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THE FORMATION OF OPINION.

BY PROFESSOR WILLIAM CLARK, M.A., LL D., TRINITY COLLEGE, TORONTO.

A WRITER of our own day has said that he cares nothing for what a man opines, but only for what he knows; nothing for opinion, but only for knowledge. Such a statement may seem plausible, but a moment's reflection will show that it is not sound or rational. It ignores the very conditions of ordinary human thought and action. A large proportion of our judgments must belong to the region of probability, and not to that of certainty, and, therefore, must be of the nature of opinion and not of knowledge.

In fact, we are under the necessity of acting in many cases in which certainty is unattainable. It would not be possible to put this point more clearly than it has been done by Bishop Butler in the introduction to his "Analogy," in which he shows that, while to "an infinite intelligence" every "object of knowledge" is "certainly true or certainly false," to us, "probability is the very guide of life." Let it be remembered, moreover, that Faith itself, from the intel-

lectual and critical side, is simply opinion. That which to one man is an article of faith, however firm and undoubting, to another is only an opinion more or less probable or improbable.

1. It is already clear, from what has been said, that our opinions are of immense importance, seeing that they do, so to speak, regulate our whole life and conduct. Obvious as such a statement may appear, it has often been lost sight of. Writers of power and influence have permitted themselves to use language on this subject which right reason could not justify. Even Pope has said : *

For modes of faith let graceless zealots fight ;
His can't be wrong whose life is in the right.

But this statement, although it contains a measure of truth, is certainly, as it stands, both false and mischievous, seeing that it ignores alike the influence of a man's life upon his faith, and the influence of the truth or falsehood of his faith over the

* Essay on Man, Epist. iii., line 303.

rightness of his life. The opposite view has been set forth by Mr. Ruskin* with his accustomed trenchant force, and, we may add, with his wonted exaggeration. "It has been a prevalent notion," he says, "in the minds of well-disposed persons, that, if they acted according to their own conscience, they must therefore be doing right. But," he goes on, "they assume, in feeling or asserting this, either that there is no law of God, or that it cannot be known, but only felt and conjectured. You must not do," he adds, "what you think right, but whether you or anybody think, or don't think it, what is right."

Here then is the same one-sidedness as in the lines of Pope, although in the opposite direction. A man is bound to obey his own conscience, and he is right in obeying it, and he would be wrong if he disobeyed it. It does not, however, follow from this that he is doing what is right. A man may, in the most conscientious manner, following the best light that he has, and acting from the best of motives, be actually effecting the greatest mischief. But this only brings out more clearly the enormous importance of right opinion.

The hourly actions of our life are determined by our opinions, acting in concert with our habits. Whether we think of religion or politics, of the affairs of the Church or those of the State, we see that opinion is the guide of our life. Take, for example, the case of religious opinion. Surely no one can suppose that it makes no difference what a man's opinions are, on the nature of God and the nature of man, on the constitution of the Person of Jesus Christ, or even on what may be called the subordinate articles of the Christian Faith. These are some of those "modes of faith" for which "graceless zealots" are

supposed to "fight." Is it quite graceless to fight for such things? Even if we had not been told to "contend earnestly for the faith once for all delivered to the saints," would it not imply a culpable indifference to truths of the highest interest and influence to regard such questions as unimportant? If the beliefs of the Church on these subjects are untrue, they are enormous falsehoods; if they are true, we should be unable to exaggerate their importance. The principle is the same in every department of thought and life. Opinion is our guide and master everywhere, and in all our relations, private, social, and public. "Opinion," some one has said, "is Queen of the world." It was a phrase which made a deep impression upon the great Pascal. "I should much like," he says, "to see the Italian book, of which I know only the title, which in itself is worth many books, *Della Opinione, Regina del Mondo*. I subscribe to it without knowing it, except to anything that may be wrong in it, if there is anything." Montesquieu says the same thing of custom, and Herodotus of law; but these are only the expression and embodiment of opinion.*

It may be suggested that there is an exception to the truth of this principle in the case of countries where there exists no public opinion; but the exception is only apparent. Under old despotisms, the so-called autocrat rules by the opinion of the small body who surround the throne and support it. When he breaks with that, unless he can throw himself upon another body of organized opinion, he is usually assassinated. In an upstart despotism—the worst of all kinds of government, because it is established on the ruins of liberty—it is still by opinion that the despot

* "Fors Clavigera," June, 1875.

* *Pensées*, Ed. Havet, i. 34. See note there. Smaller edition, p. 41.

rules. The first Buonaparte, Napoleon the Great, was the representative of the opinion out of which his power arose; but he was at last crushed by opinion, by the public opinion of Europe, expressed in the forces by which he was defeated. The second Buonaparte was the creature of public opinion—wide-spread, if unintelligent—and fell when he was no longer supported by its voice. As we have said, the exceptions to the principle are more apparent than real.

We repeat, therefore, it would be difficult to exaggerate the importance of this subject—the formation of opinion. Let us reflect that wrong opinions must necessarily lead to wrong actions, must, in fact, make all our life wrong. Nor will a man's conscientiousness hinder the evil effects of such conduct. On the contrary, in such a case, the more conscientious men are, the more mischievous they may be; for, as we have heard, doing what we think right may be one thing, and doing what is right may be quite another.

2. As regards the general principles to be observed in the formation of opinion, we need only say that the two great elements here, as in the acquisition of knowledge, must always be humility and devotion. By humility, we mean the sense of our own fallibility, the knowledge of the enormous difficulty of arriving at truth, the fear of going wrong in our judgments. By devotion, we mean the steadfast resolve to spare no pains in endeavouring to ascertain what is true, and right, and good, to yield to no sloth that would hinder us in our search after truth, to take as much pains in the pursuit of it as though we were striving after something upon which our happiness, our very life, depended. We must buy the truth. We must go after it, as he who sought for the goodly pearl, and parted with all that he had, in order that he might

buy it. Does this seem too large a demand to make upon ordinary persons who have to form opinions on a great many subjects? If this should seem to be the case, let it be remembered that it is impossible to form opinions that shall be of any value on any other principles. The labour bestowed upon the search is the exact measure of the value of the result. A man's opinions are worth exactly what they have cost him. If we take them up without reflection, even if they are nearly true, they will be of comparatively little value. On the other hand, if we go astray after the most earnest and laborious efforts—a thing which may happen to us—these opinions so acquired, even if only partially true, will yet have an immense practical value for us, because they will be real. They will give definiteness to our life; nay more, they will help to lead us out of their own imperfections and errors into a fuller truth.

We are touching here upon one of the reasons which make it so much more difficult to form right opinions in our more advanced years than in our youth. It is more difficult to form those habits of thought which are necessary for the purpose, and which we have neglected to acquire. On this point Locke speaks with great emphasis. He says: "It is hardly possible for men who have grown up in thoughtless ignorance to change in this respect. 'What then!' he asks, 'can grown men never be impressed or enlarged in their understandings? I say not so, but this I think I may say, that it will not be done without industry and application, which will require more time and pains than grown men, settled in their course of life, will allow to it, and therefore very seldom is done.'"

* "Conduct of the Understanding," § 6. Principles; Compare Büttler, "Analogy," i., c. 5.

Of course there will be a great difference in the amount of labour required to form one opinion and another. By the ordinance of our Creator, it is comparatively easy for us to form judgments on the commonest actions of our life. Our every-day duties are commonly plain enough. "The way-faring man, though a fool," need not err in these. The grand moral and religious distinctions by which men's actions are determined are, for the most part, plain enough. If we go beyond these, if we will judge and act (as sometimes become necessary for us) in matters of greater difficulty, we must be willing to undergo greater labour. As a general rule, the matters which are the least imperative as duties are those upon which we have least need to make up our minds, and which present the greatest difficulty to the inquirer after truth. Take, as an example, the forming of a judgment respecting our fellow-men. The formation of such opinions need not very often be a duty, and they should be formed with great care and deliberation. It is related of Queen Elizabeth that, at the end of her long reign, she was able to say that she had never formed an opinion as to the guilt of an accused person upon the first reports which reached her.* It was a principle worthy of that "strong mind and character of that great Queen." It is equally a proof of the mental weakness and incapacity of a large number of our fellow men that they do form judgments instantly, readily, on the very first reports that are brought to them; especially, one is sorry to add, when they contain anything unfavourable to another.

3. So far our remarks have been general. It is necessary, however, that we should offer some suggestions of a more particular, although hardly,

perhaps, of a more practical character.

(1) In doing so, we will begin with a very simple piece of advice, which is however greatly needed. *On many points be content to have no opinion at all.* The philosopher Locke well remarks that "nobody is under an obligation to know everything"; and yet the ordinary run of fairly educated men seem to think that they ought to be ashamed of being ignorant of any subject whatsoever. If it were possible for you to pass a whole day in a club room, or in any of those places of casual intercourse where men exchange opinions, you would receive the most remarkable illustration of this statement. You would find men on every side of you, ready to give the most distinct and assured opinions on all or any topics that might happen to be brought forward; no matter how little they really knew of the subjects to which they belonged. Now and then an exceptionally modest or thoughtful man would say, "I know nothing about it, and am not competent to pronounce an opinion;" but he would certainly be an exception. And yet there is no disgrace in being ignorant of many things—of many things—especially of those things with which our own work in life is little concerned. It is therefore the part of wisdom and common sense, as well as of humility, to be contented, in many cases, to form no opinion at all. We do not, of course, advocate the view that men should refrain from forming opinions when they have sufficient opportunities and means of doing so; much less that in cases in which they are required to act, they should act blindly without considering the grounds and principles upon which rational beings should base all their plans and actions. But what we mean is this—that, where no duty requires us to form an opinion, and where at the same time we have no

* Thiersch, "Christian Commonwealth."

great power or opportunity of judging. we may refrain from the attempt to form an opinion on subjects which are matters of controversy, without having any reason to be ashamed of having no opinion on such matters. There is no folly, no stupidity, no cowardice; on the contrary, there may be truest intelligence and courage in saying, "I have not formed an opinion on a certain subject, because I have not had the means of ascertaining all the facts, without a knowledge of which an opinion would be of no value."

(2) A second piece of advice: *Be contented to act on many opinions which you are not able to verify intellectually*; that is to say, for which you can give no theoretical or speculative reasons. This may, at first hearing, sound very hard, inasmuch as it appears to recommend that men shall act merely from habit and custom, and not as rational and intelligent beings. Yet it is what we—all of us—do, and, we may add, what most of us do every day of our life.

Consider for a moment what are the two great elements in all opinion. They are, authority and personal investigation. It will probably be regarded by many persons as a sign of great lack of intelligence to be told that authority is a proper ground of opinion. And yet it is with authority that our life on earth begins and ends. And, indeed, it is one very great question in every age, in regard to human judgments, to determine the separate spheres of authority and personal investigation; just as it has been the great question, in regard to human actions, to determine the limits of authority and personal liberty. Examples may be furnished in abundance.

We might, for instance, begin with

religion, which, of course, rests upon authority; for it supposes a revelation of some kind or other, a revelation which rests upon the authority of God. But it will be better to take an example from the realm of science. In one sense, no authority avails in science. We do not accept Kepler's law, or any of the other discoveries in astronomy, because of the eminence of its discoverer, or of those teachers by whom it has been approved and commended to our attention. We accept it because it agrees with the facts of observation, and because it explains those facts. But, as simple matter of fact, the great majority of the human race do receive the results of scientific inquiry simply on the authority of others. They have no opportunity of investigating them personally. They are incapable of doing so. Most people, for instance, believe that the earth is round, that it turns upon its axis, that it goes round the sun. They have never verified these doctrines. If they believed their senses, they would say that the world was flat and stationary, that the sun comes up from the eastern horizon, and goes down into the western. Yet we do not allow our senses to deceive us into this belief, because we are credibly informed that it is not so; and we believe this doctrine, although we are quite unable to verify it. So it is in many questions of religion. We are not all theologians. There are very few even of those whose business it is to teach religion who are able thoroughly to investigate all the grounds in history and in reason upon which it rests. Yet we act upon the conviction that its principles are true, and, in doing so, we are not working in the dark, nor are we behaving irrationally.

(To be continued.)

INTRODUCTION OF ZOOLOGY INTO HIGH SCHOOLS.

BY PROF. RAMSAY WRIGHT, UNIVERSITY COLLEGE, TORONTO.

IN making an important change in an educational course, such as the introduction of a new subject of study, it is, above all, necessary to keep in view the objects which it is hoped will be attained, so that those methods may be adopted which shall lead most directly to their attainment.

The addition of zoology to the High School course may be considered to have a twofold object: (1) the further training of the observative powers and the cultivation of a love of nature; and (2) the conveying to the pupil of such a knowledge of the principles of the science as will render comprehensible to him those discussions of biological problems which form so large a part of our every-day literature.

Although in the German Gymnasias (which have had considerable experience in the use of natural history as part of the school course) zoology is frequently adopted in the lower forms for the first object lessons in natural history, the selection of botany for the first form course in the Ontario High Schools appears to me to be justified by the comparative simplicity of the forms which the pupil is required to observe, and by the ease with which the practical teaching of a class may be conducted. The teacher also can readily ascertain the progress of the pupil in accurate observation—for he can insist not only on precision of verbal description, but especially on the reproduction by drawing of the simpler forms and upon accurate measurement.

Parenthetically I desire to say that students generally arrive at the science classes in the University without

having had sufficient practice in measurement. If the pupil were taught at school to think in French as well as English measure, and to make estimated as well as accurate measurements in both, much valuable time would be spared to him.

A further advantage of the botanical course is that another test of accurate observation—the correct determination of the species of flowering plants—can be, for several reasons, introduced much more easily than the determination of species of any group of animals; and again, there is nothing better calculated to awaken a love of nature than botanical excursions under an enthusiastic teacher.

Zoology, on the other hand, does not lend itself so easily for elementary exercises in observation. In the first place, the forms met with in the most conspicuous animals are far more difficult to reproduce by drawing than are the leaves of plants, *e.g.* In the second place, there is no group of animals which the pupil can be set to collect with as little trouble as he can the flowering plants, and no means of setting him the exercise of determination of species, which the accessible "floras" render possible for the flowering plants. This is otherwise in Europe where the school Natural Histories contain figures of all the commonest forms of the various branches of the animal kingdom, while here the necessary information for correct diagnosis of species is frequently difficult of access.

Although zoology, therefore, is not quite so well adapted for beginning the kind of training which the botany of the first form aims at, it is, never-

theless, admirably adapted for further developing the powers of observation, and for further cultivating a love of nature, especially by awakening an interest in the habits of animals.

Again, it lends itself more easily than does botany to the attainment of the second of the objects referred to above—the conveying to the pupil some comprehension of the principles of biological science. This appears to me, indeed, the chief reason why it should form part of the High School course. Considered as a means of *training* alone, botany might be adopted to the exclusion of zoology; but both sides of organic nature must be studied before the most interesting problems—such as the reciprocal relations of the vegetable and animal kingdoms—can be approached. If it is conceded then that something more than mere training of the observative powers is to be aimed at by the High School course in natural history, it behooves us to examine into the best method of acquiring such a knowledge of zoology as will serve to introduce the pupil to a knowledge of the scope and aims of biological science.

In the German Gymnasia botany and zoology are relegated to the lower classes, physics and chemistry to the higher. The instruction in the former group begins in the lowest form with the superficial study of a few types, is continued in the next two forms by widening the pupil's acquaintance with the domestic flora and fauna, and is concluded in a higher form by some instruction in the structure and physiology of plants and animals. The text books employed are chiefly such as aim at giving a wide superficial knowledge of specific forms, and of the classification of the vegetable and animal kingdoms. These have their educative values increased by the circumstance that the schools can purchase illustrative col-

lections of specimens very cheaply from dealers, and the diagnosis of specimens collected by the pupil is insisted upon as an essential part of the training. On the other hand, such text books as give a more detailed account of the structure of a few distinct types are rarely employed in the schools, being in fact better suited for somewhat older pupils.

It is obvious then that the conditions of the introduction of zoology into the Ontario High School course are very different from those obtaining in the German Gymnasia. Our problem is to supply a year's course of study in zoology to pupils who have already had their powers of observation sharpened by a botanical course, and to make it of such a character as to convey some inkling of the problems of general biology. This, it appears to me, may be best done by requiring the pupil to study carefully a few types in such a way as to make intelligible to him any remarks on allied forms, and on the principles suggested by the facts observed. A text book suited for such a course ought, therefore, to be a judicious combination of the two kinds referred to above.

