowledge into a neat phrase—for a definition, it should be noted, is the crystal of knowledge; and, finally, to so exercise the reasoning faculties—first in the broader and more obvious, and afterwards in the detailed aspects of the subject—that the pupil may be able to utilise his knowledge as a laborer would handle a tool, and mould for his own use or profit a conclusion or an opinion which shall be as directly helpful as it is directly scientific. When the student has arrived at this stage, even though he have mastered but a few complete principles of geography, I think that he is possessed of far more skill in applying his knowledge, and hence of far more *power to act* (which is the sum of sound instruction), than the unfortunate youth who has been crammed with hundreds and thousands of isolated facts, but never been taught to trace their source and method of distribution, their relation to the environment and their influence on man.

The question which would now naturally occur to the practical teacher is, How am I to attain such results? The facts should be taught first, by all means, as it is only from them that the principles can be elucidated. But the youthful mind—I am not referring to little children, although much that I say is applicable to them—is not incapable of understanding the relation between cause and effect, and, provided the induction be not too subtle, is thoroughly able to reason out a process for itself. On the other hand, principles are not to be illustrated by facts, for that is reversing the natural order of things. Observation must precede reflection, collection is necessary before arrangement is possible. The true means of teaching geography is therefore that which collects and arranges facts in such a manner that the principle which unifies or differentiates them may arise directly and become obvious.

This teaching by induction, if aided by a sober imagination (demanded by science as well as by poetry), is the only true method—the only scientific. Facts first, laws afterwards. Some pupils may be unable—may be too young—to grasp the logical induction of a principle, but none are too young for *facts*. Facts are, it is true, but separated links, necessitating the *principle of connection* to acquire the value of a chain. Yet if only separate links can be utilised, they at least illustrate the nature of the chain—even if they fail to interpret its functions.

But it is not necessary to ignore principles when teaching geography. For instance, I would say to a boy, Here on the map are London, Liverpool, Bristol, Hull and Glasgow. They are all large ports—geographical fact. And applying the question, "Where?" I elucidate the statement that they are all at or near the

mouth of navigable rivers—another geographical fact. I turn to other ports in other countries, until there is no longer a possibility of the boy supposing that a coincidence, which is really a principle. The question "Why," put at this stage, rapidly produces the conclusion that the geographical requirement for a port is ready access to the sea.

Again, I would point to England, Norway and Holland. The answer to the question, "Where," would inform me that these are maritime countries, exceptionally open to navigation and lying on the periphery of a civilized continent—geographical facts. An elementary knowledge of geographical history will tell them that for ages they have been of great maritime power—the ancient Vikings or port-peoples having been sea robbers of the highest distinction; the mediæval Dutch and English—traders and adventurers; and the descendants of all three being now the world's carriers by water. These being the facts, it should not be difficult to elucidate by the question "Why," that geographical environment affects national enterprise—which is the principle.

Once more, to take an example of environment. We draw from so-called physical geography the fact that the soil of the basins of great rivers with extensive ramifications is largely created by those rivers, and, being alluvial, is very fertile. We further gather from historical or political geography—for the latter is contained in the former—the fact that the early civilizations of the world arose in the basins of the great rivers of Mesopotamia, Egypt, India, and China; and the fact that at the present day the population in the fluvial basins of the Rhine, the Po, the Nile, the Ganges, Hwang-ho, and Yangtsekiang, is the densest in the world. These geographical facts supply the obvious prin-

ciple that fluvial plains are in the highest degree favorable to human industry.

It is moreover patent that, by incalculating principles, geography is taught by comparison, and that, by exposing the rudimental diversities of geographical examples, it is taught by contrast. This is the most luminous method. It is teaching the subject by putting identities together, and by sharply defining, in black and white as it were, real diversities. The scientific method is therefore the clearest.

By employing this method, the aim, of course, is to cultivate the philosophic, the logical instinct; to enable the student to see the "whence" in the "what," to refer the "where" to the "why"; to teach him to perceive, with an ever-increasing accuracy, similarity amid diversity; and diversity amid similarity; to train him to lay his finger on the significant fact in temporary disregard of the irrelevant concomitants; to so grasp and collate examples that rules may be drawn up and applied. Thus the student of geography not only draws his knowledge from the undefiled well of nature, but also from the murky current of human history; his gleanings from nature are again and again corroborated by his studies in literature.

In the actual teaching of physical geography, no better means can be used than that of "object-lessons"—chief of which is the appeal direct to nature. It may be urged and it might be granted that this is impracticable for the teacher, or at any rate for his class, were it not that the custom of studying other sciences from Nature herself is daily increasing in schools as well as colleges. If an excursion to the fields and lanes of rural districts be allowable for the study of botany, entomology or zoology, is it not many times more al-

lowable to the students of geography—the science which draws upon those and all other sciences for the facts on which it bases its laws?

No conscientious teacher should rest content until he can, with some frequency, lead his class into the country, and, taking his stand on elevated ground, reveal to them the philosophy of the varied face which Nature spreads before them. In a very short time his pupils would realize the plain truths of watershed and basin, slope and drainage, the influence of aspect, and a dozen more. If the coign of vantage afford a sufficiently "bird's eye view," they will perceive the determinants of the sites of villages and towns, bridges and highways—advancing, that is, from the environment to its influence on man. Looking westward, maybe, they will discern the cloud "no bigger than a man's hand" scudding before the breeze, and enlarging its ragged edges as it approaches; and then, when it overcasts the sky and meets with the lower temperature above the elevated region in the downpour of rain and its effect on the streamlets and runnels of the hillside, on the vegetation and the soil, and on the harvest of man's industry, they will receive a lesson in one of the aspects of climate, which, if judiciously interpreted by the teacher, they will never forget.

It is evident that the teacher must seize his opportunity as it arises that he cannot carry on his instruction according to a pre-arranged programme, but must pass from one point to another as readily as each occurs. At one time it may be the climate, at another a harvest-field, at another a forest of factory chimneys, and at another, again, a range of hills or a fluvial plain. Here he can associate the substratum of soil with its covering of vegetation; and there the southern

slope—in our northern hemisphere—with its power of fructification. As the eye of the pupil gradually conveys to his brain a more accurate and complete picture of the scene, it will be found that his power of map reading and map-making ascends to reality. The value of an elevation, a valley, a river, or a plain, will become palpable, and for the first time perhaps the pupil will realise the meaning of configuration, and the great importance—the obvious need—of representing it with truth. And as we naturally proceed from the known to the unknown, so the teacher will be able to lead his class in imagination—which is hardly fiction, since based on fact—over the distant hills, and look down with them upon a widely different scene; to make them follow the babbling stream till, grim and dark with the mirth and refuse of the warehouses and shipping of the port at its mouth, but important withal, it is "lost in the infinite main." He will lead them from the village to the town, from wooded dells to a rock-bound coast, from their home to the limit of their country, and from their country to the continents of the world. This is the art of teaching geography from Nature herself, and this is whither the Germans tend in their *Heimatskunde*. It is, indeed, the most delightful method of teaching Geography.

On returning to the class-room, the teacher naturally feels that he has exchanged the living thing for its effigy; that he has left behind the person, and must be content with the portrait. He rightly feels that he must approach as closely as possible to the appearance of nature for a time at least, and the means which first recommend themselves to him are those which imitate it most nearly.

Continuing the "object lesson" system, he will find the model most fitted for his purpose. It is only in

the model that he will be able to represent with approximate accuracy the proportion between vertical and horizontal areas. The ordinary relief maps are unable to convey this, owing, of course, to the diminutive scale of representation. They are useful, however, for selected and typical districts—such as the Lake District or Swiss Alps—when great elevation has to be figured on a comparatively restricted area.

