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THE CANADA  
EDUCATIONAL MONTHLY  
AND SCHOOL MAGAZINE.

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APRIL, 1891.

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THE EQUALITY OF GREEK WITH FRENCH AND GERMAN—  
A REPLY.

BY W. H. FRASER, M.A., UNIVERSITY COLLEGE, TORONTO.

IN the nineteenth chapter of the Book of Acts we read of a certain Ephesian Demetrius, whose craft was endangered by the increasing influence of the true Gospel, and who cried out with his followers for about the space of two hours, "Great is Diana of the Ephesians." In the last two numbers of this magazine Professor Hutton and others of his fellow-craftsmen have with like vigour and reason attempted to stay the progress of more enlightened educational methods, and have uttered a prolonged and plaintive Ephesian cry over the waning power and influence of Greek. Now that the uproar has subsided, I shall try to discover and discuss whatever has accompanied it in the shape of argument or alleged fact. I am sorry that I cannot consider the article in question in chronological order. Its writer has, I fear, so sacrificed logical sequence to rhetoric, and clearness to the beauties of style, that he will, I hope, pardon me if, in the interests of my readers and in the hope of being intelligible, I take the liberty of making my own re-classification of the contents of the articles

and of presenting the matter under the following heads:—

1. The intrinsic, academic, and educational superiority of Greek.

The reader will please note here, at the outset, that this is not one of the topics which Professor Hutton proposed to discuss in his article. Ostensibly, he proposed to narrow the discussion down to the question of whether pass Greek in the curriculum of the University of Toronto is more or less difficult than the French and German, and by how much. In clearing his ground he says, for example: "When it is said therefore that Greek is equal to French with German, nothing whatever is said or assumed regarding the intrinsic superiority of Greek literature to either French or German literature, still less regarding the intrinsic superiority in university standing of the teacher of Greek to the teacher of French or of German . . . nothing is said or necessarily assumed regarding the inferiority, even from the mere educational point of view of either French or German to Greek." The rhetorical device is an ingenious and ele-

gant one, as if one should say: "I shall not speak on this occasion of John Smith's mental inferiority to that of Thomas Jones, I shall be equally silent of his inferior academic standing, I shall not even allude to his defects as a teacher, but I shall solely consider which of the two men is of the greater importance avoirdupois."

As a matter of fact Professor Hutton does not enlarge on the intrinsic merits of Greek literature. Only in the last column of the last page does he break forth into a brief dithyrambic eulogy of the intrinsic merits of Greek, and vigorously protests his belief that when "the growth of wealth shall have slowly built up a class possessing hereditary leisure and hereditary refinement the number of students will be greater instead of less than it is today." "There is nothing in the world that moves which is not of Greek origin," says Sir Henry Maine, and, "Out of a Greek (Plato) come all things that are still written and debated among men of thought," says Emerson. Does Professor Hutton intend us to take the above quotations literally, and as forming the basis of an educational theory? As rhetoric, I admit that they are very pretty; they express in an elegant and forcible way an extreme admiration for what is Greek. Taken literally and as seriously defining an educational theory, they make the study of Greek a genuine fetich-worship, and they are characteristic of a type of educational philistinism which regards all studies but one with narrow and unreasoning contempt. But these exaggerated claims are so far alien to the question in hand that they need not be further discussed here.

Regarding the superiority in university standing of the teacher of Greek he is liberal, even condescending. "So far as persons are concerned" there should be equality, he

says, but, as I understand him, the inequality incidental to the inherent and intrinsic superiority of Greek is one of those things which being incurable must be endured. He assures us that he had occasion some years ago to prove the sincerity of his convictions with regard to this equality of persons. What the occasion referred to is, I am at a loss to conjecture, and I am sure many of my readers are in like uncertainty.