A difficulty next occurs as to a convenient starting-point for a survey of the animal kingdom. There are various pedagogical maxims on which we may wish to rely in selecting one. We may proceed from the known to the unknown, from the simple to the complex, or we may follow the general course of the development of the science. The first and third of these maxims applied to zoology would appear to be at variance with the second, for the simpler forms involve greater difficulties of study, while the more complex and conspicuous forms first attracted the attention of naturalists. Yet it is possible to be true to all three, by taking the lower forms in each branch of the animal kingdom

before the higher forms, while studying the more conspicuous and better known branches before those which attract less attention.

If *e.g.*, we begin with the study of the vertebrate sub-kingdom to which we ourselves belong, we shall find it easier to comprehend the structure of the human body after we have studied that of a simpler vertebrate than if we proceed in an inverse direction. Indeed the less conspicuous and lower groups, the study of which involves much use of the microscope, may be safely left till some familiarity with that instrument has been acquired in the study of the finer parts of the higher forms. Such work ought to be postponed till the eye and hand have had some training, and, there-

fore, ought to be reserved for the third form.

In the study of the organs of the higher animals only so much physiology ought to be introduced as will clearly indicate the function they perform. It is hopeless that much advance should be made in this side of biology without a much more accurate knowledge of physical and chemical processes than it is possible to acquire at school. Still, enough can be done on the lines indicated to make clear to an intelligent pupil what the nature and the tendencies of biological study are. Any teacher who sympathizes, even feebly, with Herbert Spencer as to the importance of biology in education will be glad to promote such a result.

GEORGIAN AND VICTORIAN EXPANSION.

(Continued from page 230.)

THE brightest side of the Victorian age undoubtedly is to be seen in the growth of the colonies and dependencies. At home, as I have said, there seems a shadow for every light. At home development is either impeded or made dangerous by want of room. Everywhere there is congestion, and not only in the East of London or in the West of Ireland. It is otherwise in those vast regions which have become the inheritance of our race. For them this half century has been a period of uninterrupted growth and almost unbroken sunshine. This brighter side of the Victorian age I should like to bring before your minds, but even here I wish to avoid both undertaking, too much and touching upon controvertible matter.

We are thinking of an age which lies between 1837 and 1887 of the nineteenth century. I will ask you to recall the corresponding part of

the eighteenth century. Perhaps the period between 1737 and 1787 does not stand out with any great distinctness before your minds. In the sixteenth century the corresponding period stands out as roughly the period of the Reformation. In the seventeenth it stands out still more distinctly as the period of our civil troubles, for actually in 1638 the disturbances began in Scotland, and in 1688 took place the Revolution. It may hardly seem to you possible to give any description equally brief and striking of the corresponding years of the eighteenth century. In 1737 Queen Caroline died, and the opposition against Walpole began to gather head. That year may be called the beginning of the second part of George II.'s reign, and in 1787 the younger Pitt was almost at his zenith and the country was prosperous and contented. Between those dates lie

no doubt two or three wars, for in those days European wars were sadly common; but had they any great importance, had they any unity, so that we should regard the period as a great and striking stage in the development of England? Perhaps you might not be disposed to think so.

I have been led to see just in this period a remarkable unity and importance, and I find in it a character in some respects strongly resembling, in other respects strongly contrasted with, our Victorian age. By dwelling a little on its principal features, I think I may be able to bring out indirectly, through the resemblances and through the points of contrast, many of the leading features of our own age.

The occurrences of this period are apt to escape our attention, because they took place for the most part outside England. They were very imperfectly reflected in those parliamentary debates which form, as it were, the mirror in which England sees herself. They were indeed on a vast scale, but they were remote. If, as I have said, in the Victorian age the brightest side is the growth of the colonies, this period is broadly similar to the Victorian age. In history the Victorian age will be marked as the opening era of the Australian Continent, and the era of the foundation of the Dominion of Canada. In like manner the period now before us stands out as the age of the first conquest of Canada, and of the creation of British India.

And here, at once, by the side of the resemblance a great point of contrast appears. For that period witnessed another event of the same order, equally vast and equally remote, but tragical for England—the great secession of the American Colonies. The Victorian Age has seen no such catastrophe. A happy difference, yet a difference which brings almost into

stronger relief the resemblance of the two periods. For throughout the Victorian age too the possibility of a new disruption has been contemplated, and for some time at least that possibility was regarded as even a probability, if not an eventual certainty. Thus in both periods the general conditions have been the same; there has been advance in the same direction, and there has been apprehension of the same dangers.

In both centuries it is the same England acting on the whole in the same way, annexing easily vast regions beyond the ocean, but finding it less easy to hold than to grasp, to keep than to acquire. A law has evidently been at work. Nor did this law begin to operate in the eighteenth century, though then for the first time it operated on a vast scale. In the seventeenth century also it was at work, though hidden then behind civil disturbances and movements that affected us more strongly. For if the eighteenth gave us Canada and India, the seventeenth century gave us those great American colonies which we afterwards lost. From the time of James I. we have been colonizers of the New World. The propensity to colonize which first showed itself when the charter was given to Virginia in 1606, has since grown upon us. We have sent out successive waves of colonization, and in this respect the Victorian age does not differ from the ages that have preceded it since that time, but only surpasses them.

In this process of expansion I seem to distinguish four great waves. Under James I. there were founded Virginia and New England. Under Charles II., New York, the Carolinas, and Pennsylvania were added. The third wave marks the period of the eighteenth century to which I have called your attention. This time, however, there is less colonization than conquest. The founding of

Georgia is insignificant by the side of the conquest of Canada and Florida, and the wonderful commencement of the conquest of India. The last and greatest wave belongs to the Victorian age, which has witnessed the full settlement of Australia and New Zealand; the growth of Canada into a Dominion spanning the American continent; the great extension of our South African settlements and the completion of the conquest of India.

When I compare these aggrandizements of territory to waves, I imply that the beginning and end of each movement cannot be precisely marked. The names of James I., Charles II., George II., and Victoria, mark, as it were, the crest on the successive waves. But the first wave began very evidently to swell under Elizabeth, in the enterprises of Gilbert and Raleigh, and did not subside until Maryland had been founded under Charles I. The wave which I name from Charles II. is first visible under Cromwell, when the conquest of Jamaica took place; and that on which I put the name of George II. is traceable under Anne, when Nova Scotia was acquired and the South Sea Company founded. In like manner the last wave, which we ourselves have witnessed, has only risen to its height under the Queen. It began in the acquisitions of the great war, viz., the Cape, Mauritius, Trinidad, and Demerara, and it can be traced through a series of settlements made under George IV. and William IV.

When we survey and compare together these successive waves of expansion, we discover, I think, another uniformity. They have been in all cases the after swell of some great struggle in which England has been compelled to put forth all her might. I have just remarked this of the last of the four. It is equally obvious to remark it of the first. The great Elizabethan war with Spain first

turned our attention to the New World, which then belonged almost exclusively to Spain. It was not so much for trade, still less for colonization, that our adventurers first sought the New World. It was rather a war measure, and even a measure of defensive war. Hampered and hard pressed at home, we discovered, as the Dutch also discovered, that the weakness of Spain lay in this, that she was vulnerable everywhere, because her Empire was everywhere. In order to damage Spain, we struck blows which in the end enriched and aggrandized ourselves. And the quiet times of James I. reaped what had been sown in the stormy days of Elizabeth.

The same relation which James I. bore to Elizabeth was borne by Charles II. to Cromwell. The vast colonization of Charles II.'s time is the after-swell of our civil wars. We commonly contemplate those wars too exclusively in our own island. It is one of their characteristics—new then in English history—that the struggle extended into America and into the islands of the Atlantic, was waged with fleets as well as armies, and involved us not less with the Dutch on the sea than with the Scotch at home. By the side of Cromwell and his army there is Blake and his fleet, and the maritime development of force that resulted from the Civil War was really more important and more lasting than the army it created. Hence, as the Elizabethan struggle ended in a great expansion at the cost of Spain, the Civil War led to an expansion chiefly at the cost of the Dutch, and gave quite a new and most imposing character to our settlements in North America.

And what of the third wave of expansion, that which marks the middle of the eighteenth century? This, again, is the after-swell of the great struggle under William and Anne.

In the New World lay the whole interest of the question of the Spanish Succession for England. The negotiations of William and the campaigns of Marlborough were undertaken to keep America open to English enterprise. The acquisitions of the treaty of Utrecht—Nova Scotia, Gibraltar, Port Mahon, and rights of trade to Spanish America—were evidently calculated to prepare the way for a new expansion. This accordingly commenced in due time with the colonization of Georgia, and with that great attack on Spanish America which seemed to revive the days of Cromwell.

That attack was made in 1739, and the third wave of expansion fills, as I have said, with its swelling, culminating and subsiding, almost the very period of the eighteenth century which corresponds to the Victorian age in the nineteenth. And thus we see English history from Elizabeth to Victoria divide itself into four great struggles, followed by four great movements of colonial expansion.

But the third of these movements—that which belongs to the eighteenth century—has certain remarkable characteristics of its own, and both on

this account and as being chronologically nearest to the Victorian expansion, deserves peculiarly to be considered. The earlier expansions, as well as that of our own age, are mainly peaceful movements of population. At one time a *Mayflower* carries out religious refugees, at another time Australian gold mines attract adventurers. But in this eighteenth century movement there is little emigration, little proper colonization. In place of it there is war and conquest. Florida is taken from Spain, Canada from France, an empire is founded in India. That generation saw with astonishment England making wide conquests in Asia and America at once. For the first time she seemed to be playing the part of a Rome or a Macedonia which was the more surprising as she was not even a military state, as she scarcely possessed even an army. Could it be, they asked, that the remote descendants of the "British warrior queen" who had been crushed by the Roman power, were destined to reign in regions Cæsar never knew, and far beyond the utmost flight of the Roman eagles? It was quite a new and unexpected chapter in English history.

WHAT SHALL THE PUBLIC SCHOOLS TEACH?

MASSACHUSETTS is the birth-place of the public school. "As an innovation upon all pre-existing policy and usages," says Horace Mann, "the establishment of free schools was the boldest ever promulgated since the commencement of the Christian era." Time, which tests all things, has left no occasion for the vindication or eulogy of this institution. But in these latter days, when *doctrinaires* assume to limit the teaching of the common school to elementary branches, it is interesting to

observe how comprehensive was the thought of our fathers at a time when the wolf was at their doors, and poverty was the companion of their firesides. In one of the earlier colonial statutes, it was ordained that, while every town of fifty householders should teach every child to read and write, every town of one hundred should establish a grammar school where youth might be "fitted for the university, to the end that learning may not be buried in the graves of our forefathers in church and common-

wealth." To these wise builders of the state the highest education of some meant the highest service to all. And this is forever true. Scholarship is a diffusible blessing. The high priests of science and of literature are, consciously or unconsciously, ministering to the lowliest. And, as a matter of history, the great movements of philanthropy to elevate the lower and dependent classes, either materially or spiritually, have been led by scholars.

Even if we adopt that curious theory that the state exists only for itself, then we say that the best education makes the best citizens. Nor is there any logical line of exclusion to be drawn above reading and writing, or anywhere else on the ascending scale. Brushing aside restrictive theories, there remains the practical question, how far the State shall educate. And the answer to this may vary according to circumstances. The general judgment of the American people has wisely fixed the limit, for the present at least, at the time when the pupil naturally leaves his home for further training.

Within the limits the state sets for itself everybody's school should be better than anybody's. This not only because the state has ampler means, but also because of the breadth of culture and the healthiness of influence which comes from the mingling of all classes of children together. A boy may be as manly a boy brought up under the glass of "a select school," but the chances are against him. Of course, when I say that everybody's school should be better than anybody's, I mean better for the average pupil. There may be special cases that can be better provided for in private schools. Nor should the greatest good of the greatest number be subordinated to any other consideration. While, therefore, I believe that ordinarily it is better for

the boy and better for the school that our high schools should afford a suitable preparation for college, yet careful attention should be paid to the proportion of time and teaching strength devoted to this purpose. And, as one of the greatest perils attending our modern education is the over-strain of college fitting, to wise parents it would be a recommendation if the public school should deliberately elect to keep behind private tuition in the race of preparation.

The study of Latin, however (with very little attention to its grammar), I would introduce into the grammar school at an early age, and as a part of the general curriculum. Viewed merely from the practical side, I think a knowledge of ordinary Latin words of more use to the average citizen than much of the English grammar and geography now taught. It unlocks the meaning of many common legal and scientific terms, it familiarizes one with the classical mythology which has to be understood to enjoy almost any branch of imaginative literature, and it is the only means by which to get an impressive sense of the precise force of a large part of the English language itself. Besides all this, the study of classical literature, to even a very moderate extent, tends to refine the taste and train the critical faculties, and constitutes the true complement to scientific studies in mental development.

It is not necessary to say anything of the common course of study which makes the staple of public school instruction. Thoroughness in these elementary branches is essential, but needs no advocacy.

"Encourage the beautiful," says Goethe, "for the useful will take care of itself." It is a pregnant saying, but still a half truth; for the beautiful is, in so many ways, itself the useful, whether the end sought is happiness or culture. The "common

school" should be common in nothing but its openness to every one; like the common air and the world itself, it should be no less beautiful because its ownership is universal. Those whose homes supply scanty means of refinement or sources of beauty, should have those tastes awakened and trained at school which will make life sweeter and happier wherever it may be passed. Without overburdening the curriculum of studies, such arts as music, drawing, and floriculture might take their place as diversions.

"Character building" must be assumed as summing up, as well as a phrase can, the ultimate object of education. On the intellectual side such building requires both tools and materials; the mind must have something to work with and something to work on. But it is a grave error to mistake methods or facts for education. If we had to choose between attainments and the vigor of mind which has the power to attain what it wills, we should certainly choose the latter. All else comes when needed. But the head will do but little unless spurred on by the heart, and I would have over every school room these golden sentences of Sir John Lubbock: "The important thing is not so much that every child should be taught, as that every child should wish to learn. A boy who leaves school knowing much, but hating his lessons, will soon have forgotten almost all he ever learned; while another who had acquired a thirst for knowledge, even if he had learned little, would soon teach himself more than the first ever knew."

I am not, then, departing from a strictly practical answer to the question, "What shall the public schools teach?" when I say, above all things, the love of truth itself. The teacher who cannot inspire his pupils with this must confess himself to be a

failure. The intellectual love of truth, no doubt, has some affinity to the passion for it as a moral principle. Integrity of mind tends toward integrity of life. But the state cannot afford to rely upon such tendencies. It needs good citizens even more than it needs intelligent citizens, and it must directly strike for the former. Any system of instruction which ignores either ethics or religion is fatally defective. Whatever a coterie of modern theorists may say in support of such a system, the experience and judgment of mankind is overwhelmingly against them.

It is a forcible saying of the Duke of Argyll that, "fortunately for mankind, no actual legislators have ever been quite so foolish as some philosophers." Certainly, the legislators of my own state never have been; for the public statutes of Massachusetts still enjoin it upon "all instructors of youth to exert their best endeavours to impress on the minds of children and youth committed to their care and instruction, the principles of piety and justice, and a sacred regard for truth, love of their country, humanity, and universal benevolence, sobriety, industry, and frugality, chastity, moderation and temperance, and those other virtues which are the ornament of human society, and the basis upon which a republican constitution is founded." But I fear these excellent injunctions are often disregarded. More attention is paid to examination drills, or even to pedantic rules of discipline, than to "the weightier matters of the law, judgment, justice, and mercy."

Every thoughtful observer or careful thinker arrives at the conclusion that we cannot safely rely on the culture of the intellect alone. It was the complaint of Montaigne, the skeptic, centuries ago, that the system of education in vogue had the fault of over-estimating the intellect and re-

jecting morality; and it may be remembered that when Herbert Spencer was in this country, he declared that knowledge alone could not be relied on to secure the purification of politics. That "it is essentially a question of character, and only in a secondary way a question of knowledge. Not a lack of information, but lack of certain moral sentiments, is the root of the evil." But surely we do not need the authority of great names to assure us that the honest labourer who can neither read nor write, but who has the sense of duty in his heart, is a better citizen than the accomplished scholar who has blunted his conscience and sharpened his wits, so that he can swindle his fellows out of a fortune.