As models are representations of nature in miniature, it is obviously needful to instruct the class in those details to which the model serves as an index. Here, then, comes in the office of *natural objects*. The teacher has to exercise discretion in his selection of specimens, as the aim should be to acquire only those examples which are typical and which serve to convey a fact with vividness. I would mention that it is a mistake to make for outlandish "curios," or foreign specimens, before the product—mineral, vegetable, and animal—of the neighborhood and then the whole of England, has been sufficiently exhausted.

When models and natural objects are not necessary, or would be too expensive, geographical pictures should be used. There are many aspects of the earth which can be admirably illustrated by pictorial art. Such simple facts as geysers, volcanoes and waterfalls, which, as far as they have influenced the whole family of man, are somewhat unimportant, lend themselves readily to pictorial treatment; and those other geographical phenomena, such as canons, glaciers, llanos, prairies, tropical forests and grasses, which, though important, are not of the model "type," or else present unusual difficulties to the modeller, are capable of being similarly treated. Pictures are particularly convenient for the illustration of those features which

probably would not come under the personal notice of the student; for example, the animals, distinctive vegetation, and the types and habits of humanity found in foreign countries and different quarters of the globe. The chief purpose, then, of geographical pictures is to supplement and extend the work of models and natural objects. As a means of bringing before the pupil the appearance of the earth in some of its ever varying aspects, they are invaluable. To the young—to anyone—an atlas of such pictures would teach more geography than an atlas of mere maps.

#### MAPS.

In the course of instruction—in the regular progress of study—the four aids to the teacher or the student which I have now mentioned I would put before maps. I do not mean that I would require a pupil to *make* a model before learning to read a map, for the map, provided it be really good, is an indispensable aid to the model-maker. But he should be able to read the main characters on the face of nature, and on the surface of a model, before he is asked to interpret the artificial characters on the map. A map is not such a simple thing as some appear to imagine. Few teachers really grasp its maximum of instruction, or get their pupils to read with accuracy its hieroglyphic eloquence. Maps are beautiful things, and of all geographical aids the most convenient; but it is sheer waste of money and time to place an atlas of forty or fifty maps dealing with the whole earth in the hands of a youth who has not been trained to translate and appreciate justly the geographical symbols employed by cartographers.

Unfortunately, whatever our theories may be, our practice is conservative; and the teacher who finds him-

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elf equipped with nothing but a fair stock of geographical knowledge, and a dozen or so of maps, naturally wants to know how to utilise them in the most efficacious manner. As I greatly wish that these hints may be of some practical value, I will suggest how maps may be used with those pupils who are deprived of other aids, and how the teacher may inform the hachures and lines upon the paper with the story of the nations and the conditions of their existence.

The teacher should remember in the first place, a pregnant dictum of Humboldt's: "Only maps that appear empty take a firm hold on the memory"; and as it is almost impossible to obtain maps—other than physical—which are not crowded with useless names, I would advise the teacher to buy four large scale physical maps of the country or area to be studied, and insert upon the second, the geology of the region; upon the third, the distribution of the mineral and raw productions, and the regions and centres of its industrial activity. Upon the fourth physical map certain political facts would be introduced. In addition to configuration, the map which is simply physical should show relative elevation, prevailing winds, normal currents, January and July isotherms and the distribution of rainfall. Geological colouring must not be allowed to blot out physical features on the second map. It would be convenient if the physical map which shows the mineral resources, raw productions, and areas of industry were coloured, so that the overlapping of production might be clearly and definitely mapped. For example:—Iron and steel industries are carried on over the southern, and woollen industries over the northern districts of the South Yorkshire coal-field, and the industries and the coal-field must all be shown. The map on which political features are introduced

would, of course, show density of population, centres of government, centres and main lines of commerce, and health resorts. In addition to the four maps suggested, it is obvious that an historical map or a series of historical maps—according to the region studied—would be required. These must be physical maps with historical symbols and colouring. Ethnographical distinctions would be needed in many historical maps. These maps, once made, can be multiplied by the pupils for their individual use.

Again, maps must not be regarded as illustrations to text-books. When a town or river or other geographical fact is referred to, the pupil is too generally required to turn to the map for the purpose of finding it. This is the wrong method, and making of the map an improper use. Geographical pictures may be illustrations of text-books, but certainly maps are not. In fact, they *are* books—to be read as closely as any text-book. They have, from certain points of view, quite as much detailed information as a book, and they go beyond the scope of a book in that they exhibit to the trained eye an accurate and at once discernible presentment of principles.

Now let the teacher place such maps of England as I have described before a pupil, and begin to ply him with that geographical corkscrew—the question "Where." With his attention drawn to the narrowest part of the country—that between the Midlands and the Border—the pupil will soon discover that there are many important rivers and ports, enormous industries carried on by a dense population living in large towns, that the region is exceptionally rich in minerals, that on the eastern side the rivers are long and navigable, and on the western short and generally too rapid for navigation, and their basins less fertile than those of the eastern rivers. These are the facts, and the key to their in-

terpretation should be fairly easy to elucidate. It is the Pennine Chain. It is the source of the rivers, the womb of the mineral wealth. It provides material for profitable industries, and attracts a great population. The estuaries of its rivers are converted into ports for the outlet of this human activity. Its geographical position on the western side explains the disproportion in the length and rapidity of the rivers, and the greater development of the eastern rivers accounts for the richer character of their alluvial plains. Let the pupil remove in imagination the Pennine Chain, and the rich and populous North of England will cease to exist. Let him discover such a chain in another country, another such distribution and correlation of geographical facts, and he will be able to predicate with accuracy the possibilities for that country. His knowledge, in fact, will have become useful, his reasoning scientific and his conclusions sound. Geography will have ceased to be a matter of "dry bones" and will live.

The valley and estuary of the Thames, and the medieval as well as modern importance of the cities in its basin, may be treated in the same way; or the objective peninsulas of East Anglia and Kent, which he will be able to show are naturally what they have ever been—points of contact with the Continent. And here history will help him, and show how East Anglia, when the wool industry depended on the geographical juxtaposition of Flanders, was the most populous district in England.

Another instance. Let the teacher take a map of Switzerland—the playground of Europe—and direct the pupil's attention to the upper course of the Rhone, which is wholly Swiss. In the pursuit of facts he will gather that the basin of the Rhone is not a wide fertile plain like that of the Aar, but extremely narrow and flanked by

mountains, down whose gorges fall commercially useless streams. The valley declines at so great an angle that the Rhone cannot do else but rush rapidly to Lake Geneva. Directing his glance to the Aar, the pupil will see that that slower river winds here and there, both denuding and fructifying a larger area. He will be forced to conclude that while the basin of the Aar contains the most important towns and densest population in Switzerland, the Rhone benefits the dwellers on its banks but very slightly, that the population of its valley is therefore poor and sparse, and that commercially or politically it is a wholly unimportant region. I have here shown how the method of *contrast* can be used to accentuate the principle, viz., that the character of the dominating river is a key to the character of the country it drains.

Whatever geography may be said to include, and, regarded on its purely descriptive side, its function would seem to exclude nothing of the earth's surface which affects man, it cannot be denied that M. Drapeyron and those eminent modern geographers who think with him, are right in insisting that topography is the actual text of geography; that the basis of all geographical inquiry is found in the surface features of the earth's crust. In pleading, therefore, for the more scientific study of geography I would point out the value of regarding topographical features in the light of geological facts, of regarding them locally and in detail. It would be tempting to make an excursion into some of the fields which such a vista opens out; but if I would reach the end in the space at my disposal I must be satisfied to indicate a mere half-dozen of those which at once arise in view.