Although nothing was to have been said of the inferiority of French and German from an educational point of view, the writer, doubtless led away by his zeal, devotes a large portion of his article to the discussion of this topic. Now, speaking generally, what is meant precisely by the "educational value" of this or that branch of learning? For example, Greek may be said to have an "intrinsic" value, an "educational value," a "commercial value," and, moreover, a "utilitarian value," and, perhaps, a "social value," etc. My own impression for a long time has been that this much-abused term "educational value" is largely a figment or a word for pedants to conjure with. All kinds of real knowledge accurately acquired have surely some educational value, and, to my mind, it is mere pedantry and futility to attempt to determine with a pair of apothecary's scales, or in per cents., what is the relation of the educational value of Greek to that of Latin, French, chemistry, etc., or the relation of the educational value of Greek to its various other values. Many educators hold, for example, that the educational value of one language *mastered* is about the same with that of any other language mastered. Greek is difficult nay, (by Professor Hutton's own showing) impossible of mastery. What then shall be said of the educational value of an unaccomplished and impossible task? Ad-

mitting that the Greek language when mastered, or approximately mastered, is of very great educational value, are we to swallow the fallacy that, on this account, Greek possesses this peculiar and special virtue in the case of the pass-man, who may or who may not have acquired the mere capacity of turning Greek into English with the help of grammar, vocabularies and "crib," and who has written through an elementary exercise book? I cannot refrain from referring to one of the arguments advanced in what I might call Professor Hutton's panegyric on the educational value of the verb paradigms (p. 42), as it demonstrates so extremely well the ultimate results of the "educational value" theory. Had our undergraduates been born Greeks or Romans, says he, the "cruces" of the Latin subjunctive or Greek optative "would have been imbibed with their mother's milk, and the educational training thereof would have been lost to them." Alas, poor Homer and Plato! unfortunates, ye imbibed the optative in the primitive fashion referred to, and ye lost irreparably the "educational training thereof," and yet ye have left names that will survive the fame of all the other unfortunates who did enjoy the "educational training thereof," and who imbibed the optative with tears and the sap of the birchen tree at Rugby, or who absorbed it from the "crib" at Oxford.

We find out more clearly elsewhere wherein the educational superiority of Greek consists. It is more difficult for an Englishman than Latin, and much more so than French or German, *ergo* it has a higher educational value. It is quite clear (*vide* panegyric on the Greek verbs, p. 42) that Professor Hutton's gauge of the difficulty of a language is mainly the complexity of its inflexional system and the dissimilarity of its vocabulary to that

of English, and to be able to recite and construe τῶντων is in itself a liberal education. But Sanskrit is on the whole considerably more complex in its inflexional system than Greek, and its vocabulary is still more unlike that of English. Why do we not then avail ourselves of the superior educational value of this language in order to train up in our midst a race of intellectual giants? There is another view of language study which does not seem to have seriously occurred to Professor Hutton, at least so far as his Greek pass-man is concerned, viz., that language is a medium for the expression of thought, and that there is enough difference between any two languages (even the most similar) to make it extremely difficult for the student ever to acquire the power of expressing his thought with perfect accuracy in a foreign tongue. To acquire this power is the aim of the true student of modern languages, and I hold that the task is one arduous enough to tax and develop the mental powers of even the strongest. If this view of linguistic study were more common, and if it were borne out more fully in educational methods, we should hear less of the special educational value of this or that language.

The opinion expressed in Professor Hoffmann's celebrated address of 1880 (quoted p. 43), in which opinion some thirty-six Berlin professors concurred, would be valuable evidence as to the superiority of Greek in general and incidentally to the value of pass Greek in the University of Toronto, except that the evidence is vitiated by two unfortunate circumstances: (1) The constitution of the jury which pronounced the verdict referred to. Every one of the thirty-six professors in question had been trained in the classical gymnasium of the most conservative type, Latin and Greek being the staple of their educa-

tion. Imagine for a moment a perfectly parallel case. Suppose a commission consisting of Professor Hutton and thirty-five other professors of similar training and predilections appointed to pronounce on the value of classics (especially Greek). I need not say what the decision would be. (2) The dissimilarity between Greek in Germany and Greek here. My readers must not suppose that the Greek training of the German gymnasium is a parallel case to the Greek training of the Toronto pass-men. A comparison between the two would be odious.