I may be told that, however necessary moral teaching may be, it is the duty of the home, and that the school may be excused from it. But I reply that, if the state owes each child it assumes to educate a moral, as well as a mental, training, it cannot rightfully rely on the performance of this duty by others; that the children who come from the worst homes, where no such instruction is thought of, need it most; that even in homes where it is theoretically valued, business, cares, or pleasures practically shut it out; and, besides all this, while I would not underestimate either the absolute or the relative worth of home teaching, the teaching of the school supplements the best work of parents, with advantages of its own.

Can we teach ethics without religion? Probably. I say probably, because there is not much experimental proof. We hear more than we see of that kind of teaching. But we cannot teach with authority, we cannot teach with impressiveness, without thought of Him who is the Absolute Right. The peculiarity of Christianity itself is not in the revela-

tion of new ethical truth, but in bringing to us that new sense of God, and of our relation to Him, which makes the idea of duty regnant in the heart. Matthew Arnold very inadequately defines religion as "morality touched with emotion." But although it is much more, it is that; and without religion morality has neither emotion nor motion. It will stay in the text-book.

And so, coming to the heart of the problem, I say that I would have religion taught as a part of our public education. What religion? 'The only religion that is a part of the common law, the only religion that permeates our literature, and the religion that is related to all our modern civilization—Christianity. But it should be the Christianity of Christ, not that of sects; the Christianity which, in its practical aspects, is fitted to be the universal religion of mankind; which appeals as did the Master, for its test to the common judgment of what is right.

Can the public school teach such a common Christianity? It were indeed a scandal to our religion if there were no ground upon which its nominal adherents could stand together. Can it be that our schools must be left pagan because we are sectarian? Such a conclusion is repulsive to the common sense of the community. All the tendencies of the age are toward breadth and unity. I think there are but very few who call themselves Christians who would prefer that our schools should be godless rather than that they should confine themselves to the Lord's prayer as their liturgy, the Two Great Commandments as the rule of holy living, and the doctrines of the Sermon on the Mount as the inspiration and comfort of the soul. I would have the state, then, in this spirit, undertake the work of religious training in three ways.

First. Let the sentiment of worship.

be cultivated by opening the schools with the Lord's Prayer (in which, however, the children should not be required to join), followed by some classic hymn of pure devotion. I would connect with this some reading of selected Scriptures. The teacher who lacks either the head or the heart to render this simple service impressive is out of his place.

Secondly. I would have attention paid to the Bible as literature. The modern neglect of this book in our common and in our higher education is discreditable. Mulford, in his work, "The Nation," says: "The Bible has been removed from the course of study in universities, and then from academies, and has no place, corresponding simply, as a history and literature, to the history and literature of Greece and Rome;" and he well adds that "this is the result, in part, of the principal which has referred it exclusively to the sphere of the dogmatist and the ecclesiast." It is clearly a misfortune that the memory of the young people of to-day is not so richly stored as that of the old with immortal passages of Scripture. Considered merely as literature, what is there to equal them?

The "Fortnightly Review" recently called upon distinguished men of letters to furnish "the one passage in prose which appears of its kind the best." Without quoting more, Matthew Arnold says: "Passages from the Bible I leave out. Things like 'Foxes have holes,' etc., comply with the test as much as anything in the world." John Addington Symonds calls the 28th chapter of Job from the 12th to the 28th verse "absolutely the greatest passage known to me." Frederic Harrison, equally famed for his fine literary taste and his sceptical mind, puts the Bible in the front rank; and Frederick Myers tells us that "turning from Plato to English prose, there seems little outside the Bible

and Prayer-Book which does not jar by comparison." And Mr. Cross, in his biography of George Eliot, writes: "We generally began our reading at Witley with some chapters of the Bible, which was a very precious and sacred book to her, not only from early associations, but also from the profound conviction of its importance in the development of the religious life of man. She particularly enjoyed reading aloud some of the finest chapters of Isaiah, Jeremiah, and St. Paul's Epistles."

Ample as are the grounds upon which, as a matter of scholarship, we may urge a better acquaintance with the Bible, I would not conceal the fact that in my own mind there is a far more weighty reason, because of the spiritual life with which it is instinct. He must indeed be a blind bigot, whether an ecclesiastic or a scientist, who will not see that the Scriptures, "without note or comment," have been a wonderful power in the regeneration of the individual man, and in toning up the life of the state.

Thirdly. Due place should be given to the study of ethics. This, for practical purposes, is well defined as that science "which teaches men their duty, and the reasons of it." Merely as a matter of intellectual discipline it is of great value, as training the power of moral reasoning, which is of, far more value than that of mathematical, in the conduct of life. Without dwelling upon this, it would seem to require no argument to prove that a serious gap would be left in any education which had no teaching of the truths relating to character and to moral obligation. Nor does the contention of a few, that, because some points in ethics are subjects of controversy, we should teach nothing, deserve much notice. Ethics has been studied by the subtlest intellects of the world thousands of

years in advance of modern science, and the latter has more disputable and unsettled propositions.

I have no occasion to consider whether the pulpit of the day gives sufficient importance and emphasis to ethical culture. I say nothing as to the relative influence, in this direction, of its teaching, and of that of the school. But I fear the statistics as to the number of children availing themselves of such ethical instruction would be startling. Beyond this there is the further consideration that, while the pulpit has certain advantages of its own in the impressiveness of its teaching, the school also has its advantages. To many minds the great ethical truths are made more real if they are taught as the verities of physics are taught. They thus take rank with the laws of nature in their absoluteness and uniformity.

How much scholastic rubbish might we well exchange for an intellectual conviction that it was sure as the law of gravitation that suffering follows sin; that our happiness depends more on what we are than on what we have; that "character not only fixes destiny, but is destiny itself"! These are ethical truths in which all philosophers, from Socrates to Spencer, would unite; and they are such truths as are calculated to regulate the conduct of life. I am not sanguine enough to suppose that the teaching of them would insure righteous living; the mere teaching of truth never insures wisdom; but, unless we are prepared to abandon all teaching on that account, we have no reason to abandon the teaching of moral truth.

I confess that I find it difficult to appreciate the objections that may be made to the outline of religious instruction that I have given. But I should seek to meet both those who think that too much religion would be taught, and those who think too

little would be taught, in a spirit of conciliation.

As to agnostics. There are many noble souls who sympathize with George Eliot when she says: "I have no controversy with the faith that cries out and clings from the depths of man's need. . . . I gather a sort of strength from the certainty that there must be limits or negations in my own moral powers and life experiences which may screen from me many possibilities of blessedness for our suffering human nature." Such agnostics would not be troubled if the faith of childhood were nourished and strengthened by hymn and prayer and holy word; nor, as scholars, would they undervalue the worth of some acquaintance with the literature of the Bible. Undoubtedly there is a small fraction of unbelievers who have no more sweetness than light, and who are belligerent in their attitude toward religion. This class, having men in it ready with voice and pen, make more noise than their number warrants. They are implacable; and as to them, if they have children, society has only to determine whether it will insist on its right to give them religious training while in the public school, or whether, for the sake of peace, it will allow the parent to keep them at home during religious exercises. But if some must lose their benefit, this surely is no reason why all should.

And now as to the Roman Catholics. It may at least be said that they would have no new grievance. More than that, I think many would feel that there was a distinct gain in removing from the schools the reproach of being "godless." I realize that the Catholics are a large class of our fellow-citizens, and that they are sensitive as to all matters affecting the religious belief of their children. The state should in good faith undertake, in the manner and to the extent I have indi-

cated, unsectarian religious instruction. No trouble is apprehended from Protestants. If the Catholics, whether reasonably or unreasonably, have any jealousy or distrust of such teaching, I should be disposed to hand over these departments, for the instruction of their children, to teachers of their own faith, under such arrangements as should insure an intelligent, systematic, and faithful performance of that duty. Such provisions are not uncommon in the continental countries of Europe. As the state, in its opinion, at least, would provide for the impartial performance of all its obligations by its own competent teachers, this permission to those dissatisfied, to do the work by their own instrumentalities, would not, of course, create any claim on the state for compensation.

I do not pretend that the irenical scheme of religious instruction which I have proposed will satisfy the leading ecclesiastics of the Roman Catholic Church. It will make our schools better, but it will not take away their desire for schools of their own.

And what shall we say of these parochial schools? That the separation of our children into two distinct classes, divided by religious differences and almost identically so by social condition, is unfortunate, especially so for those who, in any event, have to fight the battle of life under natural disadvantages; but unfortunate also for the more favoured class, who need, for their own good and for the good of the state, to be brought into brotherly relations of sympathy and of insight with the others, I most strongly believe. But we must remember that, though the state has both the right and the duty of seeing that the obli-

gation of primary education is discharged by somebody, it has no right to determine by whom. The Catholic has the same right to his parochial school that the fastidious Protestant has to the ordinary private school or seminary. And, as a mere matter of policy, he must be a dull student of history or of human nature who does not know that any attempt of the state to use unfriendly legislation against the parochial school will arouse that spirit of religious partisanship which has ever proved stronger than laws or even arms. We must, therefore, frankly and heartily concede to the Catholics all we claim for ourselves, and seek to win and not to coerce.

I do not believe it wise to indulge in any panic upon this question, still less to introduce any shibboleth about it into party politics. If we are patient, I have faith that the American system of public education of the masses in common schools will triumph over the old-world theories of training by ecclesiastics. One thing is sure: the Roman Catholic layman in this country of the people must have a recognition not accorded him in Europe; and the style of Catholicism which will ultimately predominate will not be ultramontane. To the practical judgment of the Catholic masses must the determination of this question finally be left, and all that we can do is to maintain and increase the superiority of the common school. I, for one, do not believe that the American citizen, whatever his ancestry or his creed, will, in the long run, be inclined to pay for an inferior article when he can get a superior at the public expense.—*Robert C. Pitman, in The Forum.*

MILLIONS of spiritual creatures walk the earth
Unseen, both when we wake and when we sleep.
—Milton.

FIELDS are full of eye and woods have ears;
For this the wise are ever on their guard;
For unforeseen, they say, is unprepared.
—Dryden.

THE PHYSICAL HEALTH OF OUR GIRLS.

IN a previous article on this subject, which appeared in this magazine more than a year ago, the present writer ventured, not without fear and trembling, to express her views and to sketch some thoughts which had been borne in upon her mind during some seven years of experience in teaching. The great importance of the subject, and the general undercurrent of uneasiness and apprehension about the effect of educational methods now in vogue on that personal vigour and physical health, which is the very last thing that may safely be neglected by the individual or by the nation, was shown by the fact that so incomplete a discussion of the subject as was found in that article immediately obtained a comparatively wide circulation by being republished by the press in Montreal, Toronto, Barrie, and other Canadian cities and towns, and also in the United States and (I am informed) in a certain eastern town in Ontario, and also in Baltimore, Md., enlightened school boards have adopted the suggestion that school boards should appoint a physician to the schools, whose duties should include the careful sanitary inspection of all school sites and premises, and to whom teachers could refer cases in which the evil effects of "cram" and too rapid promotion were evident—cases which the conscientious teacher under present circumstances can do so little either to prevent or cure. For the educational machine goes on forever. Your class assembles at the beginning of the session. Many of them are already beginning to think and talk of being promoted to the "next room," or of "passing their examination," the name of which is Legion, for they are many. And the teacher, poor soul, if she thinks about

it at all, is forced to realize more surely every session, as a new piece of wide red tape is wound round her and securely tied, that she is only part of the machine.

But to return. A writer in the *Popular Science Monthly* for August, on "Teaching Physiology in the Public Schools," speaks strongly (but not too strongly) on the neglect of this subject, and the inefficient, almost useless, way in which it is taught, if taught at all, and adds: "The work should be done by sanitary officers of boards of education."

In 1873, at the annual meeting of the American Public Health Association, President White, of Cornell University, said:—"First, as regards Public Schools, I would make provision for simple instruction in the elements of physiology and hygiene, either by the use of some short and plain text book, or, what is still better, by lectures from some competent resident physician. I confess that I greatly prefer the latter method. Not only theory, but experience leads me to prefer it."

Never was there such universal testimony as to the risks into which we are blindly rushing, as during the past few weeks, when the products obtained by the revolutions of the cranks and wheels of the educational machine have been held up to public view. We have it on the authority of the *Toronto Empire* that "there is scarcely a State in the Union to the south of us, or a county or district in our own country, in which attention has not been directed at once to the seemingly intellectual brilliancy of the performances (at school commencement), and to the physical deterioration which is plainly to be seen in the majority of cases among the performers. The cram system is producing

incalculable physical evils on the rising generation, especially on the young girls who are to be the mothers of the generation that is to follow." And hear what the New York *Sun* says:—

"But there is another side of this commencement business. There is something besides the 'golden link,' the 'corridors of time,' and the 'star of hope.' It was to be seen at the Normal College recently. Principally it was found in the pale faces, the sallow complexions, the bloodless cheeks of the 291 graduates. And these were only signs of vitiated health. And for the causes of vitiated health look to the cram system of education now prevalent; or ask Dr. Mary Putnam-Jacobi, or Felix Adler, or Howard Crosby, or Jane A. Denton, or any other thoughtful teacher. Any spectator at the Normal College who could free himself from the artificial stimulation of the hour would have seen these unpleasant things. The graduating class sat in the body of the hall before the platform. They were in white gowns, all but two of them. They are girls who—most of them, at any rate—would be more than merely good looking if they had any colour in their faces. There were all sorts of styles of beauty, but there was one thing that was common to all, and that was a chalky, pie-crust complexion."

In the course of some remarks on the higher education of women, the *British Medical Journal* writes as follows:—

"We must point out the necessity of attending to the laws of hygiene; especially during periods of rapid growth of brain and body. Let students work for their own improvement, and let those in charge of them see to healthful surroundings, and watch the actual conditions of the brain and body as the student's life proceeds. The student should attend to her duties in study and recreation,

while the superintendent trains herself to observe any signs of the commencement of such common conditions as lowered nutrition, exhaustion, or defects in physique."

These words should be "writ large" before the eyes of every parent and teacher and student. One more picture, to the truth of which most of us could testify:

"At an age when the emotional and nervous development is rapid, and in many cases morbid, social dissipation and excitement are supplied with the same care that they receive when the daughter is a woman. Many a mother has been heard to say, as a proof of her child's strength, "She has been able to go to parties or the theatre several evenings a week, and she stands high up in her class. Who cannot name dozens of children that never go to bed until ten or eleven o'clock—as a consequence late sleeping next morning, a hasty or no breakfast, and a lunch not taken to school, or, if taken, mainly rich saccharine food. Mothers say, in extenuation of their not insisting on regular, slowly eaten meals, "My daughter enjoys her morning nap so, I hate to wake her up till the last moment; then she never has time for more than a mouthful; a good strong cup of tea or coffee is all she wants; it braces her up, so she does not care for more." A clever, thoughtful woman, now suffering from years of just this sort of ignorance in a luxuriant home, states that a standing joke at school was the arrival of her old man-servant (she would not be "late," breakfast or no breakfast) with the message, "Please, ma'am, here's Miss Mary's breakfast, and her ma says she's to eat it!" But what girl's pride would allow her to eat breakfast under such mortifying conditions? Follow these girls home, with an empty stomach, exhausted nerves, consequently little appetite—there is waiting for them a

music teacher, or extra lesson, or afternoon tea engagement, and at the end of the day, when nature is at her lowest ebb, a heavy, rich meal, and more study or excitement. Furthermore, the growing, injudiciously worked girl is probably clothed in tight, heavy garments, and put to bed in a closely shut up room from which all pure oxygen is soon exhausted.

When the strain of school life under such treatment is over, and the greater strain of mature life claims the young woman's time, there is no reserve strength to meet the demands—often legitimate—of a more complex existence, and we have the inevitable breakdown, when the same mother will bitterly and helplessly exclaim, "Why should my child be so delicate?" The true answer is, "Because for years all your training tended to produce just such fruits."—*Catherine Baldwin in Harper's Young People.*

In the June number of *Education*, Morrison J. Swift, of New York, gives some account of over twenty-five cases of needless, foolish, wicked over-strain at American schools and colleges, most of which ended in permanent invalidism or premature death—one in suicide. None but those who have had similar experience would fully believe these things. Yet they are true. And we all say that health is important. Do we really think so? As Professor Tyndall says:—"There have been men who by wise attention to this point might have risen to eminence, might have made great discoveries, written great poems, commanded armies, or ruled states—but who by unwise neglect of this point have come to nothing. Imagine Hercules as oarsman in another boat, what could he do but by the very force of his stroke expedite the ruin of his craft."