Restricting my examples to Europe and, chiefly, to England, I may cite, as evidence of geographical change



brought about by geological agency, under the head of *elevation* and *depression*, the case of Crete, which supplies evidence of both. Its western end has been elevated so much that the ancient Greek docks are now high and dry, while its eastern end has been depressed until several of the old Greek towns have been submerged, and we can look down through the water upon their ruins. The raised beaches of our own country, especially noticeable at Brighton and Portland, and in Cornwall, are further examples of elevation, while, of depression, there are the submerged forests round our coast, and the buried valleys of such rivers as the Yare and Waveney. There are the chemical and mechanical effects of aerial erosion and landslide—always more or less determined by the geological character of the rocks or the relation of the strata: *cf.* for the former, any hilly country; and for the latter the Rossberg slip in

Switzerland, the Axmouth slip in England, and the continual slipping of the whole of the coast where clay is found. Under the head of marine agency, the wearing away of the coast will find a place. It will be at once seen that the determinants for a cape or bay are geological: *cf.*, in the S. W. of Ireland, the capes of indurated sandstone, and the bays and fiords of shale and limestone. The present shape of the Isle of Wight—indeed, the present shape of England, is a mere matter of the relative hardness of rocks (modified at certain places by altitude). Anywhere on the English coast one may find examples of the geological character of the rocks assisting or resisting the mechanical and chemical agents of erosion. Again and again you find that the cliffs of the cape are geologically harder than the cliffs of the bay—*Educational Review.*

(To be continued.)

## HOW TO LEARN GEOMETRY.\*

BY E. M. LANGLY, M.A.

I HAVE endeavored to adapt the few remarks I am about to make to the use of students just about to *begin* the course of study prescribed for your certificate.

Broadly speaking, what is required of you may be grouped under two heads:—

\* An address to the students of the Bedford Kindergarten Training College.

† *Geometrical Drawing.* By A. J. Pressland. (Rivington, Percival & Co.)

‡ See Herbert Spencer's preface to *Inventional Geometry*, by W. G. Spencer. (Williams & Norgate.) A treatise which should be in the hands of all students and teachers of Elementary Geometry.

1.—ACQUAINTANCE WITH THE SOLUTION OF CERTAIN GEOMETRICAL PROBLEMS.

2.—ACQUISITION OF CERTAIN GEOMETRICAL TRUTHS.

Now, if it is not impossible, it must certainly be nearly impossible to effect a complete separation of these two branches of geometry. Anybody who learns how to effect practically problems on the division of angles and lines into various aliquot parts, and the construction of rectilinear figures of different shapes, can hardly help learning a few of the general truths on which the methods

employed depend, and may, with a little application and reflection, learn a large number of them. On the other hand, anyone whose mind is well stored with geometrical truths will with ease solve a problem of construction insuperable to a mere rule of thumb practitioner. But whether or not it might be possible to separate these two branches of geometrical learning, my advice to you is, *link them together as firmly as you can.*

Whenever you have learnt a practical device for a geometrical construction *examine carefully the geometrical truths on which it is founded*; whenever, on the other hand, you have added a new theorem to your store of geometrical truths, ask yourselves, *What new problem does this theorem enable me to solve?*

To make my meaning clear I will take particular cases.

1. For my problem I will choose the very elementary one, *to bisect a given straight line.*

You are, of course, aware that the ordinary solution effects the bisection by joining two points, each of which is at the same distance from the two ends of the line to be bisected. This easily suggests *what repeated experiments would readily confirm*, that all points which are equidistant from the ends of a given straight line lie on a certain straight line which bisects the first. Thus the solution of our problem has easily led us to a theorem which should be stored up for the solution of future problems.

I am not aware of any treatise on practical geometry in which so much is done to direct the student to the general truths on which the art is based as in the little work by Mr. Pressland, of the Edinburgh Academy. It is a pity that this method is not more generally adopted; a treatise on Practical Geometry being

often a mere set of rules without any method.

2. For my theorem, I take the one which tells us that "parallelograms on equal bases, and between the same parallels, are equivalent," and try to see what problems can be solved by means of it. (i.) It is easy to see that, given a parallelogram, we can construct on the same base another one, equivalent to it in area, and having two of its adjacent sides inclined at any given acute, right, or obtuse angle. (ii.) It is also easy to see that we can construct on the same base another one equivalent to it, and having one of its sides equal to any given straight line, of not less than a certain definite length. Our success may easily suggest that we can perhaps make one either (1) with its adjacent sides of any given length we please, or (2) with one side of any given length we please, and one angle equal a given right, acute, or obtuse angle, and on examination we find that we can, under certain limiting conditions, do both. [The solutions were indicated on the blackboard.]

But an inspection of the questions set shows that not only are you to be conversant with geometrical truths, but that you are to be able to give reasons for believing them to be true. Now *what reasons can we give for believing any geometrical statement to be true?* Examine this point rather closely. First notice that a geometrical proposition may generally be put into the form: *If A is B then C is D.* Thus, "The angles at the base of an isosceles triangle are equal" may be seen to be equivalent to "If two sides of a triangle are equal then the angles opposite them are equal." One method of convincing ourselves of the truth of this would be to make a large number of triangles, such as OPQ, in all having one pair of equal sides (OP, OQ) and verify-

ing experimentally the equality of the angles opposite to them. I strongly advise you to go through each theorem you have to learn and verifying it experimentally in the way just described. (The method of verifying equality by dissection and superposition was here illustrated by diagrams.)

It has not been usual for students, at any rate in schools, to approach the study of geometry in this experimental way, though there have probably always been individual teachers who have used it to varying extents. Of late years, however—in fact, since more attention has been given to the theory and practice of education—it has been strongly advocated. My own experience confirms me day by day in the opinion that it is the best method for the majority of students, though a few may be able to dispense with it.

It has these two advantages:—

(1.) It leads to clear conceptions of the truths to be established.

(2.) It may be used to introduce the student naturally to a different method of establishing such truths—the *deductive* method.

Let us suppose a student to have become convinced by a large number of experimental diagrams of the truth of the two following theorems:—

(1.) Parallelograms on equal bases and between the same parallels are equal.

(2.) A diagonal of a parallelogram divides it into two equal parts.

The reflection might naturally occur that we may take another theorem for granted without any experimental investigation—*triangles on equal bases and between the same parallels are equal*. (Illustrate with diagram.) This, perhaps, at once leads to the reflection, Could any other of the theorems which I have laboriously established by experiment have been *deduced* from the others?

On examination, it is not difficult to ascertain that there are groups of theorems such that any one of the group, having been verified experimentally, the rest might be established by deduction—in other words, we are led quite naturally to a system of “Deductive Geometry”; and, though I gather from your syllabus and some of the questions that have been set, that your examiner would often be satisfied with an experimental proof by dissection and superposition, I would strongly advise all of you to go through a course of Deductive Geometry after the experimental one.

And I have to mention a name which up to this point I have carefully avoided—that of the famous Alexandrian geometer, Euclid. The book styled in full the “Elements of Euclid”—is a treatise in which a large number of the most important truths of Elementary Geometry are deduced from a few fundamental ones which are taken for granted, and which the student may regard as having been established previously by experiment, or as being obvious in themselves.

You are not to suppose that this illustrious geometer discovered all the truths demonstrated in his renowned treatise. It is probable that most of them were well-known to preceding investigators and teachers, and that also their interdependence had been in many cases recognised, and that what Euclid did was to arrange them in a systematic treatise where each should follow as a deductive consequence of a few truths admitted by everyone able to understand them. You are not to suppose either that his is the only possible treatise of the sort, or that there is any one necessary set of preliminary assumptions from which a writer on geometry must set out, or any one necessary order in which he must arrange the links of his deduc

tive chain. You need not even trouble yourselves as to whether it is the best or not. But as it is likely to be used as a text book for many years in this country, it will be well worth your study, particularly as no other system has had its weak and its strong points so thoroughly discussed by successive commentators. If you have gone through such an experimental course as I have suggested, I do not think you will find any very terrible difficulties beset your way, but I would advise you to take a recent edition, such as McKay's, Nixon's, the Pitt Press, or—if I may with modesty suggest it—the Harper Euclid.