Professor Hutton says further, "it is noteworthy that the assertion itself of such a general superiority in the classical students is not disputed in Germany." But even in Germany, where old beliefs and prejudices die hard, all is not serene just now on the classical horizon. The pretensions of classics to form the basis as well as the apex of national higher education are not unchallenged. As the *Quarterly Review*, in a late article, says of the Greek question in England, "The *Zeitgeist* is walking again," and this time he has used the German Emperor to affirm in strong terms that the monastic Latin and Greek education of the Middle Ages will no longer suffice in Germany. He says in a recent speech (December last) before the German commission on reform in secondary education: "Wer selber auf dem Gymnasium gewesen ist und hinter die Coulissen gesehen hat, der weisz, wo es da fehlt . . . Wir müssen von der Basis abgehen, die Jahrhunderte bestanden hat, von der alten klösterlichen Erziehung des Mittelalters wo das Lateinisch maszgebend war und ein bischen Griechisch dazu." I commend special attention to the high sense of the educational value of Greek which is expressed in the phrase, "ein bischen Griechisch dazu."

What manifestations have we had in Ontario of this peculiar educational value of Greek, especially of pass Greek? And yet there has been every occasion for such manifestations. Until 1885, the University of Toronto demanded four years of Greek from every pass-man. The country round about should be swarming with intellectual athletes. Statistics regarding the more eminent of those who exemplify the educational magic of pass Greek, here in Ontario, would be more relevant to Professor Hutton's argument and much more convincing than the fact that, some ten years ago, certain eminent Berlin professors reaffirmed a certain set of educational theories and prejudices which they had acquired and assimilated much after the same fashion as we are told the infant Greek used to imbibe the "cruces" of the optative.

Professor Hutton would have us believe (p. 44) that "a strong *prima facie* case is made out in favour of classics" in an article of the *London Spectator* (27th December). As a matter of fact the article in question and the discussion which occasioned it are the strongest sort of support to the very position which modern language men in Ontario hold. In the *Conference of Head Masters of the English public schools* (Rugby, Eton, etc.), held 23rd December last, the head master of Harrow proposed the following resolution, which was lost on a vote of thirty-one to twenty-nine: "That, in the opinion of this Conference, it would be a gain to education if Greek were not a compulsory subject in the Universities of Oxford and Cambridge." The question here is simply that of pass Greek. It is a striking circumstance, and one not likely to afford much comfort to those who extol the educational value of pass Greek in Toronto, that at a conference of masters, all of whom are Greek scholars, the vote was almost a

tie. The *Spectator's* article on the vote praises in high terms a thorough study of Greek, but if Professor Hutton and the friends of pass Greek can extract any sunshine out of the following remarks of the *Spectator*. I think they are unduly hopeful: "We are convinced," says the *Spectator*, "that the sooner it is admitted (as we at least do admit) that all those who would profit greatly by University education, ought not to be required to learn Greek, and will not really learn it even if they are required, the sooner will the irrational and retrogressive depreciation of the study of Greek as one all-important branch of literary study die a natural death. The idea of a liberal and progressive policy could never by any possibility have been connected with the discouragement of Greek learning, if it had not been for the exaggerated claims put forward, and put forward in vain, on behalf of Greek, by scholars who have only succeeded thereby in driving away a great number of learners from the Universities altogether, to their great loss, and in persuading a few to waste their time on acquiring a merely nominal acquaintance with Greek that never results in any real intellectual gain." The whole controversy, I may explain, is about a matter which was decided some six years ago in the University of Toronto by making Greek optional for pass-men, and which will doubtless be decided in the same way for Oxford and Cambridge before the end of the next six years.

Moreover Greek is said to be of great importance because, as is implied, the study of it is the surest guide to literary "style." Professor Hutton says, "Why is it that English is best written and spoken where it is least taught, in England?" The answer in brief is, that 'no English lecturer or lecturer (*sic*) can produce any but the

most meagre results"; but the fact is to be accounted for, (1) "by the atmosphere of literature in which whole classes move, . . . (2) by all the other cognate advantages incident to leisure and wealth and an old established civilization and (3) by the influence of the classical languages."