And Mr. Herbert Spencer:—"The constitutions shaken by this long-continued over-application, they bequeath

to their children. And then these comparatively feeble children, predisposed as they are to break down under even an ordinary strain upon their energies, are required to go through a curriculum much more extended than that prescribed for the un-feeble children of past generations."

And Mr. Emerson:—"Get health. No labour, pains, temperance, poverty, nor exercise that can gain it must be grudged. For sickness is a cannibal which eats up all the life and youth it can lay hold of, and absorbs its own sons and daughters. I figure it as a pale, wailing, distracted phantom, absolutely selfish, heedless of what is good and great, attentive to its sensations, losing its soul and afflicting other souls with meanness and mopings, and with ministrations to its voracity of trifles."

And who is to save our boys and girls from this fearful phantom? Who but their fathers and mothers? "Let them go and help them," says the Rev. T. De Witt Talmage, "to trundle the hoop, and fly the kite, and build snow castles." And he, too, goes on in the same sermon to say:—"Multitudes of children, because of their precocity, have been urged into depths of study where they ought not to go, and their intellects have been overburdened and overstrained and battered to pieces against Latin grammars and algebras, and coming forth into practical life they will hardly rise to mediocrity, and there is now a stuffing and cramming system of education in the schools of our country that is deathful to the teachers who have to enforce it, and destructive to the children who must submit to the process."

The following conversation, given verbatim, is submitted as a specimen:

Alice, a pale, delicate, small, nervous girl who had a general look as if nobody had ever been kind to her, was discovered one day weeping.

Teacher—"What is the matter, Alice?"

Alice—"My head is aching."

T.—"Would you not like to go home?"

A.—"No, I don't want to go home."
(Weeping afresh.)

T.—"Why not?"

A.—"Well, if pa knew I had a headache he would make me leave school, and I don't want to leave school."

T.—"Is your mother at home?"

A.—"No; she is out of town and there is nobody at home."

T.—"When will she be back?"

A.—"Next Monday, I think."

Under the circumstances, especially as Alice declared that the house was locked up, she was allowed to stay. That was Thursday. She was absent on Friday, and on Monday the teacher called at her home. Miss Alice was "up for an hour," attired in a wrapper, and looking very wretched, poor thing. She said, "I don't think I'll be able to come back to school till next week."

Mother—"No, she is not strong, Miss B—; she has been in bed with malarial fever; indeed, she was delirious on Saturday night and I wanted to have the doctor, but she won't have the doctor. Her pa and I did not want her to go to school at all, but she would go. I told her when I went away, a week ago, "Now you are not to go to school," and she went the very next day.

T.—"Has she been delicate long?"

M.—"Well, she had scarlet fever when she was eight years old, and she has never been real strong since. I did not want her to go to school last winter, but she would go."

T.—"I think she is hardly able for school work at present."

M.—"Well, now, that is just what I have been telling her."

A.—"No; I a'int goin' to leave school."

M.—"Now, Alice, you know—"

A.—"I don't care, I don't want to leave school, and I ain't goin' to."

T.—"I think you ought to do as your mother says."

A.—"Well, I don't care, I'll ask pa first."

Comment upon such a conversation is unnecessary. The remedy for such a state of things is in the hands of the parents, who are ultimately responsible for the maintenance and education of their children (a fact far too much ignored in our present system of State education), and the blame of many of the present evils lies at the doors of the home. Nothing—no system, no teacher, no outside advantages—can ever take the place of good home training, and the pulpit and the press, and the leaders of public opinion can find no more important matter to engage their attention than the necessity of that training and the preparation of the coming generation, so that they may impart it, in their turn, to their children.

[Since the above was in type the Hungarian Minister of Education has issued an ordinance for the appointment of Medical Inspectors of Schools. These doctors are to inspect school buildings as to their sanitary condition, to examine each pupil separately as regards general health, keep a record of those who are sick and a special account of the influence of school life on the mental and physical development of the pupil.]

THE PLEASURABLE IN SCHOOL-WORK.

BY J. M. HARPER, A.M.

I am aware I may here be reminded of the necessity of rendering instruction agreeable to youth, and of Tasso's infusion of honey into the medicine of the child; but an age in which children are taught the driest of doctrines by the insinuating method of instructive games has little reason to dread the consequences of study being rendered too serious or severe. The history of England is now reduced to a game of cards, the problems of mathematics to puzzles and riddles, and the doctrines of arithmetic may, we are assured, be sufficiently acquired by spending a few hours a week at a new and complicated edition of the Royal Game of the Goose. There wants but one step further, and the Creed and the Ten Commandments may be taught in the same manner, without the necessity of the grave face, deliberate tone of recital and devout attention, hitherto exacted from the well-governed childhood of this realm. It may in the meantime be subject of serious consideration whether those who are accustomed only to acquire instruction through the medium of amusement may not be brought to reject that which approaches under the aspect of study; whether those who learn history by the cards may not be led to prefer the means to the end; and whether, were we to teach religion in the way of sport, our pupils may not thereby be induced to make sport of religion.

THERE are few English readers who do not recognise in Walter Scott, from whose writings the above extract is taken, one of their best schoolmasters. He it was who first taught many of us to take an interest in what we read, when we had once discovered that reading books was more than a mere pastime. As was said of him once, when a few of the literary politicians and teachers of a neighbouring province were making of his *Marmion* the fulcrum for their game of see-saw and faction outcry, the morality of the glorious Scotsman is as pure as the burn that runs down a heathery hillside; and there is little temerity in our saying that his opinions, however they may

be disputed, were as honestly conceived as were all his commercial transactions, however indiscreet some of them subsequently proved to be. It is needless to say that honest opinions are by no means sound arguments; and as, now-a-days at least, they can never become law without a thorough sifting, there is always an excuse for investigating the doctrines even of the most distinguished writers. Indeed there can be no presumption in the critic, if he only be honest.

The passage, which has been quoted, was written by the great novelist, while pointing out the defects of such a desultory system of study as that pursued by the young Edward Waverley. To divide it up into its component facts we may find in an allusion, a gibe, and a premonition, none of which seem to the writer to stand the test of true critical examination. The allusion, for instance, to Tasso's infusion of honey into the child's medicine is surely an inapt illustration for the acquiring of knowledge, under ordinary circumstances. Even the knowledge that disciplines is sometimes to be viewed more in the light of the food that nourishes, than of the mental cathartic that purifies. Sometimes the manner in which food is given to children makes it as distasteful as medicine; and as with the body so with the mind. But generally speaking, the child takes delight in acquiring knowledge. The eye brightens when beholding things beautiful, the ear quickens when it drinks in the harmony of sounds, the whole body quivers with the excitement of joy, when some pleasant discovery is made by the child's sense of touch or taste or smell. If knowledge be bit-

ter it is being unnaturally acquired, it is being presented by one who does not fully understand the process of nature; in a word, it is the sweetness of nature soured by an ignorance that does not know its own potency. "I know a stupid boy" says some one, "whose cup of knowledge it is impossible to sweeten." "And I know more than one" says another, "whose minds have had to be opened by a violent process, and a modicum of knowledge poured into them." But this, as the knowledge that disciplines, cannot be administered for any length of time with advantage, even to the stupidity that lingers at its work, and ought never to be administered when the mind of the pupil is active. Mental dormancy, we have been told time and again by the old schoolmaster, who has, moreover, not passed through the mill of experience with his eyes shut, can be quickened into newness of life when necessity presses upon it to act. But when the pressure of necessity is continued too long, the result is nearly always the same on the active as on the inactive mind. Nothing is so easily stultified as stupidity, and the process which renders the stupid child more stupid, not unfrequently makes even the clever child lose heart. In dealing with the willing and the unwilling mind the process is the same, the supplying of the food of knowledge that nourishes and strengthens and encourages to self-effort, not the supplying of the medicine of discipline which though it purifies for the moment, eventually enervates, and stultifies the natural gifts in the child. Thanks to Nature there are few, if any, children without "a turn" as it is called, for something good and useful, and it is in this "turn" there lies the hope of mental development. It is this gift which the teacher must first discover before either medicine or food can, with good effect, be administered. By building

upon this nucleus of native intelligence or inclination, the bitter-sweet of school-work soon strengthens the soul to recognise the pleasure of doing one's duty; and when the most indifferent pupil—indifferent perhaps not so much from laziness as a natural longing for muscular freedom—begins to feel this pleasure, the school life becomes all sunshine, the acquiring of knowledge becomes as sweet to the mental desires of the child as is the syrup of the maple to the taste. The natural developments in education are gradual, not violent. The true methods of imparting instruction are born of Nature itself; and under them the knowledge that is acquired is the knowledge that assimilates as a palatable food that nourishes, not as a bitter medicine that nauseates even when it rectifies. By the natural process of getting understanding, the memory is not excoriated with a knowledge that is beyond the comprehension of the intellect. Mind growth is as slow and gradual as body growth, and can be checked only by too much food or too much medicine. The true education has only to guard against a surfeit of the one; since Nature itself has provided the means of escaping the other.

The gibe about cards, puzzles, and riddles, and the *Royal Game of the Goose*, brings to mind an incident in school-life which the Hon. Alexander Mackenzie, ex Premier of Canada, used to tell when he was in the company of teachers, as a warning against the effects which might arise from their adopting modern methods in school-work. A young teacher who had picked up some notions of a natural method of imparting instruction, one day proceeded to give the boys and girls of the country school over which he had presided only for a short time, a lesson on the solar system. Of course, there was no apparatus by means of which he could

illustrate the lesson, except the pupils themselves, whom he proceeded to arrange upon the floor in such a way as to personate the various planets. The children were naturally delighted, and the lesson was in the fair way of being a success, when, just as it was about to be brought to a close, as the planets were revolving round the sun, a parent made his appearance at the open door. There was evidently something going on in the school which he had never seen before. What was it all about? Were the pupils practising a new kind of country dance? Or had the teacher lost his wits? For the moment, he could only stare with astonishment; but next day, the story of the innovation spread through the village, and the excitement became so intense, that the commissioners or school trustees appeared in a body before the enterprising teacher to inform him that, as he had evidently lost control of the school, they were ready to relieve him of his duties. As they said, he had been engaged to *teach* their children, not to play at "tag" with them during school hours. The inference to be drawn from the anecdote is not far to seek, and we may safely leave it as an answer to Sir Walter Scott's satire. Were it necessary to reply with any measure of seriousness to the great novelist's irony, we might place alongside of it such rhetoric as this: "Give us, O give us, the man who sings at his work! He will do more in the same time, he will do it better, he will persevere longer. One is scarcely sensible of fatigue when he marches to music. The very stars are said to make harmony as they revolve in their spheres. Wondrous is the strength of cheerfulness, altogether past calculation its power of endurance. Efforts, to be permanently useful, must be uniformly joyous; a spirit all sunshine, graceful from very gladness, beautiful because bright." And if this be true with respect to

adults, how much more so in the case of young folks. During the years in which the senses are acute, in which the observing faculties are strongest, and the reasoning powers, so to speak, are dormant, Nature teaches us to gratify the child's desires with whatever he has the power to digest. Let us place before him objects to be seen, and teach him how to see them. Let us fill the hands which reach out so eagerly with something to handle. Let us even utilize his love for the noisy and boisterous by joining in his frolic and teaching him to romp. The healthy child wakes laughing, and plays till he sleeps again. And is not play to the child what fresh air and sunshine are to the plant? Unconsciously, the life-giving element permeates every atom of his system, and his very activity expels the mental acids so troublesome to human nature.

In the premonition of Sir Walter Scott's statement, there is expressed the fear that in adopting a natural method of teaching, children may take the means for the end. But there is just as little danger of this happening in the case of the elementary teacher's work as in the case of the historical novelist's operations. In fact, the novel is the printing press working under the influence of the new education; and by the novel is here particularly meant that fiction which has for its aim the improvement of mankind in their tastes and morals,—the medium through which society can be taught all the relations which bind society closely together. The novelist is one of the schoolmasters of society in its adult stages. In him and his work, the new education is seen at full play, just as much as in a kindergarten or a well-conducted primary department. The mental nourishment it provides by means of its psychology, ethics, logic and rhetoric, has been seasoned with expectation, and with the mental pleasure which provokes a desire for reading

For example, who has done more to render the study of history an easy and pleasant task than Sir Walter Scott himself? Just let us think for a moment of any historical period which has been permanently pictured in our minds, and can we not trace the picture to its origin in some historical novel? Or to particularise by inditing Sir Walter Scott for treason against himself, when he penned the paragraph we are discussing, who of us is there who understood the true character of James, *the First*, and life at his court, before reading the *Fortunes of Nigel*, or appreciated fully the historic picture of Mary Queen of Scots before laughing and crying and boiling with indignation over *The Abbot*? Have we not studied the "forty-five" from *Waverley*, the spirit of the Covenanters from *Old Mortality*, the valorous conduct of the Celt from *Rob Roy*, the Porteous Riots from the *Heart of Midlothian*? Or turning to other fiction writers, where did those of us, who are not lawyers, get our knowledge of the working of chancery but from Dickens' *Bleak House*, an acquaintance with early American aristocracy but from Thackeray's *Virginians*, an introduction to Florentine art and science but from George Eliot's *Romola*, our first idea of true criticism but from *Tom Jones* and *Wilhelm Meister*? The list might be extended to reach the historical information we may derive from perusing such books as *Chien d'Or*, *François de Bienville* and *Twice Taken*.

But those enumerated are sufficient, and now it may safely be asked, what mind has been injured or weakened by acquiring mind-food through these channels? Do we ever confound the means for the end in such study? Are our minds not rather strengthened in separating the chaff of fiction from the wheat of historical fact? Of course, the mind of an intelligent reader easily distinguishes between the pleasurable element and the intel-

lectual; and may it not be said that only those who have studied history through a dramatic or epic medium are able fully to enter into "the spirit of the times" of an historical period, or to know minutely the characters of the men who took part in it. Why do our most popular historians approach nearer and nearer to the engrossing style of the novel writer, if it be not that they value the pleasurable element as a powerful incentive in acquiring knowledge? For one who has read Hume's *History of England* in detached portions, there are twenty who have read Macaulay's from beginning to end; for the few who have read any of the countless general histories of Canada, there are hundreds who fairly revel with delight in Parkman's works: and for one who has read a volume of Gibbon's *Decline and Fall of the Roman Empire*, there are thousands who take the greatest pleasure in Prescott's *Conquest of Mexico* and his *Philip the Second*. And yet it is the pleasurable element in the latter volumes which Sir Walter Scott seems to warn us against, and which when it appears in school-work he would fain despise. Nor is he alone. There are many very orthodox people with the popular novelist in this matter. Like the trustees in the preceding anecdote, these grim-faced folk resent the pleasurable element in school and call it "tag," just as Scott has called it the *Royal Game of the Goose*. Blindly taking their stand upon the narrow proverb that there is no royal road to learning, they for the moment turn their backs upon those genuine principles of the true education, which, when reduced to practice, does for children, what historical novel writing has done for the students of history, making the school a pleasant place, and rendering the lives of children free from some of the many difficulties to be encountered in acquiring knowledge.—*Educational Record, Que.*

NOTES FOR TEACHERS.

THE American Meteorological Journal Co. offer valuable prizes for the best discussions of tornadoes.