Having said thus much as what I advise you to do, I will add a few words on what you must not do. *You must not attempt to learn any demonstration by heart.*

Such a habit is an effective barrier equally to *any real progress in geometry*, and I hope, and firmly believe, to *any possible success in gaining the certificate for which you wish*. Your papers will be marked, not by a classical man whose geometrical education has been neglected, and who would find his task easier if you used the same letters, the same diagram, the same words punctuated in the same way as in his own particular edition of the Elements, but I suppose by a gentleman with a real, thorough knowledge of geometry, who expects your knowledge also as far as it extends, to be real and thorough; whose inclination, therefore, as well as his obvious duty, it will be to pluck pitilessly those of you who have been tempted to lean on this broken reed. — *The Educational Journal.*

## NOTES FOR TEACHERS.

THE STUDY OF EDUCATION.—The study of education occupies to-day a place not unlike that held by the mother-tongue but a few years ago. To-day English has a respectable place in the programmes of most high schools and academies. In the best colleges it has won an honorable place. Not so the study of education. Until recently education has been studied only in professional schools—the normal schools for the training of primary and grammar school teachers. Up to the present time I know of no secondary school in which at least the history of education is studied. College and university courses on education and teaching are still quite generally regarded as purely professional courses, designed only for those who intend

to teach. The idea that education in its historical, theoretical and practical phases deserves to be studied, and to some extent should be studied by all college students, irrespective of their future profession, is still quite as novel as was the demand which was made repeatedly and ultimately heeded some years ago, that the mother-tongue deserves to be carefully studied by all persons seeking a liberal education.

Just as it was at one time deemed superfluous to study English, so it is still thought superfluous to study education. Although it is recognized universally that on the education of the young the future welfare of individuals and of nations depends, and that consequently the education of the young is the most

important duty the present generation owes to the next ; although it is acknowledged that education underlies all the activities of the race, all the arts both of peace and war, yet the study of this important activity itself is still regarded by the non-professional student with indifference and neglect. What Herbert Spencer wrote more than thirty years ago deserves to be urged with added emphasis to-day :

Strangely enough, the most glaring defect in our programme of education is entirely overlooked. While much is being done in the detailed improvement of our systems in respect both of matter and manner, the most pressing desideratum has not yet been recognized as a desideratum. . . . The subject which involves all other subjects, and is therefore the subject in which the education of every one should culminate, is the theory and practice of education.

Contrary to what would naturally be expected, this apathy regarding the study of education has been most characteristic of those who were most liberally educated. Until recently the attitude of many college-bred teachers in secondary schools, and of many college professors toward courses in education and teaching was, in general, one of indifference ; sometimes of aggressive opposition. Naturally the students shared the indifference of the professors. Even for future teachers, for men who should be thoroughly equipped at all points for the exigencies of their future profession, it was at one time doubted that instruction in education and teaching could be of real value. Indeed, such value was positively denied. The experience of the past, it was held, in formulating and testing educational theories and practices, unlike the past experience of the race in all other respects, had no value in helping the parent and teacher of to-day to avoid useless experiments and false theories. In other words : in educa-

tion there is no lesson in the accumulation of past experience, everything must be done over again from the beginning ; Plato, Quintilian, Bacon, Comenius, Locke, Rousseau, Pestalozzi, Froebel, Herbart, and a host of others had no message to humanity, as regards education, worth attending to.

The special study of children, questions of school hygiene, school architecture, a careful comparative study of city, state and foreign school systems—all these things could have no value to an ambitious and earnest man who looked forward to teaching as his lifework. Further, it was held that the political history of nations, but not the history of education ; philosophy and ethics, psychology, but not the application of them to the development of a complete manhood and womanhood ; natural science, but not the natural history of children ; the study of existing political institutions, and a formative social science, but not of existing educational institutions, and of a formative educational science. To-day no subject occupies a more important place in the minds of the educated public than the aims and the practices involved in education. The discussion of educational questions is no longer confined to professional books and journals, but forms a part of the matter offered to the general public in the current magazines, and even in the daily papers. Such questions have a universal interest, for educational problems have to be solved in every home as well as in every school and school system. Finally in the colleges and universities the old indifference has given place to active interest, and the establishment of departments or of courses for the study of education and teaching has naturally followed. —*Prof. Paul H. Hanus, in the Educational Review for March.*

## PUBLIC OPINION.

THE HALF DAY SCHOOL.—What are the best school hours for children? The doctors have decided that four hours a day, from nine till one, are the best both for girls and boys. Some will ask themselves whether the doctors have taken into due consideration the peril to young people that is inseparable from hours of aimless idleness. It will hardly be disputed that the hours of mental strain or what should be mental strain, have always been too long, and in one way or another tend to a less intellectual result than shorter hours would. It must be admitted, too, that hardly any use of the energies is more useful and educative than play. On the playground every muscle finds joyous exercise, and the elasticity of childhood allows for considerable strains which would be dangerous in later life. All the physical faculties which are for the most part suppressed during intellectual study, and which an exhausting school system tends to atrophy, are there on the alert. And nowhere is one better trained in knowledge of and in dealing with one's fellow-man than in the generous contentions of the playground, where, in many respects, the conditions are but an epitome of what is called the battle of life. There prevails there a fairly good code of morals, the precipitate of the better feelings of senior society, and a fine, breezy, imperative public opinion to enforce it. A grown man may be accounted "mean" by every acquaintance he has, and never be told of it or suspect it. Not so the boy. Each neighbor in turn tells him just what he thinks and by the community generally he is greeted with "kick him out; he has no friends." The playground code might, no doubt, be raised in tone, and fearful is the responsibility of those who are in a

position to do good in this way and do it not, for it is strong, true men our country needs more than it needs anything, and it is largely on the playground that men are made or marred. It is to be regretted, we think, that play has ceased to be pure play. Forty or fifty years ago professionalism in play was hardly heard of. There was hardly such a thing as a club, and no temptation to smallness in obtaining money for uniforms or in scheming for gate money. Boys played shinny or cricket straight on for the love of the fun. They took no account of the games; could not have told at night how many they had lost or won, and as they chose sides every day the enemy of yesterday was the ally of to-day. Possibly the boys of those days would have been proud to see their exploits in the newspapers. Certainly they would have been greatly astonished, for nothing was further from their thoughts than notoriety. That Arcadian unconsciousness and simplicity was probably far more wholesome than the sophisticated semi-professionalism of to-day.—*The Montreal Witness.*

VERY LITTLE.—My experience in Normal work is leading me to doubt very strongly, whether the mathematics taught in our schools is furnishing the mind with thinking power. I doubt if the teachers themselves know how little thinking the children need to do, if only the form of the thought, the words, are learned. We home people see the other side of this question.