It seems a pity that an argument brought so far should have to be labeled as an example of *non sequitur*, yet such it is. Observe that there are several factors involved—literary atmosphere, wealth, leisure, etc., the study of Latin and, lastly, the study of Greek. He might also have added climatic peculiarities and the influence of the Gulf Stream. Will Professor Hutton determine for us which of these factors is the strongest, or will he assert that, if the factor French or German were substituted for Greek in the problem, literary style would suffer? The argument is too slender to bear examination. But, says he, were not Tennyson, Browning, Arnold, Swinburne, Huxley, all of them acknowledged masters of style, trained in classics? Granted, but *non sequitur* again. The whole matter is really this: The educational circumstances of their age happened to give these men a classical education. They were men of genius and soared high, and would have done so under any other system of education, just as Homer and Sophocles did, though they knew no tongue but their own, and just as Dante and Shakespeare did although neither of them knew even pass Greek. The manifestations of genius are evidently independent of pass Greek. I admit, nay I hold, that any study of language will tend to improve one's English style, but I have yet to be convinced that Greek has any special virtue in this regard. I deny that the study of Greek infallibly leads to excellence or perfection

of English style, nor shall I need to go far afield to substantiate my contention.

Before leaving this branch of the subject I should like to inquire what is meant by referring to English and other modern languages as "slipshod." Does it mean that English, for example, will not serve to express accurately any thoughts which an Englishman may think? or is this just one of those vague insinuations which convey, especially to the *vulgus*, an overpowering sense of the erudition of the individual whose vast linguistic lore enables him to allude so slightly to his own language and on the other hand to imply that if he, at least, is to think or

speaking with anything like precision it must be in an ancient foreign tongue. I confess I do not like this depreciation of the capacities of our own language, and I am tempted to commend to depreciators in general a certain homely anecdote. It is related of Horace Greeley that one of his sub-editors was fond of interlarding his articles with quotations from various foreign sources. Greeley summoned the subordinate before him one day and advised him to discontinue the practice, adding sententiously: "Young man, it is my opinion that the English language will serve amply to express any thoughts that you have now or are likely to have for some years to come."

(To be continued.)

## THE EVENING SKY.

BY A. CAMERON, B.A., YARMOUTH ACADEMY, N.S.

THE brightest star in the heavens, the grandest constellation, and the prettiest and most famous cluster may all be seen above the west and south-west horizon on April evenings. The star is the Dogstar—also called Sirius; the constellation is Orion; the cluster is the Pleiades. These are familiar names to all who read, but the things are not so well known as they deserve to be. The object of this article is to help any who may wish help of this kind to an acquaintance with these and some others of the principal stars and star-groups now visible in the evening sky.

A word as to the circumstances of place and time. The directions given will be generally true for any place whose latitude does not differ much from that of Toronto. Any hours mentioned will be (unless otherwise specified) hours of mean time, the local time of wherever the stargazer may be living.

At half-past eight, in the middle of April, the stars will be in the same position as at nine a week earlier, and at eight a week later. Let us suppose our star-gazing to be done at these hours. If we used star time, we could say, "at this hour," instead of "at these hours"; because 9 p.m. on April 7, and 8.30 p.m. on April 14, and 8 p.m. on April 21 all correspond to the hour X. on a sidereal clock. At this hour Orion and the Dogstar and the Pleiades are still above the horizon, but in a couple of hours more they will all be below it. And after the first week or so in May we won't see them all again in the evening until late in the autumn, so we had better take a good look at them now.

That's the Dogstar in the southwest. You can't mistake it; there's no other one as bright anywhere in sight. Like the planets, Venus and Jupiter, it may be seen even in day light if you take some pains to find

out where and when to look for it. With a good field-glass it is not at all difficult to pick up Sirius on April afternoons when it is on or near the meridian. Even an opera-glass will sometimes show it. And if you know very exactly where to look you may—if your eye is good and if the seeing is very good—get a glimpse of it without a glass at all, and in spite of the full blaze of the afternoon sun; but your eye may smart for it for a week after.

Orion covers a large portion of the sky to the right of the Dogstar. Those three stars close together and nearly in line—and in line with Sirius—are in the middle of the constellation, and are known as Orion's Belt. The red star above the "Belt" is Alpha Orionis; that other very bright one below the "Belt" is Beta Orionis—better known as Rigel. If you have a glass—no matter how small a one—point it at Alpha, and after a good steady look shift it quickly to Beta. Quite a difference in colour, isn't there? Now point it at the Dogstar, and see how many of you will agree as to its colour and that of Rigel. Run your glass over the "Belt" and over that string of stars hanging to the left of it, and you will get some fine sights. If one of them strikes you as particularly curious, it will probably be the Great Nebula in Orion. In a small glass this object is seen best when you make believe you are not looking at it. Now look to the right of Orion, in line with the "Belt," and as far to the right of it as Sirius is to the left. That red star is Aldebaran, the Bull's Eye. (Names like Orion's Belt, and Bull's Eye will explain themselves if you look at the constellation figures painted on a celestial globe.) The V-shaped cluster, of which Aldebaran is the brightest member, is the Hyades, a sister-group to the Pleiades. It contains some good pairs to test your eyes on,

and some others too close for the eye but easily split with an opera-glass. To the right of the Hyades are the Pleiades—that sparkling cluster of five, six, seven, or whatever is the number you can count. Put your glass on them, and when you have filled your eyes with the beauty of the sight try how many you can then count.