"WHY is the ice formed on sea-water fresh?" The molecules of water are strongly attracted to each other, but are kept apart within certain limits by the heat vibrations of the molecules. When these vibrations are lowered to what we call the freezing temperature the molecular attractive force prevails, drawing the water molecules into a more fixed and rigid connection with each other and pressing out into the liquid water the less strongly attracted molecules of the sodium chloride. The water molecules in freezing are strongly drawn in to the ice-forming surface, while the salt molecules, not being strongly attracted by this surface, are crowded back into the liquid water."—*Ed. R² view, N.B.*

SLATE PENCILS.—In the north-western part of the town of Castleton, Rutland Co., Vt., is the only manufactory in the United States of slate pencils. The stone, as it comes from the quarry, is first sawed into blocks from four to seven inches wide, according to the length desired for the pencils. These are split quite easily with a chisel into slabs a little thicker than the finished pencils, say five-sixteenths of an inch. These are passed through a planing machine and over an emery belt to make them flat, smooth, and of a uniform thickness of about three-sixteenths of an inch. Next day they are pushed into the jaws of a "crocodile," which consists of a pair of steel plates, in the under one of which are six rows of curved knives, each set so as to cut a little deeper than the one that went before it. These plough out parallel grooves

half way through the slab, which a man then turns and lays on a steel plate, having ridges which just fit these grooves. This slides back under the six rows of teeth of a second "crocodile" lying in wait alongside, which cuts the grooves on the other side, and leaves the pencils side by side. Lastly, they are broken and rolled off for an instant to point them upon an emery belt. A man can give this last touch to about 8,000 in a day. The old plan was to saw out square pencils from the slab one by one. These were boxed and distributed among poor families, who whittled them round by hand at from a quarter to half a dollar per thousand.—*Exchange.*

SNOW CLOTHING.—Seventy to eighty degrees below zero, *i.e.*, thirty to forty degrees below the freezing point of mercury, is a temperature we can scarcely contemplate without a shudder, yet such was endured in Siberia by Captain Wiggins and his crew last October. It is in such a climate as this that the beneficence of snow is fully manifested. The snow falls heavily at the beginning of winter, while the surface of the ground has not yet fallen below thirty-two degrees, the snow itself being at about that temperature, or say thirty degrees. The feathery crystals and the air they entangle are nearly absolute non-conductors of heat, and constitute the most effective of all possible clothing. Thus the soil in such countries never falls to so low a minimum temperature as it occasionally reaches in England when we have a temperature of fifteen to twenty degrees over naked ground. Hence the paradox of Siberian vegetation, which is so luxuriant in the summer, when the heat of the long days is very intense.—*Science Gossip.*

CORRESPONDENCE.

HOW TO IMPROVE THE STATUS OF THE TEACHER.

ONE of the questions most earnestly debated at the Provincial Teachers' Association for some years has been, How can the Social and Intellectual Status of the Teacher be raised to a level with that of the Learned Professions?

Let me briefly indicate one point on which the steady and united influence of the teachers ought to be exerted until it is secured, the possession of which would do much to elevate the status of the teacher, namely, the establishment of a Chair of Education in the Provincial University, or, at least, a Lectureship similar to that at Oxford and Cambridge, filled by a distinguished educationist whose lectures would embrace the history, science and art of education, with some of the city schools placed under his control in which the theory expounded in his lectures would be put into practice by skilful teachers. Let all High School and first-class teachers receive their professional training under his care.

Let the students also attend lectures of other professors on Psychology, Physiology and other subjects bearing directly or indirectly on their professional duties. Let the student complete a course of study and practical training equally liberal and as thorough as the learned professions. Then must this section of the profession occupy a position of moral weight and influence second to no other profession in the land. It is clear that until we deserve equal honour we have no right to expect it, no matter how important the function we are

called on to perform, seeing we are satisfied to perform it with less skill, culture and ability than other professions bring to bear on theirs. All these University trained teachers, participating in "the broader culture, the freer air and the higher aims" of the University, would do much to destroy the pedantry of the profession, and, receiving from this honoured source the attestation of their qualification for their profession, would do very much to elevate the social and intellectual status of the whole profession. Is it not a debt our Provincial University owes to the community to send forth from its halls men thoroughly equipped and trained in that art of which the University itself is the best exponent, and for the preservation of which it owes its very existence?

Permit me also to call the attention of my fellow-teachers to other two points on which, in my judgment, teachers would do well to bring their power and influence to bear: (1) Emphasize the recommendation of the Minister of Education embodied in his Annual Report for 1887 to County Boards, namely, "Boards should deal heroically with every candidate whose qualifications are not unmistakably high." The wisdom and need of this advice will be readily realized from the fact that out of fifty-five Model Schools twenty-five passed all the candidates, that is, out of 634 students in attendance none failed. (2) Is it not high time that the granting of permits should cease in the old and well-settled counties, seeing the supply of certificated teachers is far beyond the demand?

A. B. D.

EDITORIAL NOTES.

It is reported that the teaching staff of the School of Practical Science is to be increased by the appointment of one or two lecturers. The present staff is over-wrought, and the work is not done as the members thereof would like; the addition, we hope, will prove a strength, and thus afford a much needed relief.

"THE Pleasurable in School-work" by the editor of the *Educational Record*, Province of Quebec, will be found in this number of our magazine. Dr. Harper takes exception to the views of the "Wizard of the North" found in the extract at the head of his article; to us it seems they are both at one; the great "Unknown" would be the last man in "broad Scotland" to look unkindly on the lad or lassie who would learn "as the bird sings" the lessons from book or life. Evidently his contention is, be prepared for the work of life, with joy, if possible, but be prepared. So, we take it, every wise educator strives.

J. M. ASHLEY, M.A., Oxford, has been appointed to the new Chair of Political Science in the University of Toronto. From statements made, we infer that there was full scope for the exercise of choice. In making appointments for the performance of work in any department in Canada, we believe those making such appointments, other things being equal, will consult the best interests of the country by selecting a Canadian; the reasons are quite obvious and need not be here enumerated. The Chair of Political Science is a peculiar one, the occupant of which has to deal with questions in regard to which there is much diversity of opinion, and therefore the discussion will require care and prudence. There can be no

doubt as to Mr. Ashley's academic qualifications for the position he is called upon to fill; time only will show whether he has the much higher qualities of work and wisdom required for this new and important Chair. We wish him high success in the performance of his important duties to the University and to the country.

We desire to inform our readers, at the request of the Chairman of the Sociological Committee of the Canadian Institute, Toronto, that this committee has recently issued a circular requesting information from all who may be able to give it, in regard to the political and social institutions, customs and beliefs, habits, etc., etc., of the Indians of Canada and the North-West. We cordially commend this matter to our readers, and trust that any of them who have access to such information will communicate with Mr. T. B. Browning, the chairman of the Sociological Committee, who will at once forward to them a copy of the circular.

We have received the prospectus of the College of Practical Science and Agriculture for Eastern Ontario, which it is proposed to found in Kingston, in affiliation with Queen's University. The intention of the promoters is to form a joint stock company with a capital of \$50,000 in 2,000 shares of \$25 each, the company to be known by the title above quoted. The management of the college is to be vested in a Board of Directors to be appointed by the shareholders. The following subjects will be taught during the first session: Principles of Agriculture, Agricultural Chemistry, Veterinary Science, Dairying, Measurement of Land, Practical Geometry and Geometrical Drawing. The fol-

lowing will be added in the Department of Science as soon as circumstances warrant: Elementary Physics, Elementary Statics, Architecture, Mineralogy and Mining, Technical Art and Workshop Practice, (a) in metal working, (b) in wood working, Principles in Mechanism. This magazine has always advocated the policy of encouraging and developing academic activity at various points in Ontario. The promoters of this enterprise have our cordial wishes and support, and we hope they will have great success.

Time is limited with every teacher; strength must be husbanded, and money is scarce and the demands on teachers are most exacting. The teacher must live well and dress respectably; must go, and do, and be; must read and hear. Being human, he is liable not to satisfy himself or the public in these respects, and this sense of deficiency to meet the highest demands burdens many teachers. Let us remember that the first duty is not to get over the unattainable. Do the best you can, and do not vex your spirit in the pursuit of your given work.

FRIENDS IN COUNCIL.

THE Convention of the Ontario Teachers' Association held last month was of the usual lively and pleasing character. Many important conclusions were arrived at, but perhaps more important were the discussions which took place, affording members their only opportunity, while face to face, for interchange of opinions on the many points which are of special interest to them, and of prime value for the country to know. Unquestionably, to those who have attended the annual gathering of our educators for some years, and are therefore acquainted personally with

many of the teachers, one of the most gratifying features is to meet and exchange greetings, make known difficulties, and, as "friends in council," to take measures for improvement in methods, etc., encourage and cheer each other in their noble work. While we cannot agree with the President in his relegating the religious function of the Public School to the family and the church, we do commend him heartily on his Address, bringing us into historic touch with the past, showing, as he did, when and how our schools began, and what our fathers did on behalf of education in Ontario.

We are all only too prone to forget what we owe to those who have gone before and to boast unseemly in present achievement. Necessarily, the most important work of the Convention is done in committee, and by the different sections of the Association. Frequent comment was made that so few of the Public School Inspectors were present at this last Convention, and regret as often expressed at their absence. In explanation it was stated that the Minister of Education had summoned them to a private conference on school matters on the week following the regular Association Convention. In the Public School section, the age at which intending teachers should enter the Model Schools, and the length of the term required of them, were seriously considered, with the recommendation that both should be increased. The Inspectors' section had the same subject before it, and also that of the time for holding the entrance examination to the High Schools. The members of the High School section adopted several resolutions dealing with examination papers, text books, and examiners. A committee was appointed to call the attention of the Minister to these resolutions. The masters in the High Schools are evi-

dently moved by the straitened position in which they are placed by the Government regulations and inspection. The presence of the Minister of Agriculture was appreciated by the Convention, and we hope his visit is an earnest of the increased attention to be given to agriculture in our rural schools. From a professional point of view, perhaps the question requiring most thought from the teachers is the proposal to modify the constitution of the Association. We print the report adopted and commend the matter to the members of the profession.

Messrs. Munro (Ottawa), Fessenden (Napanee), and MacMurphy (Toronto), were appointed a committee to make with railway companies arrangements for teachers to travel at lowest possible rates, and also to negotiate with the C. P. R. for an excursion to the Pacific Coast by this inter-oceanic line. We hope the gentlemen named will be eminently successful in their valuable undertaking.

PROFESSOR GOLDWIN SMITH ON EDUCATIONAL MATTERS.

THE interest Mr. Goldwin Smith still takes in educational affairs, though it is now many years since he severed his professional connection with Oxford, needs little in the way of proof from us. Though, as a publicist and literary man, he has many things to engage his attention, he is ever ready, by voice or by pen, to respond to the call of educational interests, when, in his opinion, these interests are in any way to be served. Recently he made two public appearances on educational platforms—in Brantford, at the closing proceedings of the Ladies' College, and in Toronto, at the close of the late session of the Normal School. On both occasions he made interesting and thought-

ful addresses—in the one case, on the subject of Female Education, and in the other, on the subject of expediency and value of an independent Council of Public Instruction—free alike from politics and from commercial interests—for such special purposes as the selection and authorization of text books for use in schools.

Addressing the young ladies at Brantford, Mr. Goldwin Smith said that the final education of both sexes ought to have reference to their respective destinies in life, and as nobody could embrace all knowledge and accomplishments, it would be more conducive to the wealth of the marriage union if the two partners took somewhat different lines than if they both took the same. A mathematician, for instance, would not be always willing to be conversing with a mathematician, or a classicist with a classicist. He recommended music generally, not for one sex only, though it was with reference to the cultivation of it in Ladies' Colleges he would specially recommend it; and while in the college in which he was speaking he was glad to know that music was largely and well taught, he was equally glad to know that other and necessary subjects connected with the higher education of women were also taught and well taught. In speaking on this subject he desired to speak in no narrow or invidious spirit. The distinguished professor also commended a rational regard for the distinctions of sex. While he clearly intimated that he was in favour of separate education for the sexes, and thought that co-education, where it had been fairly tried, had been a failure, he was however of opinion that young women who determined to take the line of teachers might possibly find it desirable to go through the male course.

At the Normal School, Mr. Goldwin Smith made some important remarks on the vexed subject of the

authorization of text books. The distinguished gentleman was understood to speak on this matter somewhat as follows. He said that, no doubt, there must be a Minister of Education for the management of public funds and for the general administration of the Department, which a body like the old Council of Public Instruction was incompetent to undertake. But at the same time he thought that the Minister might be relieved of a great deal of embarrassment, and that much acrimonious, and possibly partisan, controversy might be avoided, if the choice of text books were vested in some body like the old Council, which stood entirely clear of party and of commercial influence. In thus speaking Mr. Goldwin Smith but voiced the opinions long held by this journal.

SUPERVISION.

THE generation of scholars taught under the care of the officials who supported and assisted Dr. Ryerson during the introduction and maturing of our present school system is now "bearing the heat and burden of the day" in Ontario. Many of the boys and girls of that time, now men and women, have kindly memories of the township or county superintendents. Some of these gentlemen were deficient in scholarship; one smart glib school boy would leave them far behind in the mere matter of cyphering or in giving the rules for the formation of the "paragraph;" but they were not all so.

The writer, then a lad, remembers with pleasure the annual visit of our county superintendent (this county was one of the largest in Ontario), his kind, intelligent face, his suave, courteous manner, his sensible and inspiring words of encouragement to the shy boy or girl honoured by his notice. Even those of them who were not

familiar with letters were "men of affairs," of common sense and good judgment, carrying themselves in the discharge of their duty with becoming meekness and soberness, and, doubtless, many are to be found in the inspectorship of to-day combining the desirable qualities of both classes.

In 1870, when the country still had the services of the learned and able veteran, the Rev. Dr. Ryerson, as chief superintendent of education, assisted by the trustworthy council of public instruction, the patriotic and upright Hon. M. C. Cameron being Provincial Secretary, it was thought well, the time being opportune, to make important changes in the school system, seeking thus the further advancement of the cause of education in Ontario. Accordingly, a Bill providing for these changes, prepared by the Chief Superintendent and the Provincial Secretary, was laid before the Legislature by the latter, and after several amendments suggested and promoted by the Ontario Teachers' Association became law. In accordance with the provisions of this Act, township superintendents were done away with, and inspectors of counties or electoral districts substituted, the name Public School was used for Common School, and High School, or, under certain conditions, Collegiate Institute for Grammar School.

The first change involved the appointment of so many new men that the standard agreed upon had to be lowered to suit the unprepared condition of some seventeen gentlemen who were desirous of placing their services at the disposal of the public.

The immediate effect of these changes and appointments was to give quite an impetus to the studies and general work done in the Public Schools. These new inspectors, with some exceptions, were superior in scholarship to the men whose places they had been appointed to fill, but

in many instances lacked the skill to carry the people of their districts with them in perfecting the necessary changes, such as school accommodation, etc. Much friction (which has not yet altogether disappeared) was caused by the new inspectors unwisely urging the trustees to comply strictly with the provisions of the Act, and to such an extent did this prevail that the chief superintendent felt called upon to instruct inspectors generally to exercise common sense and ordinary business prudence in matters which could only be provided for by the people's own money, voted by themselves for the accomplishment of a special object. The mode of appointment, and especially the conditions governing dismissal, rendered the inspector comparatively independent and his tenure of office a life tenure; but owing to the important changes made since the passing of the Act of 1870, whereby the Administrator of the Education Department has now become a political partizan, the inspector, in his relation to the Minister, is no longer independent, but on the contrary is more or less beholden to him and growing out of these conditions a most undesirable element has been introduced into our educational system.

The head of the Education Department is *first*, by profession and act, a politician; and, *second*, the Minister of Education; thus a door is standing ajar for the influence of votes, the eye is constantly open and sees in the not very distant future the day of election. To show that we are not alone in this opinion we refer our readers to a recent issue of the *Week*. We need not elaborate or attempt to show how this thing is done or give details; any intelligent person capable of judging passing events, if he takes the trouble to enquire, can easily satisfy himself that our statement is not unfriendly to the present

régime. Unoesirable as this state of matters must be, and fraught with danger to the best interests of education in our Public Schools, the danger becomes far greater in the case of our intermediate or secondary schools.