Then I feel that the school is doing very little for our children spiritually. Of course what is done in this line depends upon the teacher, mainly upon the standard of the Principal. A high-

minded man or woman will always find time and opportunity for the character lessons. Should not the school teach the child to identify his own worth with that of others? Should he not be taught to rejoice in another's success?—*Mrs. Putnam, Chicago.*

REAL GENIUS IS RARE.—It is supposed, sometimes, that the state of nature is a state of equality, and that inequality is artificial. This was the famous belief, or profession, of the republicans and revolutionists of the last century. We have been misled by comparing the educated rich, in days when the poor were uneducated, with the uneducated poor. The language of Gray's immortal "Elegy" has been taken with prosaic literalness, and applied to every village. It has been supposed that in every churchyard, sleeping among the rude forefathers of the hamlet, were to be found, not one, but many village Hampdens, and mute inglorious Miltons, and Cromwells guiltless of their country's blood. And some people talk as though it needed only the institution of free education, and, I suppose we may add now, the Parish Council, to make genius for letters and affairs as common in every village as the blackberries on its hedgerows.

I believe this to be largely an illusion. Real genius is rare, exceedingly rare. All the education in the world will not create it, and, I believe, want of higher education does not often retard it. If the genius is taught to read, and if he has the necessary moral qualities, I believe he will generally show himself, and rise to the top. The divinely gifted man will, I think, not find it very difficult to "burst his fate's invidious bar, and grasp the skirts of happy chance." What was possible for Bunyan and Burns, Stephenson and Davy and Faraday, is always possible. It is the

want not of education, but of real genius, a force of character that arrests human progress at various stages short of the highest achievement. In a certain sense education may produce equality. Given two men of equal ability, doubtless they are more equal if both can read, write, and cipher, than if one knows the three R's and the other does not. But, on the other hand, given two men of unequal ability, I believe they will be more unequal if both are highly educated than if both are equally uneducated. There is no difference, so far, between a Newton or a Raphael, and an ordinary average man, if neither of them has learnt to calculate or to draw. It is, be it noted, only the highly gifted natures that are capable of the highest education. Nowhere, I think teachers will agree with me, is the survival of the fittest more conspicuously true than in the field of education. A friend of mine, a living poet, Mr. Robert Bridges, in a beautiful little poem, which every teacher should read, written for the Ninth Jubilee of Eton, puts this somewhat differently, but with a poet's insight, when he says to the scholars of Eton—

"Now learn, love, have, do, be the best,  
Each in one thing excel the rest :  
Strive ; and hold fast this truth of heaven—  
To him that ha'h shall more be given."  
—*The President of the Teachers' Guild.*

NOTES FROM CANADA.—It is the proud boast of Ontario that no one can be employed as teacher in her schools, from the kindergarten to the collegiate institute, who does not possess a thorough professional preparation for the work. She was the first Province in the Dominion of Canada to establish a training school for teachers. This institution which has been in operation for half a century, and has in that period sent out many men and women who have risen to distinction in the teachers' profes-

sion, is known as the Toronto normal school. Among leading educationists who can call her their *alma mater* we may mention Mr. Millar, the present deputy minister of education; Dr. McLellan, principal of the school of pedagogy and author of a well known work on "Applied Psychology;" Dr. Robbins, principal of McGill normal school; Dr. Hume, professor of metaphysics in Toronto university; Mr. Scott, of the Ottawa normal school; Mr. Sinclair, principal of the Hamilton normal school, and nearly all the public school inspectors of the city and county.

We learn with regret that Dr. Carlyle, nephew of the celebrated Thomas Carlyle, who has been connected with the institution for thirty-six years has decided to retire from active service at the end of the present session. For fifteen years he was head-master of the model school. Twenty-three years ago, under the regime of the renowned Dr. Ryerson, he was appointed master of mathematics in the normal school, and subsequently, when the school was reorganized to be devoted to the professional training of teachers only, in addition to his other duties, the important subject of psychology was assigned to him.

Mr. Scott, who was graduated from the Toronto Normal School in 1868, will be Dr. Carlyle's successor. He has been engaged in teaching since his graduation. In 1870 he was appointed on the staff of the model school, and gradually won his way to the head-mastership. He is also a graduate of Toronto university, where he distinguished himself particularly in modern languages. Since 1882 Mr. Scott has been connected with the Ottawa normal school where he has had marked success.

The vacancy in the Ottawa normal school will be filled by Mr. S. B. Sinclair, principal of the Hamilton

model school. He is also the author of a helpful manual for primary teachers, the "First Year at School, or Blending of Kindergarten with Public School Work." Mr. Sinclair is a graduate of the Toronto normal school and also of Victoria university, in which he took honors in mathematics and psychology, obtaining the gold medal in the latter department. He has attended the Cook county normal school, under Col. Parker, and the Oswego normal school under Dr. Sheldon, and is thoroughly familiar with the best modern pedagogical thought and practice.—*The School Journal*.

It was because America was settled by scholars rather than adventurers, that within six years of the planting of Boston, Harvard had begun to be. In 1693 the College of William and Mary was chartered, and in 1701 Yale, followed by Princeton not many years later. Out of these beginnings has grown our whole system of higher education, now represented by 415 universities and colleges; in which are to be found upward of 2,000 post-graduate students, with about 45,000 in the courses leading to Bachelor of Arts or equivalent degrees. The few colleges for women that we have are overcrowded; nevertheless the number of women in college studies at present is but 7,847 to 35,791 males in like courses. In the preparatory departments of these institutions, for many of our smaller colleges still maintain such subfreshmen studies, there are 12,196 females to 26,715 males, indicating that as the courses are continued more young women drop out than young men.

The remarkable growth of American colleges is the direct result of American liberality. What has been accomplished has been accomplished not primarily by the State but chiefly



by the Church and the individual. No self-supporting system of education has been found possible for the people. The necessary cost of a college education is still paid, and for all we can see must continue to be paid, by philanthropists and patriots. The present Commissioner of Education, after an exhaustive study of the problem, finds that throughout our 415 colleges two-thirds of the cost of tuition and other necessary expenses are paid out of endowments, one-third only being met by tuition fees. And it is a fact worth remembering that while the ten largest State universities have endowments of \$17,690,000, the ten largest ecclesiastical colleges own \$16,955,000 of property; and the ten principal colleges endowed by individuals are worth \$21,856,000. In these latter neither Chicago nor Stanford University is included, as their boards are not yet ready to report.

The change in the college curriculum has been great, and of late years particularly rapid. When Harvard was begun the chief condition of entrance was the ability to talk Latin prose and write *Latin verse*. The only mathematics studied were arithmetic and geometry. As to history it occupied one hour on Saturday afternoons for one-half the year. With the growth of modern literatures other languages have naturally and necessarily supplanted that tongue in which formerly the wisdom of mankind was preserved. Since the birth of modern science, the study of nature cannot be confined to an occasional lecture now and then upon a flower or a shell. And with the interest taken by both Church and State in sociology, we are not surprised to find that forty-seven of our higher institutions publish 189 courses in history, history of law, language, literature, science and so forth, embraced in their regular or

elective studies. It is a mistake to believe, as some opponents of religious schools would have us do, that these changes have all come about through the secularization of our State universities. The first great impulse to the study of science in college came from Prof. Joseph Henry of Princeton, and Lafayette took the initiative in raising the study of modern languages to an equality with the classical tongues. It will seem no less strange to those who receive their information only through the non-religious journals, to be told that of the 45,000 students who can be called college students, only 10,000, according to Government reports, are in the institutions from which religious teaching is so carefully excluded. The proportion of students in denominational and privately-endowed colleges is greater to-day than it was forty years ago. And so far from these institutions losing their hold upon the American public they are steadily receiving from \$2,250,000 to \$8,000,000 a year in fresh endowments.—*Chicago Interior.*

*METHODS OF TEACHING.*—Dr. Rice calls attention to three methods of teaching. The lowest form of conducting a recitation was that wherein the teacher merely heard the pupil repeat that which it had learned by heart. It was a barbarous method in that it imposed upon the pupil the task of memorizing page after page which might not even be understood. Such mechanical teaching was an absurdity. The highest form of teaching, he said, is that in which the child is told nothing he can find out himself by a study of the subject and the individual exercise of his faculties. It is not difficult to get children to guess, but it is difficult to get them to think. Further, it is not difficult for a teacher to ask questions, but it is difficult to ask sensible questions which gradually

approach the gist of a subject, and, by calling into play the reasoning faculties of children, cause them to think out the answers for themselves. It is the second method which seeks to develop ideas by questioning and understandingly drawing the pupil out. The third is that which goes beyond the second in so far as the ideas that have been developed are given permanent lodgment in the youthful mind by a thorough drill at the close of a recita-

tion, and it was in this that the German schools excelled. Again, the highest form of teaching aims to connect one idea with another so as to form an unbroken chain.