Above the Pleiades you will see a yellowish star brighter than any other in the west at present, excepting only Sirius. Its name is Capella. It is the chief star in the constellation Auriga, the Charioteer. By and by, when Orion has set, you may see

The Charioteer  
And starry Gemini hang like glorious crowns  
Over Orion's grave low down in the west.

The Gemini are to the left of Capella and higher than it, up above Orion. The brighter one is Pollux, the other, Castor. Between Pollux and the Dogstar—not directly between, a little to the left—is Procyon, the Little Dog. It was called Procyon (Before the Dog) because in Greece as in Canada it rises before Sirius. Down south the Before-the-Dog star rises after the Dogstar. You may as well note the fact that the two "Dogs" and Alpha Orionis form a large equilateral triangle. Another easily recognized figure may be seen over in the north, just a little to the west of north, and not far above the horizon. There half-a-dozen stars shape themselves roughly into a chair, and mark the constellation Gassiopeia.

These are the brightest stars and the most conspicuous star-groups in the western sky at the sidereal hour X. (see above). During a part of April—from the 11th to the 17th—the moon will be there too at this hour. If you look sharp about sunset on the 9th you may see her as a beautiful thin crescent only twenty-seven hours old; and five degrees or



so to the north of her you should see a brilliant white spot, which is the planet Mercury. After sunset on the 10th the moon will need no sharp looking, and this evening she will be near another planet, Mars, easily recognized by its red colour. Later in the month Mars will move up between the Pleiades and the Hyades.

Turn now to the east side of the meridian. One of the brightest objects here at our chosen hour is the planet Saturn. It is just a little east of the meridian—that is, of due south—and is between  $50^{\circ}$  and  $60^{\circ}$  above the horizon. Its colour is yellowish, and it is brighter than any star between south-east and south-west. To the right of Saturn look for half-a-dozen stars arranged in the form of a sickle. The "Sickle" is due south at present, and standing up on the end of its handle. Its brightest star is the lowest one, Regulus, one of the smallest of the first magnitude stars. Another of the same kind is Spica over in the south-east, and not far above the horizon as yet.

Nearly due east, and well up, is Arcturus, reddish in colour, and one of our grandest stars. Low down in the north-east is another, Vega, of a bluish colour. These two, with Capella and Sirius, are the four brightest stars we ever see in this latitude; and it is only at this season of the year that all four can be seen together in the evening. Sirius takes the first place of course, but which of the other three ranks next is not so easy to decide. Try your own eyes at it and then compare notes with your friends.

Lower than Arcturus, and to the left of it, there is a beautiful curved string of brilliants—a sort of diamond necklace—called the Northern Crown. Corona Borealis. Lower than it, and farther left, you may make out a trapezium in the constellation, Hercules. Near one of its stars there is a splendid object for a telescope.

Higher up than this and farther north—up above Vega—there is another four-cornered figure in the head of the "Dragon." The dimmest of these four is called Nu Draconis, and is one of the most charming doubles for a good field-glass in the whole heavens—a couple of twin stars, exactly alike in size and colour, and almost kissing each other. If your glass won't split it the first time you try, try again when higher up or when the sky is clearer. And when Vega is higher try the two small stars near it—they are both double. One of them, Epsilon Lyrae, any glass will split; the other, Zeta Lyrae, is not so easy, less easy even than Nu Draconis.