Of these schools there are at present 110, with two inspectors; this number of inspectors should either be increased or diminished—we hold that, for all practical purposes, one inspector is sufficient. What does the Government want to know about these schools? What is done by the Government for these schools which requires or justifies any active interference on its part? Is it because the secondary schools receive an annual grant of money from the Government? Every one familiar with the sources of supply knows that the Government grant is a mere pittance, as nothing, compared with the amount raised for the support of these schools in the localities in which they are situated. For every dollar given by the Government, the schools, from fees or local sources or from both, contribute from four to fifteen dollars. Is the inspection required for the sake of the masters to see that they do their work properly, or is it necessary in the interests of the scholars to see that the time table is arranged in such a manner as to give proper time to all the subjects of study? Let us consider. The head masters of our High Schools are graduates, many of them men of high standing in their universities, men of experience in teaching, in constant touch with the people, parents and children, and they are assisted by teachers and masters with the highest qualifications; in other words, these masters and teachers possess all the literary and professional qualifications required by the Education Department. Now the question seems to be, are these men, so qualified and so certified by the Education Department, competent to

teach and manage the schools according to clearly defined rules and regulations, or are they not? If not, who is? Again, are they to be allowed to act as responsible men, or are the Department and its servants to assume the task of conducting the schools and of providing money for all the expense of their maintenance? British people have not yet arrived at the condition of being thankful for permission to pay taxes under dictation without also having an influential voice as to the manner in which that money is to be expended. The voice of the people can be most effectively heard by allowing trustees, masters and teachers to carry out in detail the general programme of studies authorized by the Education Department as the needs of the several localities demand.

The High Schools ought to be left in peace, free to do the work they are intended for; they should not be inspected as they are now (which only hinders and disturbs), but supervised, in order to ascertain if the buildings and general equipment are up to the proper standard, and for this supervision *one officer* of the Department is sufficient. All other information required by the Department is furnished by the minute returns made at regular intervals according to law by the honourable and competent men in charge of these important institutions.

The truth is, the intermediate schools of Ontario suffer loss; they are, by the course pursued by the Education Department, placed in a humiliating position and subjected to such treatment as no schools of their standing are subjected to in any other English speaking country.

THE MONTHLY, therefore, asks for the High Schools of Ontario, with their trustees, masters, teachers and pupils, the freedom to obey properly constituted authority, freedom to de-

velop in every direction, freedom to discharge every obligation to the citizens who maintain them, consistent with true loyalty to Queen and country.

REPORT OF THE MINISTER OF
EDUCATION FOR 1888.
COUNTY MODEL SCHOOLS.

NUMBER of schools, 55; number of students in-training who attended the examinations, 1476; number who passed, 1375; percentage who passed, 93. Out of the whole fifty-five schools twenty-six passed all their students, while those at Strathroy and Forest passed only seventy per cent. It would be absurd to suppose that there is such a difference in the attainments of the students of the various schools as these figures seem to imply. The difference must be in the manner in which the examining board perform their duty, and the principals make up their reports. As third class certificates are valid over the whole Province, the professional examinations, like the non-professional ones, should be Provincial too. Or, if the local boards are still to hold sway, then the certificates which they have the power of granting should be legal only in districts over which they have jurisdiction. Hon. Mr. Ross has some pertinent observations bearing upon the work of these bodies which are worth producing. "Boards," he says, "should deal firmly and heroically with every candidate whose qualifications are not unmistakably high. Efficiency in the school-room is only attainable by exercising the greatest care in the professional examination of teachers." These remarks our local boards would do well to lay to heart, so also should those who are responsible for the second class professional examinations at the Normal Schools. Indeed, if the Minister would lay these observations before the latter, merely

changing the word "should" to *must*, he might be doing an incalculable good to the education of the Province. Mr. Inspector Tilley, as usual, puts in a valuable report on these schools, in which he advances cogent reasons for lengthening the Model School term for students-in-training. In the course of his remarks he says: "The non-professional training and the non-professional examinations have been engaging the major part of our attention for years. I think we may very properly allow these to rest for a time, and turn our attention to the improvement of professional training. The time, labour and money expended upon the former appear to be quite out of proportion to that expended upon the latter. We require *teachers* as well as *scholars*." He shows that as there are at the present time 147 teachers to every 100 vacancies, the standard for admission to the profession may be raised very considerably without causing the supply to fall below the demand. The majority of the principals agree with him that the Model School term is too short to produce really satisfactory results.

NORMAL SCHOOLS.

How many students successfully passed the examinations at these schools? What percentage were they of those who attended? What are the salaries of the masters? Was the curriculum of professional training strictly carried out? What is the cost of these schools to the country?

These are questions that any one taking an intelligent interest in Normal School education would at once ask, yet we seek in vain for an answer to them in the pages of the report before us. By the Public Accounts we see that Dr. McLellan still receives a salary as inspector of Normal Schools, What has become of his report? We know of no one man more able or in a better position to help the Public

School teacher than Dr. McLellan, and the absence of his report from the yearly Blue Book of the Education Department is a felt want.

INSPECTORS' REPORTS.

The reports of the Public School inspectors show that education is making satisfactory progress in Ontario except with that class that the compulsory clause of the School Act was intended to reach. There is remarkable unanimity among inspectors, who daily see the need of its enforcement, that this clause is a dead letter, and regrets are expressed that trustees do not put it in operation. We regret that trustees are not made to do so.

The reports of the High School inspectors deal largely with their method of grading with a view to distribute the legislative grant. In addition to this, the junior inspector favours us with an elaborate report on the teaching of most of the subjects in the High School programme, in the course of which he gives us the benefit of his own views on the way some of these subjects should be taught. His remarks are worth the attentive perusal of all our High School masters, for while many may benefit by his practical observations, all should heed his warning notes as danger signals for the coming examinations. It seems to be his aim to make himself an important factor in the education of Ontario by means of these examinations, and we can imagine with what bitterness he regrets that "drill, calisthenics and gymnastics cannot be placed upon the examination list." He has some excellent remarks upon the teaching of science and English literature, which unfortunately are marred by his dogmatic style. Dogmatism is not his only fault. His writing has other blemishes. For example, in one place he says, "the teacher might direct the reading of the pupil and thus supplement an in-

evitable defect." How can a defect be supplemented, and if it can be supplemented how can it be inevitable? One of his hobbies is the application of paragraph laws, as if any writer of repute ever thought of any laws in the construction of his paragraphs beyond the general one of making his sentences as symmetrical as clearness of expression would permit. It would be interesting to know which of his laws governs the construction of his first and second paragraphs on "Discipline and Organization," which reads thus:

"As I reported in 1885 of the schools in the west, I now report of those in the east, the discipline in general is excellent.

"But the organization is seldom satisfactory," etc.

More examples of his careless style might be given, but enough has been said to show that Mr. Inspector, the grammarian, may possibly be like Portia, who would rather teach twenty to do right than be one of her own teaching.

Speaking of the study of English, "History," he says, "repeats itself; in former days parsing and grammatical analysis were with some the end-all and be all (should not this be 'be-all and end-all,' as Shakespeare wrote it?) of language teaching; now we may expect the foolish to attach too much value to mere formal rhetorical analysis and æsthetic criticism. But in the folly of the foolish we should find no just reason for condemning the course of the wise who prudently avoid extremes." This may all be true, though it might have been expressed in better taste. The inspector must take care that his words do not come back upon himself like a boomerang. Certainly if we found him attaching undue importance, as he seems inclined to do, to "the mechanism of style," "the prevailing figures of speech," and "the laws of paragraph construction," it would take the pat upon the back of a greater man than Mr. Haultain to convince us that he was showing the wisdom of the wise, and not the folly of the foolish.

SCHOOL WORK.

CLASS-ROOM.

UNIVERSITY OF TORONTO.

ANNUAL EXAMINATION 1888.

Junior Matriculation.

ENGLISH GRAMMAR—PASS.

Examiner—John E. Bryant, M.A.

NOTE 1.—To candidates in Arts: Candidates for Scholarships will take questions 1, 2, 4, 6, 7, 8, 10, 11. Other candidates will take questions 1, 10, and 11; and one question from each of the following pairs of questions: 2 and 3, 4 and 6, 5 and 7, 8 and 9.

NOTE 2. To candidates in Medicine: Candidates for Scholarships will take questions 1, 2, 4, 6, 7, 8, 11, 12. Other candidates will take questions 1, 11, and 12; and one question from each of the following pairs of questions: 2 and 3, 4 and 6, 5 and 7, 8 and 9.

1. (a) Shew, and illustrate by means of one decisive example, that the grammatical value of a word depends mainly, not upon the word itself, but upon its use in the sentence.

In what sense can it be said that the grammatical value of a word is inherent in the word itself?

(b) What are the grammatical values, usually enumerated by grammarians, which words assume when used in sentences? In what way has the number of these grammatical values been determined?

(c) Discuss fully the question whether each and every word of a sentence possesses some one or other of these grammatical values. Illustrate your answer by examples.

2. What are the points of similarity and

what the points of difference between phrases and clauses? Illustrate your answer by appropriate examples.

3. What are sense-constructions? Give six representative examples of commonly accepted sense-constructions in which the usual rules with regard to number-forms are violated, and justify each example.

4. (a) Describe the function in the sentence of the (so-called) relative pronoun.

(b) What objection is there, if any, to the use of the term "relative" as a distinguishing epithet of pronouns of this class?

(c) By the loss of which relative pronoun would the language, in your opinion, suffer least? Justify your answer as well as you can. What, then, is gained by the retention of this relative pronoun in the language?

(d) What difference is there, if any, and what reason for the difference, between the use of the relative pronoun *whose*, and the relative expression of *which*?

(e) Mention other words than *that*, *who*, *what*, and *which*, that are sometimes used with the grammatical value of relative pronouns. (Illustrate by sentences containing these words). Why, then, are these words not put in the usual lists of relative pronouns?

5. Explain clearly the following statement: "Pronominal adjectives are in part derivatives from pronouns; but in great part they are identical with them. They are partly adjectival and partly pronominal in function."

6. (a) Describe briefly the function of the verb in the different classes of sentences; and thence shew that mood and tense are necessary conditions of every finite verb.

(b) Mention, illustrate by examples, and briefly define, the tenses and moods, which in modern English are distinguished by inflections.

(c) Where inflection fails what other devices are made use of to distinguish variations of time (or tense) and manner (or mood) in verbs? Illustrate by examples.

(d) Is there, then, any necessary limit to the number of tenses and moods in grammar? Justify your answer. Practically,

what determines the limit? What is your own scheme of tense and mood distinctions, and why have you adopted it?

7. What are the points of resemblance and of difference between participles and infinitives (1) with respect to one another? (2) with respect to the verbs from which they are derived? (3) with respect to other derivatives from the parent verbs?

8. Give examples and explanations of the various grammatical devices used to bind together clauses and sentences into more complex clauses and sentences.

9. Explain, and illustrate by examples, what is meant by *double objective constructions*. When sentences containing such constructions are changed into the passive construction, explain, with reference to the new sentences thus formed, the grammatical relationships of the words originally objects.

10. Write short explanatory notes on the grammatical anomalies or difficulties to be found in any eight of the following sentences: It is wonderful how patient she is. 'Tis memory brings the vision back. I tell you what, my lad, you are on the road to ruin. That cloth cost a dollar a yard. I thought he was there, but in reality he was out. A dozen men were not sufficient to lead the prisoner in. She has a good excuse to do it. He need not go unless he wishes. Only a hero could have borne this. The mouse ran out from under the stool. For you to have done this is folly indeed. I shall be there in time provided my horse fails me not. This gentleman is a friend of my brother's. I have never met him that I am aware of.

11.

"The stars are glittering in the frosty sky,
Frequent as pebbles on a broad sea-coast;
And o'er the vault the cloud-like galaxy
Has marshall'd its innumerable host.
Alive all heaven seems! with wondrous
glow
Tenfold refulgent every star appears,
As if some wide celestial gale did blow,
And thrice illum'd its ever-kindled spheres.
Orbs, with glad orbs rejoicing, burning,
beam,
Ray-crown'd, with lambent lustre in their
zones,
'Till o'er the blue bespangled spaces seem
Angels and great archangels on their
thrones;

A host divine, whose eyes are sparkling
gems,
And forms more bright than diamond
diadems." 14

(a) Describe briefly, but clearly, the more important grammatical functions discharged by the italicized words in the above extract.

(b) Write out in full the subordinate clauses therein, and explain their relationship to their respective clauses.

(c) Explain how your knowledge of etymology helps you to understand the meaning of the following words: "glittering" (l. 1); "sky" (l. 1); "vault" (l. 3); "galaxy" (l. 3); "marshall'd" (l. 4); "innumerable" (l. 4); "alive" (l. 5); "wondrous" (l. 5); "appears" (l. 6); "lambent" (l. 10); "bespangled" (l. 11); "archangels" (l. 12); "sparkling" (l. 13); "gems" (l. 13); "diamond" (l. 14), "diadems" (l. 14).

12. (For candidates in medicine only.) Write a composition (not exceeding sixty lines) on any one of the following themes:

(1) The character of Sir Alexander Ball.

(2) The value of Malta as a British possession.

(3) The personal relations of Sir Alexander Ball and Lord Nelson.

(4) Sir Alexander Ball's administration of affairs in Malta.

(5) The value to the physician of general culture.

HISTORY AND GEOGRAPHY—PASS.

Examiner—T. Arnold Haultain, M.A.

NOTE.—Candidates for scholarships will answer questions 1 to 9A, inclusive; all other candidates may substitute for 7A, 8A, 9A, questions 7B, 8B, 9B, respectively.

1. Write a short biographical sketch of Cimon, or of Alcibiades; and of L. Cornelius Sulla, or of Octavianus up to the time of his return to Rome from the East (B.C. 29).

2. What and where were Naxos, Euboea, Numidia, Actium?

3. Distinguish between Isothermal, Isothermal, and Isochimal Lines.

How is the direction of Isothermal Lines generally determined?

4. Name the more important exports of France, Italy, and Spain and Portugal.

5. Is Sault Ste. Marie, in your opinion,

well or ill situated for a great commercial centre? Give full reasons for your answer.

6. Draw a map of New Brunswick, Prince Edward Island; and Nova Scotia, indicating the important bays, capes, towns, and rivers.

7A. Remark on the progress made by British industry during the eighteenth century; touching on population, wealth, agriculture, important branches of trades and manufactures, means of communication and transport, inventions, and discoveries.

8A. Write short notes on the National Debt, the Mutiny Act, the Riot Act.

9A. Mention the chief legislative enactments of the reign of William III., briefly explaining each.

7B. What was the condition of the English working classes in the beginning of the present century? To what influences would you be inclined to ascribe that condition?

(The candidate is reminded of the riots of the "Luddites," which occurred in 1812 and 1816.)

8B. Write short notes on "Junius," Adam Smith, John Howard.

9B. Narrate briefly the principal occurrences in the history of the Young Pretender's invasion of 1745.

CHEMISTRY—ARTS: PASS. MEDICINE: HONORS.

Examiner—Anthony McGill, B.A., B. Sc.

NOTE.—Candidates for honors and scholarships will take all the questions. Other candidates will take 5 to 8 inclusive, and any two of questions 1 to 4.

1. (a) What is meant by ordinary combustion?

(b) Turpentine has the composition $C_{10}H_{16}$. Find the total weight of product when 10 grammes of turpentine is burned in air.

(c) Describe, and explain by an equation, the phenomena which occur when a piece of blotting paper, wetted with turpentine, is plunged into a vessel containing chlorine.

2. (a) Describe, and explain by equations, any two different modes which you have used (or seen used) for preparing hydrogen.

(b) Calculate the weight of materials which would be required to generate 100 litres of

hydrogen (standard temperature and pressure) by the first of them.

3. (a) Describe the physical properties and allotropic modifications of the elements sulphur and phosphorus.

(b) Compare, as fully as you can, the compounds of sulphur with those of oxygen; and the compounds of phosphorus with those of nitrogen.

4. (a) Enunciate Dulong & Petit's Law.

(b) Define the terms equivalent and atomic weight.

(c) The equivalents of magnesium, phosphorus and silver are respectively, 12, 10.34, and 108. The specific heats of these elements are 0.2475, 0.174 and 0.057 respectively. Determine their atomic weight; giving full work.

5. A mixture of ammonium chloride with quicklime is heated in one test-tube, and a mixture of common salt with sulphuric acid in another. Describe fully what will happen when the tubes are brought near each other, mouth to mouth, and explain all chemical changes by equations.

6. Three test tubes contain respectively, (a) sulphur, (b) potassium chlorate, (c) mercuric oxide. Describe minutely all changes, physical or chemical, which will occur on heating gradually to near a red heat.

7. What would you expect to occur in the following cases? Give reasons for your answers, with explanatory equations:—

(a) A mixture of charcoal powder and potassium nitrate is heated in a test tube.

(b) A bottle is filled with a solution of chlorine in water, and closely stoppered. It is then exposed to bright light.