“There never was an idea started that woke up men out of their stupid indifference but its originator was spoken of as a crank.”—*O. W. Holmes.*

GEOGRAPHY.

It is probably not widely known that only 7 out of the 17 transatlantic cables are in use—10 having given out from various causes. Estimating the cost of each cable at \$3,000,000, here is an irreclaimable investment of \$30,000,000 safely buried beneath the ocean to a depth ranging from a few fathoms to over five miles.—*Electrical Review.*

In the study of foreign countries much can be done in connecting history with the geography recitation. The teacher's own thought and research will be his best guide as to the use of history in connection with the study of geography. If the teacher is bound to make each lesson interesting he will succeed. “Where there's a will, there's a way.” But it will not take care of itself. It requires a genuine interest, much careful study, and more tact.—*Common School Education.*

THE DISENCHANTED LAKE.

I do not wish on that isle-flowering,  
fair,  
Moonlighted water e'er to float again,  
The ghosts of golden summers would  
be there  
Piercing one's heart with eyes of speech-  
less pain ;

I should be listening for a starry strain  
A tender voice that down the moun-  
tain side  
In maiden ecstasy rejoicing cried,  
And on the dusk lake's smooth and  
shimmering plain  
In love's confiding whisper sank and  
died.  
*They say*, in no new land, by no far  
shore,  
Those artless accents I may hearken  
more,  
*Who say*, we nothing know—omnis-  
cient they!—  
That after death there breaks no  
deathless day.—  
I cannot read the riddle, thread the  
strife,  
But yet somehow the simplest faith it  
seems,  
The eye was made for seeing, the  
mind for dreams,  
The pining spirit for immortal life.  
—*Joseph Truman in the London  
Spectator.*

APRIL 16th, 1894.

I find it pretty hard to pick up dollars enough in these hard times to pay for my papers and journals, but I have taken the MONTHLY so long that I can't very well get along without it.

Respectfully yours,

PRINCIPAL PUBLIC SCHOOLS.

Iowa.

## EDITORIAL NOTES.

## HOLIDAYS.

In this season of the year, while nature is in her gayest and most jubilant mood, she invites the teachers to outdoor play, to flee the haunts of busy men with their vexations and carking cares. And be learners again in pine woods, amid frowning mountains or by the ever changing beautiful seas. Teachers should all recuperate and ever grow by acquiring fresh knowledge and increasing power. May you have the gladdest of vacations.

## DEGREES.

Our readers, by referring to last month's issue of this Magazine, will find the conditions upon which the University of Toronto grants the degree of Bachelor of Pedagogy. We have no doubt but that all our Universities will follow suit and on the same or similar conditions, grant the same recognition to the teaching profession in Canada. We are informed at a recent meeting of the Senate of the University it was agreed to confer the degree of Doctor of Pedagogy. Therefore now the teaching profession has the same recognition from our state-supported University as any of the other learned professions. It is well. We wish that the Senate had selected some other word instead of Pedagogy. This word is very unpopular, and every where spoken against.

We are given to understand, that before the Doctor's degree can be conferred upon any one, he must pass an examination for the degree. On behalf of the profession, we ask, why is this? The degree of D.D. is conferred on ministers, without having to pass an examination, lawyers have a like privilege.

To exact this condition for the doctorate of teachers, seems to us

unnecessary, unkind and invidious. We suggest to the gentlemen of the Senate to amend the Statute in this respect.

## DR. RICE.

Dr. Rice, the critic of public schools, and methods of teaching in the schools of the United States of America, delivered an address to a large number of teachers and others in the Theatre of the Normal School, on Tuesday night, May 22nd. The Hon. the Minister of Education presided. The audience was most intelligent and appreciative.

The lecturer said that the best scientific teaching he ever saw, he saw in Germany. The schoolmaster there made it his duty in every lesson, to have (1) an aim towards which his work tended, (2) to develop the class work towards that aim or end, and (3) to drill his class after the teaching in the developing part of his lesson.

To the listeners, by the comparisons made and the illustrations given, it soon became apparent that the speaker had in his mind the public school of his own country. The teachers in Toronto, we know, were glad to see and hear Dr. Rice. To hear the estimate our friends south of the lakes put upon the scientific teaching in Germany and to learn the grounds of that estimate gives courage to teachers in Canada, at least to those in Ontario. Educators must ever remember in order to do effective work, that another man's method may be an inspiration or a burden according as we take its spirit into our spirit, or only bind it like a "fagot of dry sticks upon our back."

The next issue of the CANADA EDUCATIONAL MONTHLY will be in the first week in September.

## SCHOOL WORK.

QUESTIONS ON ENGLISH  
GRAMMAR.

BY N. ROBERTSON, M.A., H.M.H.S.,  
Richmond Hill.

1. Write sentences using *much, like, far* as nouns.
2. Write sentences using *little, right, what* as adverbs.
3. Write sentences using *enough, near, off* as adjectives.
4. Write sentences using *off, but, since* as prepositions.
5. Give as many verbs as you can that may be substituted for *saw* in "I saw him do it" without requiring the assertion of *to* before *do*.
6. Write sentences in which *did* in "If he did that" shall be in the indicative and subjunctive respectively.
7. Complete the following sentences correctly: "If he would do that, etc." "If he should do that."
8. Show by examples that the conjunction *and* may couple words and phrases as well as clauses.
9. "His coat *was torn* by the nail." "His coat *was torn* and bloody." Would you parse the italicized words in the same way in these two sentences? If not, give your reasons.
10. Parse the italicized words in the following:  
It grows *better* in a sandy soil. His health grows *better* every day. He picked *up* a stone and ran *up* the street. He jumped *out* of the window and took *out* his revolver. I never knew *before* that the teacher *before* you taught in C. *before* he came here. *What* good would it do you to know *what* I am going to with it?
11. When is *don't* permissible and when not?
12. When should you say 'As many as,' and when 'So many as?'
13. Read each of the following sentences in two ways: "Give the names of some more noted men." How little things of that sort seem to interest him!
14. Express the following in simple every-day English: "He informed us that the operatives were demanding additional remuneration."
15. Exemplify a correct use of *but what*, and also a common incorrect use of it.
16. "We see *but half* the causes of our deeds,  
*Seeking* them wholly in the outer life,  
And *heedless* of the encircling spirit-world,  
Which, though *unseen*, is felt, and sows in us  
All germs of pure and world-wide purposes.  
From one stage of our being to the next  
We pass *unconscious* o'er a slender bridge,  
The momentary *work* of unseen hands,  
Which crumbles down behind us; looking back,  
We see the other shore, the *gulf between*,  
And *marvelling* how we won to where we stand,  
Content ourselves to call th builder chance."  
*Lowell.*

(1) Divide the 4th and 5th, also the 11th and 12th lines into clauses, write out each in full, classify it and give its relation.

(2) Parse the italicized words.

(3) Classify and, give the relation of the phrases, 'in the outer life,'

'From one stage,' 'to the next,' 'O'er a slender bridge,' 'to call the builder chance.'

(4) Point out an example of (a) an adverb modifying a phrase (b) a verb taking two objects.

(5) Is "*is felt*" in line 4 a passive verb? Why?

(6) Show the logical bearing of the second line by putting it in the form of a clause.

## LATIN GRAMMAR AND PROSE.

### REVIEW QUESTIONS BASED ON CÆSAR BOOK IV.

#### PRINCIPAL STRANG.

1. Conjugate the verb compounded of *signum* and *facio*, *ob* and *cædo*, *sub* and *teneo*, *re* and *ago*, *cum* and *facio*.

2. Give the present and perfect infinitive active of *pulsis*, *sublatis*, *ficta*, *consumptis*, *suffassis*, *interposita*.

3. Give the 3rd singular perfect and future indicative active of *compleri*, *provetæ*, *vendant*, *audent*, *confidebant*.

4. Give the present infinitive and future participle active of *rescidit*, *manserint*, *attigit*, *gavisus*, *comperissent*.

5. Give the perfect and supine of *metendo*, *vivere*, *sinunt*, *desilite*, *laventur*.

6. Give all the participles of *oritur*, *transire*, *cogant*, *abesset*.

7. Give all the active forms of *progreior*, *polliceor*.

8. Give all the infinitive forms of *infero*, *conficio*, *abdo*.

9. Give the 3rd singular present and future indicative and present subjunctive of *posse*, *vultis*, *feribat*, *petisset*, *conspexit*.

10. Give the 3rd singular imperfect

indicative and imperfect subjunctive of *permoti*, *egredi*, *fieri*, *accessitam*, *transire*.

11. Compare *maxime*, *aegre*, *diutius*, *inartius*, *late*.

12. Positive of *citissime*, plures, *optimum*, *humiliores*, *inertius*.

13. Superlative of *ulteriore*, *celeriter*, *feliciter*, *certiores*, *priores*.

14. Nominative, genitive, and gender of *pedibus*, *lacte*, *ovis*, *aere*, *fundis*, *remis*, *vulneribus*, *manibus*, *obsidum*, *salutem*.

15. Give the corresponding plural forms of *eius generis*, *haec consuetudo*, *omni hoc itinere*, *quam fecit*, *id flumen*, *utriusque partis*.

16. Give the corresponding singular forms of *quibus locis*, *incertis rumoribus*, *eorum agros*, *his constitutis rebus*, *omnibus vicis*.

17. Mention any grammatical peculiarity of *neesse*, *armis*, *vulgus*, *impedimentis*, *jurejurando*, *solis neminem*, *cœperiunt*, *oritur*, *revertuntur*.

18. Mark the penult of *commode*, *desilite*, *recusat*, *desperant*, *incitat*, *laborant*, *remanent*, *oceano*, *obtulit*, *rescidit*.

19. What construction follows *ignosco*, *satis*, *natus*, *libero*, *mando*, *egredior*, *imperitus*, *appropinquo*, *praeter*, *praeficio*, *utor*, *cis*, *appellare*, *interesse*, *idoneus*.

20. Derive *jumentum*, *tormentum*, *simulare*, *aggregabat*, *cruciatus*.

21. Ordinary meaning of *auctoritas*, *officium*, *opprimo*, *infirmitas*, *contines*, *republica*.

22. Give genitive singular of *nullum flumen*, dative of *idem iter*, accusative of *hic eques*, ablative of *altius mare*.

23. Give nominative plural of *unus proelium*, genitive of *quae manus*, dative of *praeceptus locus*, accusative of *omne genus*, ablative of *superior portus*.

24. Distinguish *simulare* and *dis-simulare*; in *eos* (*eorum*) *fines* (*suos*); *occido* and *occido*; *consisto* and *constituo*; *rebellio* and *defectio*.

25. Form adjectives from *bellum*, *eques*, *inare*, *onus*, *fides*, *miles*, *tantus*, *quotidie*.

26. Form nouns from *multus*, *adeo*, *occupo*, *vir*, *volo*, *legatus*.

27. Form verbs from *venio*, *armo*, *navis*, *affligo*, *equus*.

28. Give, with examples, rules for the use of the supines.

29. Name five of the commonest uses of the Latin subjunctive, and give an example of each.

30. Mention, with illustrations, three of the chief differences between Latin and English in the use of (*a*) infinitives (*b*) participles

31. Give idiomatic Latin phrases for the following:

To join battle, to fight a battle, to make war on the Roman people, to advance, to retreat, to form circle, to embark, to disembark, to cast anchor, to weigh anchor, to ride at anchor, to give them leave to do this, to come in sight, to induce them to do this, to be the height of folly, to be in keeping with my dignity or that of the state, to be of service for repairing the vessels, to show them what he wanted done, to inspire fear in this tribe, to live mostly on milk and eggs, to set fire to all their villages, to be not more than three miles from the river, to inform Cæsar, to reach the same port as the rest, to send word in all directions.

## ENTRANCE LITERATURE.

By PETER McEACHREN, B.A.

THE EVENING CLOUD. p. 45.

The figures in the margin refer to the lines.

1. *Cradled*, may refer to the swaying or rocking of the cloud, it aids in personifying cloud by raising in the

mind the idea of a child rocked in a cradle.

2. *Gleam of crimson*, the color produced by the sun.

*Braided snow*, helps on the vague comparison of the cloud to a child dressed in white.

3. *Glory*, an abstract word for the white cloud tinged with crimson, preparing the mind for the reader for what is said in lines 9-14.

4. *Radiance*, brilliant brightness, lustre, splendor.

5. *Its*, antecedent-cloud. *Slow*, adjectival for adverbial form.

6. *In motum there was rest*, a quaint and apparently contradictory expression. note the rare use of *very* as an adjective.

7. *Traveller*, the cloud, *West*, treated as a proper name—the destination of the cloud, both words tend to put the reader in the right mood and receive the thought in lines 9-14.

9. *Emblem*, the cloud with all its circumstances is an emblem of the departed soul.

10. *White robe and gleam of bliss* suggest *braided snow* and *gleam of Crimson* in line 2.

11. *By the breath of mercy made to roll* refers back to *moving on*, line 3, *floated slow* line 5, and to all of lines 7 and 8.

12. This line refers to line 8, *West and Heaven* being the destination in each case.

13. *It*, antecedent-departed soul of line 9.

13 and 14. "Where to the eye of faith it peaceful lies, and tells to man his glorious destinies," is somewhat misty, like the cloud. It is easy to conceive that the *eye* of faith may see the cloud or the soul lying peacefully; it is harder to understand how the *eye* can hear either of these *telling* "to man his glorious destinies" *tells* must be understood to mean *indicates* or *signifies*.

## CONTEMPORARY LITERATURE.

Verse and jingles of all descriptions abound in the *St. Nicholas* for June, including a short story, "Rain and the Robin," by Duncan Campbell Scott. A charming sylvan story is the "Little Dryad," by Mary Branch. The serials by Miss Seawell and Howard Pyle are continued, while that by Mary Hallock Foote is brought to a conclusion. The series on "Historic Dwarfs" by Mrs. Roberts is continued.

*The Century* for June contains the conclusion of Mark's Twain's serial, "Pudd'nhead Wilson," a story which will add considerably to his reputation. In a different vein is the conclusion of Thomas Janvier's two-part short story, "The Loan of the Half Orphans," the delicate humor of which is quite irresistible. Frank Stockton and Alexander Drake each have a short story, the one on hypnotism, the other one of his midnight series. Altogether the number is a specially remarkable one, containing contributions from Sherman, Stedman, Boyesen, Brander Matthews and Miss Thomas, besides those already mentioned.