(c) An iron tube, containing iron filings, is strongly heated, and steam passed through it.

(d) A piece of phosphorus is suspended in a glass tube containing 100 c.c. air, and standing in water.

8. A gas, produced by action upon copper shavings with moderately strong nitric acid, is collected over water. After thorough washing with water, the insoluble gas is mixed in certain proportion with oxygen and the product is found to be quite soluble in water.

(a) Describe all the physical and chemical changes which occur in the experiments referred to.

(b) In what proportions by volume and also by weight must the first gas and oxygen be mixed in order to the production of the soluble gas referred to.

EUCLID—ARTS AND MEDICINE.

Examiners—J. H. McGeary, M.A.; W. H. Ballard, M.A.

NOTE—Candidates for scholarships are required to take the whole paper. Other candidates will take only eight of the eleven questions.

1. Define point, right line, plane angle, parallelogram, and add short explanatory notes to each definition.

What is an Axiom?

Mention two propositions in Book I. which are deduced directly from the definitions, axioms and postulates without the intervention of any other proposition.

2. State and establish the necessary and sufficient condition that must hold between the lengths of three straight lines that a triangle can be formed having its sides respectively equal to them.

If E and F be any two points, and ABC any straight line, and B be such a point in it that BE and BF make equal angles with ABC , then $BE + BF$ is less than $CE + CF$ wherever C may be in the line.

3. If two triangles have two sides of the one equal to two sides of the other, each to each, but the angle contained by the two sides of the one greater than the angle contained by the two sides, equal to them, of the other, the base of that which has the greater angle shall be greater than the base of the other.

If two quadrilaterals have the four sides of the one equal to the four sides of the other, each to each, but one diagonal of one shorter than the corresponding diagonal of the other, then shall the other diagonal of the first be longer than the other diagonal of the second.

4. Give Euclid's definition of parallel straight lines and the axiom enunciating one of their properties.

Replacing Euclid's statement of the axiom by the following: "Two straight lines through a point cannot both be parallel to the same straight line," prove that if a straight line fall on two parallel straight lines it makes the alternate angles equal.

5. If a straight line be divided into any two parts, the square of the whole line is equal to the squares of the two parts, together with twice the rectangle contained by the parts.

If a straight line be divided into any three parts, the square of the whole line is equal to the squares of the three parts, together with twice the rectangle contained by each pair of parts.

6. If a straight line be divided into two equal parts, and also into two unequal parts, the rectangle contained by the unequal parts, together with the square of the line between the points of section, is equal to the square of half the line.

Also prove this proposition as a particular case of Prop. I., Book II.

7. In an obtuse angled triangle, the square of the side subtending the obtuse angle exceeds the sum of the squares of the sides which contain the obtuse angle by double the rectangle under either of these two sides, and the external segment between the obtuse angle and the perpendicular drawn from the opposite angle.

In the triangle ABC if BP , CQ be perpendiculars from angles on the opposite side, prove $BC^2 = AB \cdot BQ + AC \cdot CP$.

8. Define circle, tangent to a circle, chord of a circle, and enumerate the essential elements in the definition of a circle.

Prove that one circumference of a circle cannot cut another in more than two points.

Prove that a straight line cannot cut the circumference of a circle in more than two points, and state where this is assumed in Book III.

9. To draw a straight line from a given point either without or in the circumference, which shall touch a given circle.

Through a given point without or within given circle draw a chord of the circle of given length.

10. In any circle the angle in a semicircle is a right angle, the angle in a segment greater than a semicircle is acute, and the angle in a segment less than a semicircle is obtuse.

A circle is described on the radius of another, shew that a line drawn from the point where they meet to the circumference of the outer is bisected by the inner.

11. If two straight lines within a circle cut one another the rectangle contained by the segments of one of them is equal to the rectangle contained by the segments of the other.

If two circles cut and from any point on their common chord two chords are drawn, one in each circle, a circle can be drawn through the four extremities of these chords.

PHYSICS.

Examiner—Thomas Mulvey, B.A.

NOTE.—Candidates must answer at least three questions on each part of the paper, including the first and second on the first part, and the third and ninth on the second part, and not more than seven questions. Candidates for scholarships will omit the fourth and seventh questions on the first part, and the first and seventh on the second part.

Mechanics.

1. Define mass, weight, velocity, acceleration, moment, couple, equilibrium, energy, work and *vis viva*.

2. Describe an experiment for determining the acceleration of gravity.

3. A body begins to move from a height of 200 feet with a velocity of 30 yards per minute; in what time will it reach the ground?

4. Explain the principle of the composition of velocities and give two examples.

5. A mass of 4 lbs. moving with a velocity of 10 feet per second comes in contact with a mass of 6 lbs. moving in the same direction with a velocity of 4 feet per second, determine the subsequent motion and explain the principle involved.

6. Find the resultant of two parallel forces acting in the same direction.

7. Define the centre of gravity of a body and give an example.

8. In an ordinary derrick, with a double pulley, the axle being 6 inches in diameter, determine what weight can be just sustained by a pressure of 100 lbs. on the end of the windlass, which is 3 feet long.

9. Find the magnitude and direction of the resultant of three forces of 1, 5 and 9 lbs., acting in directions mutually including an angle 120° .

Hydrostatics.

1. What is the pressure at a point in a liquid?

2. Prove that the pressure is the same at every point in a horizontal plane in a liquid.

3. Describe an experiment for determining the pressure at any point of a liquid.

4. Find the pressure on the base of a vessel 6 inches in diameter and 2 feet 6 inches deep filled with water, when the barometer stands at 29.045 inches.—Sp. G. Mercury 13.568.

5. State and explain the conditions under which a body floats in a liquid, and distinguish the total pressure and the resultant pressure on the submerged portions of the body.

6. What is the specific gravity of a body?

Describe Nicholson's Hydrometer, and explain how the specific gravity of a body lighter than water can be determined with it.

7. A body floats in water with $\frac{1}{8}$ of its volume submerged, and in a certain liquid with $\frac{3}{8}$ of its volume submerged, determine the specific gravity of the liquid.

8. State and explain Boyle's Law.

9. Describe, illustrating by diagrams, three of the following:—Bramah's Press, the common pump, the barometer, the air pump, and the syphon.

LATIN AUTHORS—ARTS AND MEDICINE.

Examiner—William Dale, M.P.

Time—Two hours.

NOTE.—Candidates for Medicine will omit II. All candidates, except those for scholarships, are allowed an option between the 4th and 5th questions of each group.

I.

Translate: Helvetii repentino eius adventu . . . ex calamitate populi Romani et in-

ternicione exercitus nomen caperet aut memoriam proderet.

1. Parse, explaining the syntax of each word: *ituros, reminisceretur, didicisse, insidiis, constitissent*.

2. Comment on the following constructions: *bello Cassiano; virtuti tribueret; cum Caesare egit; ne committeret ut . . .*

3. Compare *aegerrime, vetus, pristinus, magis, conscius*.

4. *Bello Cassiano*. Give an account of this with date.

5. Define the position and give the modern names of *Sequana, Matrona, Arar, Arverni, Santoni*.

II.

Translate: *Etenim, si mecum patria, . . . si propter invidiam aut alicujus, periculi metum salutem civium tuorum negligis.*

1. Parse *comperisti, patiere, extulit, alicujus, negligis*.

2. Explain the difference between *ne, nonne, an, num*, when used in direct interrogations.

3. *si . . . loquatur: si . . . negligis*. Explain clearly the reason for the difference in mood.

4. *An leges . . . rogatae sunt*. Give an account of them with dates.

5. *Praeclaram vero . . . extulit*. Write a brief comment on this passage with dates.

II.

Translate:

*Hoc primum in luco . . .
 . . . umectat flumine voltum.*

1. Explain clearly the meaning of *fortuna, operum laborem, saevum ambobus Achillem, sunt lacrimae rerum, pictura inani*.

2. Explain, with examples, the syntax of *dum*.

3. Translate the following lines, explaining the use of the subjunctive mood:

*Ardentesque avertit equos in castra, prius quam
Pabula gustassent Troiae Xanthumque bibissent.*

4. Scan the first three lines of the extract, marking the quantity of each syllable, and show the difference between *caesura* and *caesural pause*.

5. Illustrate the character of Virgil's hero by quotations from Book I.

ENGLISH PROSE LITERATURE AND COMPOSITION—PASS AND HONORS.

Examiner—John Seath, B.A.

NOTE.—Candidates for scholarships will take sections II. and III., 2; and questions 1, 2, 5, 6 and 7 of section I. Other candidates will take sections II. and III., the first three questions in section I., and any two of the remaining questions in section I.

I.

As accessibility to the sentiments of others . . . concerning his immediate object.

1. (a) What are the subject and the topic sentence of this paragraph?

(b) What are the main subdivisions of the paragraph and what sentences constitute each?

(c) Show concisely that the train of thought is carried on in the paragraph without interruption.

2. (a) Characterize the style from as many points of view as possible.

(b) What qualities of style are exemplified? Point out one marked example of each objective quality, and show how it has been secured.

(c) Show to what extent the characteristics of Coleridge's genius are exemplified.

3. Improve, where you can, the literary form, giving reasons for any changes you may make.

4. (a) Characterize the vocabulary and discuss its suitability.

(b) Rewrite the first two sentences, using, as far as possible, a simple style and words of purely English origin.

5. Rewrite in plain prose those sentences and clauses that are expressed in figurative language, making, in each case, a contrast between the effect of your translation and that of the original.

6. Discussing the appropriateness of the expression in the text, discriminate between the meanings of "passiveness," l. 4, and "susceptibility;" "craving," l. 6, and "asking;" "exempt," l. 6, and "free," l. 3; "appropriated," l. 13, and "took;" "casual," l. 16, and "accidental;" "vivid

sense" and "distinct perception," l. 28; "whimsically constituted," l. 33, and "oddly formed;" "more obscure accident," ll. 38-39, and "more hidden event;" and "opinion" and "conjecture," ll. 43-44.

7. State, with reasons, which of the following expressions is preferable above: "yet it is," l. 2, or "it is, nevertheless;" "which, in the literal sense of the word, is always craving advice," ll. 5-6, or "which is always craving advice"; "In Sir Alexander Ball, the same excellence was," l. 22, or "The same excellence was, in Sir Alexander Ball"; "not seldom," l. 25, and "more than once," l. 27, or "often"; "occasioned him to see," l. 28, or "shewed him"; "There is, indeed, a hopeless sterility," ll. 29-30, or, "There is a hopeless sterility"; "by contraries, a process of which," l. 34, or "by contraries. Of this process"; "had been," l. 37, or "have been"; and "concerning its immediate object," ll. 44-45, or "concerning its object."

II.

The camp of the Normans being . . . and cultivation amidst the general destruction of the country.

Rewrite the foregoing extract in good literary form, omitting or supplying whatever may be necessary to form a properly constructed paragraph.

III.

Write a composition on either of the following subjects, using as paragraph subjects the subordinate subjects appended:

1. The Siege of Malta: (1) Ball's fitness for the post at Malta; (2) His wisdom displayed during the siege; (3) His views on the treatment of the Maltese at the treaty.

2. Ball's Opinion of English and Foreign Soldiers: (1) The English weakness of despising foreigners and its origin; (2) Ball's exemption from this weakness; (3) His estimate of the British troops.

High School Entrance.

HISTORY.

Examiners—W. H. Ballard, M.A., J. E. Hodgson, M.A.

NOTE.—Only six questions are to be attempted, four of which are to be selected

from those in English History, and two from those in Canadian History. A maximum of five marks may be allowed for neatness.

English History.

1. Give an account of the battle of Cressy, telling (1) where it was fought, (2) why it was fought, (3) how it was won, (4) what was the result of it. [13]

2. Give an account of the character and work of Queen Elizabeth. [13]

3. Name the great writers of the reign of Elizabeth. What caused the wonderful literary activity of this reign? [13]

4. Give a short explanation of any two of the following:—The Great Charter; The Wars of the Roses; The Feudal System; The Reform Bill; The Abolition of Slavery. [13]

5. Name the chief events in the reign of George III., and give some account of Pitt and Fox. [13]

6. How did England become "Mistress of the Sea"? Name the great men to whom England owes her supremacy at sea, and tell what each one did to achieve it. [13]

Canadian History.

7. Give an account of the capture of Quebec by General Wolfe. [13]

8. Give an account of the explorations and discoveries of Marquette, Joliet and La Salle. [13]

9. Name the important events in Canadian History during the administrations of Sir Charles Metcalfe and Lord Elgin. [13]

10. Write short notes on any three of the following: Reciprocity Treaty; Clergy Reserves; Federal Union; Ashburton Treaty; Representation by Population; Seigniorial Tenure Act. [13]

11. Describe the municipal system of local government in Ontario. [13]

DRAWING.

NOTE.—Only two questions are to be attempted.

1. Draw a common chair in perspective. [13]

2. Draw a flower pot as seen when placed below the level of the eye. [13]

3. Give a drawing (no perspective) of an antique vase. [13]

4. Sketch a square, each side about three inches long (two sides being vertical and two horizontal). Bisect each of the sides and sketch the vertical and horizontal diameters. Bisect each half of the left side of the square and also the left half of the horizontal diameter. Through these three points of bisection draw a semicircle. In the same way draw a semicircle on each of the other sides of the square. Line in the corners of the square between the semicircles. [13]

DICTIONARY.

NOTE FOR THE PRESIDING EXAMINER.—This paper is not to be seen by the candidates. It is to be read to the candidates three times—the first time, to enable them to collect the sense; the second time, to enable them to write the words; and the third, for review. A maximum of five marks may be allowed for neatness.

I passed some time in the contemplation of this wonderful structure, and the great variety of objects which it presented. My heart was filled with a deep melancholy to see several dropping unexpectedly in the midst of mirth and jollity, and catching at everything that stood by them to save themselves. Some were looking up towards the heavens in a thoughtful posture, and, in the midst of a speculation, stumbled and fell out of sight. Multitudes were very busy in the pursuit of bubbles that glittered in their eyes and danced before them; but often, when they thought themselves within the reach of them, their footing failed, and down they sank. In this confusion of objects, I observed some with scimitars in their hands, who ran to and fro upon the bridge, thrusting several persons on trap-doors, which did not seem to lie in their way, and which they might have escaped, had they not been thus forced upon them.

COMPOSITION.

NOTE.—Only six questions are to be attempted, and of these 1, 2, 5 and 6 must be four. A maximum of five marks may be added for neatness.

1. Contract each of the following passages into a sentence:

(a) In the middle of this shining mass appeared two eyes. The eyes were fixed on Gilliott. He recognized the devil-fish. [6]

(b) At about fifteen paces the vaulted roof ended overhead. He had penetrated beyond the blind passage. There was here more space and consequently more daylight. His vision became clearer. He saw before his eyes another vaulted roof, and at the farther end an altar-like stone. [10]

(c) The space was only twenty feet square. The air-holes were small and obstructed. It was the summer solstice. The number of prisoners was one hundred and forty-six. [8]

2 Arrange the words of the following in as many ways as possible without changing the sense :—

(a) "What's Yarrow but a river fare
That glides the dark hills under"
[4]

(b) "The daisy, by the shadow that it
casts,
Protects the linge:ing dew-drop from
the sun." [4]

(c) "Happy is the man whose good intentions have borne fruit in deeds, and whose evil thoughts have perished in the blossom." [4]

3. Change the following from the direct to the indirect form of narration :—

"Child, will you tell me how to help it," said the mother, taking hold of her daughter's hand? "I do not give myself these dreams, I cannot prevent their making me feverish. I was as well yesterday as I could be; I went to bed quite comfortable, in good spirits; I do not know that I had thought of your poor brother even once during the day; and yet the dream came. How can I help these things, I ask?" [18]

4. Paraphrase the following, substituting, where you can, the passive form for the active form, contracting each of the italicized clauses into a word or a phrase, and expanding each italicized phrase into a clause:

"The day broke—the day *which was to decide the fate of India*. At sunrise the army of the *Indoos*, pouring through many openings of the camp, began to move towards the *grove where the English lay*.

Forty thousand infantry, *armed with fire-locks, swords, bows and arrows*, covered the plain. They were accompanied by fifty pieces of ordnance of the largest size, each tugged by a long team of white oxen, and each pushed on from behind by an elephant. [18]

5. Correct the following, where necessary, giving reasons :—

(a) The army marched farther than from Hamilton to Toronto.