*Littell's Living Age* for June 2nd has among its contents an account of a somewhat remarkable visit paid to the Tennysons by a young lady in 1839, taken from Blackwood. On the page devoted to poetry is a particularly attractive and simple song entitled "Where have you been to-day, Annie Smith?" It is copied from the Romantic Farce by John Davidson, a new writer whose work has received great praise from the English publications.

The *Illustrated London News* for June 2nd is specially attractive by reason of the reproduction of a number of the Academy pictures. W. E. Norriss' new story, "A Victim of Good

Luck," is in his most amusing and agreeable vein. Other interesting views of the news of the day is not wanting, such as "Mr. Asquith's Wedding" and the Cape team of cricketers.

Educationists will find "The Scope of the Normal School," in the *Atlantic* for June, a most instructive paper. It is by M. V. O'Shea of the Mankato State Normal School.

A friend of Thomas Carlyle, Sir Edward Strachey, contributes a group of his letters not before published and some reports of his conversation. Mrs. Wiggin has a short story entitled the "Nooning Tree" and Bliss Carman a poem: the Gravedigger.

"Perlycross," by R. D. Blackmore, is unfortunately drawing to a close in *Macmillan's* for May. There is a scholarly and interesting Discourse on Sequels, signed by the initials N. P. J., and Andrew Lang writes with his accustomed grace an article on the "Last Flight of Joan of Arc." The number contains also two short stories, "Ditas" and the "Cliff Climbers."

Paragraph-writing, by F. N. Scott and J. V. Denney. Boston: Allyn and Bacon. 259 pages. Price, 80 cents.

We take pleasure in calling the attention of all who have to teach English composition to advanced classes to this new and excellent work, which, we are sure, they will find very helpful.

The authors, recognizing the great labor involved in writing and, still more, in correcting essays, and the unsatisfactory results commonly obtained, and believing that paragraph-writing may be made very largely to serve the same purpose, and that

thus the work may be made more varied, interesting and thorough, have aimed to make the paragraph the basis of a method of composition.

In addition to a full discussion of the function and structure of the various types of paragraphs, including a section on essay writing, a number of valuable appendices are given in Part III. In these are to be found lists of topic sentences for development, paragraphs for study and criticism, subjects for composition, references to books and magazines, suggestions to teachers, and useful information and hints regarding newspaper and literary work.

From Messrs. Macmillan & Co., London, through the Copp, Clark Co., Toronto:—

Two new texts appear this month in the *Elementary Classics Series*—*Quintus Curtius* (selections), edited by F. Coverley Smith, and *Homer's Iliad*, Book XXIV, edited by Walter Leaf and M. A. Bayfield.

In Inspector Goyen's work on *English Composition*, analysis is taken as the basis of composition, and this idea is, as far as it goes, a sound one. The exercises are very well chosen and carefully arranged for class work. The sight of this book, and a vivid remembrance of an excellent text book on "Higher Arithmetic," by the same author (if we are not in error), make us earnestly wish that he would write an English Grammar.

*Commercial Spanish* is the title of the latest issue of "Elementary Commercial Class Book." As a manual for office use and as a guide in correspondence, it is very satisfactory.

One of the most important books on the table this month is *A Treatise on Hydrostatics*, by Prof. A. G. Greenhill of the Artillery College, Woolwich. The book is a large one, because a beautiful clear type is used all through. It begins at the very be-

ginning with fundamental principles, and the propositions are so clearly put and so carefully developed and illustrated that it will be of the greatest service to students, and will be found a useful companion by engineers and others. Considerable use has been made of the Calculus and great attention has been paid to naval Architecture and the problems arising therefrom. London: Macmillan & Co., through the Copp, Clark Co., Toronto.

We notice with pleasure the appearance of the second volume of Mr. Henry Craik's *English Prose*. The period covered is from the Sixteenth Century to the Restoration, and the same general plan is followed as in the previous volume, of giving a general Introduction to each period and critical Introductions to each author. These critical introductions are not the least valuable part of the book, being written by Edmund Gosse, George Saintsbury and others. But the extracts given, though brief, are "great riches in a little room."

A revised edition of the beautiful School Text of the first four books of "Xenophon's Anabasis" has just been issued by Messrs. Ginn & Co. We must remind our readers of some of the chief features of this volume. It contains an excellent Vocabulary, which might almost be called a Dictionary. It is adapted to the latest edition of Goodwin's Greek Grammar, and to Hadley's Revised Greek Grammar. The notes, being the work of Prof. Goodwin and Prof. White, of Harvard, are admirable.

The same firm have also published an interesting little volume, being *Studies in English Criticism*, printed by Yale University for the benefit of students. It was the thesis of Miss Laura Johnson Wylie and was presented for the degree of Ph.D.

A very useful work for Modern



Language teachers is Contemporary French Writers, or selections from French writers of the second part of this century, with notes and literary notices. Edited by Mlle. Rosine Melle. Ginn & Co.

Messrs. D. C. Heath & Co. have just published a work on *Mathematics for Common Schools*, in three parts, viz., Primary, Intermediate and Higher. This work is distinguished by the great attention paid to reviewing and drilling. It is well arranged and practical.

*Bell's English Classics.* We have been favoured with two neat volumes, edited by F. Ryland, M.A. "Johnson's Life of Pope" and "Johnson's Life of Swift." An introduction, and good notes add to the interest of the book. London: Geo. Bell. New York: Macmillan & Co.

Volume twenty-sixth of the *International Education Series* (New York: D. Appleton & Co.) is an important one—"Symbolic Education" by Susan E. Blow. It is comprised in eight chapters and is primarily the first part of a Commentary on Froebel's "Mother Play," which is perhaps his most important work. But it is more than this. A careful, experienced and successful educator herself, the authoress has written a book which will be in many ways of real value to the teaching profession in general.

We have also received the following books: From Messrs. Ginn & Co.

"Old English Ballads." Edited by Prof. Gummerl. Athenæum Press Series.

"The Inflections and Syntax of the Morte D'Arthur." A Study in Fifteenth Century English. By Prof. Baldwin of Columbia College.

"Glimpses at the Plant World." By Fanny D. Bergen.

"A Preparatory German Reader. Edited by C. L. Van Daell. (This is specially valuable for the excellence

of its selections, both prose and lyric poetry.)

"First Steps in Algebra." By G. A. Wentworth, A.M.

From Messrs. D. C. Heath & Co. "Heath's Modern Language Series." "Schiller's Maria Stuart." Edited by Prof. Rhoades of Cornell. "Freytag's Der Rittmeister." Edited by Prof. Hatfield. "Meisterwerke des Mittelalters." Edited by Professor Wenckebach. "Sand's La Petite Fadette." Edited by F. Aston Binns, M.A.

"A new Elementary English Grammar" has just appeared from the "Pitt Press." It is the work of Mr. Alfred S. West, M.A., Fellow of University College, London, and is, in many respects, one of the best grammars we have seen of late. English grammar is by no means an easy subject to teach and every good teacher knows that the use of new books helps to keep his work fresh. We scarcely agree with Mr. West's remarks on mood, and we think his classification of nouns defective, but the book is certainly a useful one. There is a good index.

The Rev. Dr. Withrow, editor of the Canadian Methodist Magazine, whose literary activities have made his name familiar on both sides of the Atlantic, is putting through the press a *Monotessaron*, or *New Harmony of the Gospels*, which will be of much interest and value to Bible students. It interweaves into one continuous narrative the story of the Life of the Saviour, which is the special subject of the International Sunday School lessons for the year, which begins with the coming July. This book will be published simultaneously in Canada and the United States. The Canadian publisher is William Briggs. The book will be issued in convenient pocket size and will sell at fifty cents.