(b) The men ascended up an exceeding high mountain.

(c) Fetch me the book which you have in your hand.

(d) Wide-spread ruin has been caused by the collapse of the bank among small depositors.

(e) The members assembled together to discuss the question. [10]

6. Write a letter to a friend and in it make remarks on the following subjects :—

(a) The school-house, (b) The school-yard, (c) The last public examination you attended, (d) Invite your friends to spend the vacation with you.

Indicate on your answer paper the form and position of the address on the envelope. [18]

7. Give, in your own words, the substance of the lesson entitled "Lady Clare," or of the lesson entitled "The Demon of the Deep." [18]

ENGLISH GRAMMAR.

NOTE.—Not more than six questions are to be attempted, and of these 1, 2, and 7 must be three. A maximum of five marks may be added for neatness.

1. "The humble boon was soon obtained, The aged minstrel *audience* gained.
But when he reached the room of state
Where she with all her ladies sate,
Perchance he wished his boon denied :
For, when to tune the harp he tried,
His trembling hand had lost the ease.
Which marks security to please.
And scenes, long past, of joy and pain
Came *wildering* o'er his aged brain—
He tried to tune his harp in vain."

(a) Point out and classify the modifying phrases in this passage. [9]

(b) Classify and state the relation of the subordinate clauses. [14]

(c) Parse the words printed in italics. [11]

2. Explain the meaning of the terms number, gender, case, passive voice (or, passive conjugation), old (or, strong) conjugation. Illustrate your answer by examples from the passage in 1. [15]

3. Select, from the passage, four words, each of which may be used as more than one part of speech. Form sentences in illustration, and name the part of speech in each case. [12]

4. Name the qualities indicated by the following adjectives:—humble, uneven, stupid, cleanly, royal, stingy, strong, rapid, abundant, busy, intrepid, deceptive. [12]

5. Form words from each of the following to indicate (a) an agent or doer, (b) the result of the action implied by the verb:—jump, act, reside, deposit, worship, transcribe, strike, destroy. [12]

6. Write out in full the various forms of the present tense (active) of the verb *wed*, and explain the difference in meaning of these forms. [12]

7. Re-write five of the following sentences, making such corrections as you think necessary:—

(a) He that promises too much do not trust.

(b) Who wrote Jacks the giants-killers exploits?

(c) John as well as his brother were clerks in the shop.

(d) The richer of the three brothers is the less generous.

(e) He is so thorough conceited that he don't care for nobody's opinion.

(f) I will ask my mother if I can go and play.

(g) Looking out of the window a cat was seen going to catch a sparrow on the lawn. [15]

LITERATURE.

Examiners—John Seath, B.A., M. J. Kelly, M.D., LL.B.

NOTE.—Candidates will take either I. or II., and either III. or IV. All candidates will take V. A maximum of five marks may be added for neatness.

I.

Down stopt Lord Ronald from his tower:

"O Lady Clare, *you shame your worth!*

Why come you drest like a village maid,
That are *the flower of the earth!*"

"If I come drest like a village maid, 5
I am but as my fortunes are:
I am a beggar born," she said,
"And not the Lady Clare."

"Play me no tricks," said Lord Ronald,
"For *I am yours in word and in deed.* 10
"Play me no tricks," said Lord Ronald,
"Your riddle is hard to read."

O, and proudly stood she up!
Her heart within her did not fail:
She looked into Lord Ronald's eyes, 15
And told him all her nurse's tale.

He laughed a laugh of merry scorn
He turned and kissed her where she stood:
"If you are not the heiress born, 20
"And I," said he, "the next in blood."

"If you are not the heiress born,
And I," said he, "the lawful heir,
We two will wed to-morrow morn,
And you shall still be Lady Clare."

1. State briefly how the foregoing stanzas are connected in meaning with those that precede them. [3]

2. Why is the title of the poem "Lady Clare" and not "Lord Ronald"? [3]

3. Explain the meaning of the italicized parts. [12]

4. *proudly stood she up!* What had been her attitude before this? Account for it, and explain why she now stood *proudly* up. What feelings should be expressed in reading the second stanza and the fourth? [12]

5. Why might "her heart within her" have failed? Why did she look "into Lord Ronald's eyes"? [6]

6. At what did Lord Ronald laugh "a laugh of merry scorn"? [3]

Supply the words left out in l. 20. Give the emphatic words in ll 19 and 20, and state why they are emphatic. [6]

7. Why is "will" used in l. 23 and "shall" in l. 24? [3]

8. What in Lady Clare's conduct shows her noble character? [6]

II.

Sweet friends! What the women lave,
For *its last bed of the grave,*
Is a hut which I am quitting,
Is a garment no more fitting,
Is a cage, from which at last, 5
Like a hawk, my soul hath passed.
Love the inmate, not the room—

The wearer, not the garb—the plume
Of the falcon, not the bars
Which kept him from the *splendid stars*. 10

Loving friends! be wise, and dry
Straightway every weeping eye;
What ye lit upon the bier
Is not worth a *wistful tear*,
'Tis an empty sea-shell—
Out of which the pearl has gone; 15
The shell is broken—if lies there;
The pearl, the *awl*, the soul, is *here*.
'Tis an earthen jar, whose lid
Allah sealed, the while it hid 20
That treasure of his treasury,
A mind th'it loved Him; let it lie!
Let the shard be earth's once more,
Since the gold shine, in His store!

Allah glorious! Allah good!
Now Thy world is understood;
Now the long, long wonder ends!
Yet ye weep, my erring friends,
While the man whom ye call dead, 25
In unbroken bliss, instead,
Lives and loves you; lost, 'tis true,
By such light as shines for you;
But in the light y' cannot see
Of *unfulfilled felicity*—
In enlarging paradise, 35
Lives the life that never dies.

1. State and explain the title of the poem to which this extract belongs. [3]

2. How is the extract connected in meaning with the preceding context? [3]

3. What parts of the funeral preparations are mentioned above? [3]

4. Explain the meaning of the italicized parts. [12]

5. By what, in ll. 1-10, does the poet represent the dead body; and by what, the soul? State, with reasons, why "hut," l. 3, is a better word than "house," and why the poet speaks of the *plume* of the falcon. [12]

6. Show, as well as you can, the propriety of representing the dead body as "an empty sea-shell" and as a "shard." [6]

7. What is meant by "such light as shines for you" and by "the light ye cannot see"? What would the speaker's friends know if they saw the latter light? [9]

8. What feelings should be expressed in reading this extract? Show that in reading this extract it is necessary to pay special attention to emphasis. [6]

III.

The inhabitants of the ocean are as much the creatures of climate as are those of the dry land; for the same Almighty Hand which decked the lily, and cares for the sparrow, fashioned also the pearl, and feeds the great whale, and adapted each to the physical conditions by which His providence has surrounded it. Whether of the land or the sea, the inhabitants are all His creatures, subjects of His laws, and *agents in His economy*. The sea, therefore, we may safely infer, has its offices and duties to perform; so, we may infer, have its currents; and so, too, its inhabitants; consequently, he who undertakes to study its *phenomena* must cease to regard it as a waste of waters. He must look upon it as a *part of that exquisite machinery by which the harmonies of nature are preserved*, and then he will begin to perceive the *developments of order*, and the *evidences of design*.

1. What is the subject of this paragraph? [3]

2. Give for each of the italicized expressions a meaning that may be put for it in the foregoing extract. [15]

3. Explain how "for the same—has surrounded it" is connected in meaning with the preceding clause. [5]

4. State, in your own words, why the sea must not be regarded as "a waste of waters." [5]

5. What expression has the author used elsewhere in the paragraph for "look upon it," and why has he not used this expression in the last sentence? [4]

IV.

The day broke—the day which was to decide the fate of India. At sunrise the army of the Nabob, *pouring* through many openings of the camp, began to move towards the grove where the English lay. Forty thousand infantry, armed with firelocks, pikes, swords, bows and arrows, covered the plain. They were accompanied by fifty pieces of ordnance of the largest size, each tugged by a long team of white oxen, and each pushed on from behind by an elephant. Some smaller guns, under the direction of a few French auxiliaries, were perhaps more formidable.

The cavalry were fifteen thousand, drawn, not from the effeminate population of Bengal, but from the bolder race which inhabits the northern provinces; and the practised eye of Clive could perceive that both the men and horses were more powerful than those of the Carnatic. The force which he had to oppose to this great multitude consisted of only three thousand men. But of these nearly a thousand were English; and all were led by English officers, and trained in the English discipline. Conspicuous in the ranks of the little army were the men of the 39th Regiment, which still bears on its colours amidst many honourable additions won under Wellington in Spain and Gascony, the name of Plassey, and the proud motto, *Primus in Indis*.

1. What is the subject of this paragraph? [3]

2. What sentences in the paragraph describe the army of the Nabob, and what sentences describe that of Clive? [4]

3. Give for each of the italicized expressions a meaning that may be put for it in the foregoing extract. [12]

4. Distinguish the meanings of "sunrise" and "daybreak," "tugged" and "drawn," and "ordnance" and "guns." [6]

5. In what other order might the parts of the first and the last sentence be arranged, and why has the author preferred the order above? [4]

6. Why has the author repeated the word "English" in the sentence before the last? [3]

V.

Quote (1) The lines on Love of one's Native Country or those on True Worth; [7] and (2) The description of the thunder storm in "The Face Against the Pane" or the Merman's description of his visit to the "little gray church on the hill." [7]

ARITHMETIC.

NOTE.—Only six questions are to be attempted. Five marks additional may be allowed for neatness. Seventeen marks for each question.

1. Prove the rules for division (1) of vul-

gar fractions, (2) of decimals, using as examples $\frac{2}{3} \div \frac{1}{4}$ and $.012 \div .6$.

2. A produce merchant exchanged 48½ bushels oats at 39½ cents per bushel, and 13½ barrels of apples at \$3.85 a barrel, for butter at 37½ cents a pound; how many pounds of butter did he receive?

3. A train going 25 miles an hour starts at 1 o'clock p.m. on a trip of 280 miles; another going 37 miles an hour starts for the same place at 12 minutes past 4 o'clock p.m.; when and where will the former be overtaken?

4. If in a certain town \$3093.75 was raised from a $\frac{2}{3}$ per cent. tax, what was the value of the property in the town?

5. By selling my cloth at \$1.26 a yard I gain 11 cents more than I lose by selling it at \$1.05 a yard; what would I gain by selling 800 yards at \$1.40 a yard?

6. How many thousand shingles, 18 inches long and 4 inches wide, lying $\frac{3}{4}$ to the weather, are required to shingle the roof of a building 54 feet long, with rafters 22 feet long, the first row of shingles being double?

7. A farmer employs a number of men and 8 boys; he pays the boys \$.65 and the men \$1.10 per day. The amount that he paid to all was as much as if each had received \$92 per day; how many men were employed?

8. A field, whose length is to its width as 4 to 3, contains 2a. 2r. 32 rods; what are its dimensions?

9. A man having lost 20 per cent. of his capital is worth exactly as much as another who has just gained 15 per cent. on his capital; the second man's capital was originally \$9000. What was the first man's capital?

WRITING.

1. Write the following stanza once:

Full many a gem of purest ray serene,
The dark, unfathomed caves of ocean bear;
Full many a flower is born to blush unseen,
And waste its sweetness on the desert air.
[12]

2. Write the following figures, letters and combinations of letters three times:—9, 7, 5, 1888, ph, th, w, r, q, W, N, Q, C, Z, Y.
[8.]

CONTEMPORARY LITERATURE.

THE *Living Age* numbers for the summer months have presented pleasant reading, and those who wish to be informed on the questions of the day will find it, as ever, a valuable ally. The series of papers, "Among the Islands of the South Pacific," is continued, also some serial stories.

Queries, during the past year has steadily improved, not in appearance merely, but also in matter and style. One of the recent numbers contains, besides articles on literary subjects, some pretty verse, short lives of several favourite American authors, questions enough to keep one thinking a long time, etc., etc.

The Critic, published weekly at 743 Broadway, New York, by *The Critic Company*, has long been known and respected as the great American authority on literature. Its scope is by no means narrow, and many people with no very special or direct interest in the book world, will find *The Critic* a good paper to read.

Shakespeariana continues to hold its especial place with vigour and acceptance. A recent number contains three articles respectively entitled, "Shakespeare's Education," "Shakespeare's Romeo and Juliet," "The Shakespeare-Campion Parallelism." These are followed by seven different departments, all of which are well sustained.

THE last number of *Education* is an excellent one, and deals with several important educational topics, among which we would like to mention "Health in the College," "Notes on the Renaissance," and "Preparation for Citizenship." *Education* will shortly publish a series of articles on "Methods of Teaching," (1) The Natural Sciences; (2) The Ancient Languages; (3) Mathematics.

THE July *Eclectic*, which is now in the hands of readers, presents many features of interest; among others, an article by Mr. Gladstone on "Robert Elsmere," a novel which is attracting much attention at present. An appreciative paper on Matthew Arnold

will find many readers, and so will Rev. Dr. William Wright's article on "Lassere's Version of the Bible," the history of the suppression of which forms a curious instance of Nineteenth Century religious bigotry and intolerance. One of the best articles in the number is that on "The Dislocations of Industry," and there are several others which deserve special mention. This number is the commencement of a new volume. Annual subscription to the *Eclectic* and the CANADA EDUCATIONAL MONTHLY, \$5.00.

THE July *Century* is to contain another article in the series which the Rev. Dr. Buckley, the editor of *The Christian Advocate*, has been for some time past contributing occasionally to that periodical. It is entitled "Dreams, Nightmares, and Somnambulism." It will contain a chapter on "Mysterious Dreams Analyzed." A timely article in the same number is "Disease Germs and How to Combat Them." It will be accompanied by a frontispiece portrait of Pasteur, who has made disinfection and fermentation a longer study than hydrophobia, although it is with the latter that his name is more intimately associated in the public mind. George Kennan's Siberian paper will be called "The Steppes of the Irish."

THE DEAF MUTES OF CANADA. Toronto: C. J. Howe. 1888.

We cordially commend this book to the attention of teachers and the public generally, and congratulate the author, Mr. Charles J. Howe (son of the late Dr. Howe, of the "Old Grammar" School, Toronto) on the handsome and complete work which he has produced. It contains the most interesting facts concerning the deaf mutes' world, a history of the education of these sadly-afflicted members of the community, and an account of the institutions for them in Canada.

- (1) **ELEMENTARY CLASSICS. VIRGIL ÆNEID IV.** Edited for the use of schools by the Rev. H. M. Stephenson, M.A.
- (2) **SELECTIONS FROM TENNYSON.** With Introduction and Notes by the Professors of English Literature in the Presidency College, Calcutta.
- (3) **A HIGHER ARITHMETIC AND ELEMENTARY MENSURATION.** By P. Goyen, Inspector of Schools, New Zealand. London: Macmillan & Co.

(1) The present number of the Elementary Classic Series is an excellent one.

(2) Thirteen selections are here presented, prefaced by an appropriate introduction on the life of the poet, and the main characteristics of his poetry. This book is one of a series of "English Classics for Indian Students," but we can recommend it as being quite suitable for Canadian students.

(3) This is one of the best text books on

arithmetic that we have seen of late. It is evidently the work of a clever, sensible, experienced man. The large number of problems, the clear explanations of the more difficult types, and the judicious arrangement of the whole add to the value of the book.

CLASSICS FOR CHILDREN: THE ARABIAN NIGHTS. Selected and arranged by Edward Everett Hale. Boston: Ginn & Co.

ENTRANCE EXAMINATION PAPERS. Compiled by Dr. John S. White, Head Master of the Berkeley School of New York City. *Ibid.*

These papers contain analyzed sets of recent examinations presented by Harvard, Yale, Columbia, and Princeton Colleges, together with suggestions regarding preparation for their respective examinations.

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Our readers will observe that special attention is given to examination papers in this Magazine; in many cases hints and solutions are added. We hope subscribers and others will show in a practical way their apprecia-

tion of the valuable work done by the editors of the different departments of THE MONTHLY.

WE are grateful to the friends of THE MONTHLY who have, from many different places, sent us letters of approval and encouragement, and request their kind assistance in getting new subscribers for 1888.

The Editor will always be glad to receive original contributions, especially from those engaged in the work of teaching.

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