Only a very few of the many interesting objects visible at this hour have been mentioned here, and the mention made of each has been all too brief for its merits, but the article is already too long. There is, however, one other object which it would never do to pass over altogether. I began with Canis Major and with "the Pleiades, the Hyades, and the might of Orion"; just a word at the end about Ursa Major, "Arktos, high to boot the Wain." Nowadays it has several other names "to boot," of which the "Dipper" is not the most poetical nor the least appropriate. The famous Seven Stars, four forming the bowl and three the handle; there they are, a little to the north-east of overhead, the handle sticking out towards the east, and the whole utensil upside down. The two at the left are pointing down to the North Star. These two are not always at the left, and they don't always point down to the North Star, but they do always point to it, and hence they are called the "Pointers." The two at the other end—the outer two in the handle—point between Arcturus and Corona. Take a good look at one of these two—the one in the middle of the handle—its name is Mizar. That

little fellow you see close to it is Alcor. They have been called the Horse and his Rider, but that will hardly suit at present—the rider is on the wrong side. With very good field-glass you may see a third star, smaller than Alcor and nearer than it to Mizar; the three form a triangle.

A small telescope will show a fourth one very close to Mizar, and making a pretty double with it; the whole group forming a beautiful object. It has lately been discovered by means of the spectroscope that there is a fifth star still closer to Mizar, so very close that no telescope can show it.

## MENTAL ARITHMETIC.

BY J. H. KNIGHT, P. S. INSPECTOR, LINDSAY.

**T**HE object of mental arithmetic is not to solve problems, but to perform operations quickly and correctly. Be systematic. Begin at the beginning, and do not dive into the middle of something without preparation. Waste no time. Many teachers waste half the time in saying pupils' names. If possible, let the pupils stand on the floor and take places, that is, the pupil who answers correctly goes above those who miss. If not possible to stand on the floor, let all stand up, begin at one corner of the room, take pupils in turn according to some pre-arranged plan. Let those who answer correctly sit down, the others remain standing. When all have had one question begin again with those standing, and, if necessary, give easier questions until each has answered a question. Then begin again. Keep on till a difficulty occurs, that is, until the answers are unsatisfactory, and then review. Let the questions and answers be given in the fewest words consistent with correctness, for instance: How many days in January? Thirty-one. In February? Twenty-eight. March? Thirty-one. Not, How many days are there in January? There are thirty-one days in January. How many days are there in February? There are twenty-eight days in Febru-

ary. That is very well in the composition class, but it is too slow for mental arithmetic. Five minutes a day is better than half an hour once a week. I propose to give a few sets of questions which may be varied and extended. They are not to be regarded as first lessons.

**I. LONG MEASURE: FEET AND YARDS.**—If necessary, draw a line on the blackboard, and divide it into yards and feet. Explain 3 ft. = 1 yd.; 6 ft. = 2 yds.; 5 ft. = 1 yd. 2 ft.; 4 ft. = 1 yd. 1 ft. Then ask, How many feet in 1 yd.? 2 yds.? 3 yds.? 4 yds.? etc., to 10 yds. How many yards in 30 ft.? 29 ft.? 28 ft.? etc., down to 3 ft. Extend by degrees as far as necessary; then ask questions promiscuously.

**II.—HOW MANY SECONDS IN A YEAR.**—How many seconds in one minute? How many minutes in one hour? How many hours in one day? How many hours in two days? 3 days? 4 days? 5 days? 6 days? 7 days? 8 days? 9 days? 10 days? 20 days? 30 days? 40 days? 50 days? 60 days? 70 days? 80 days? 90 days? 100 days? 200 days? 300 days? 60 days? 360 days? 5 days? 365 days? How many minutes in 365 days? How many seconds in 365 days?

III. — LONG MEASURE: YARDS AND RODS.—How many yards in 1 rod? In 2 rods? 4 rods? 6 rods? 8 rods? 10 rods? 12 rods? In 1 rod? 3 rods? 5 rods? 7 rods? 9 rods? 11 rods? Review, and extend to 20 rods and 19 rods. Then, how many yards in  $\frac{1}{2}$  rod?  $2\frac{1}{2}$  rods?  $4\frac{1}{2}$  rods? etc. How many yards in  $1\frac{1}{2}$  rods?  $3\frac{1}{2}$  rods?  $5\frac{1}{2}$  rods? etc.

IV. THE MONTHS. — How many days in January? February? March? etc., to December. How many days in January and February together? How many days in January, February and March? To the end of April? May? June? etc., to December.

V. CLOCK QUESTIONS. — Explain, or draw from the class, that the hands

of a clock are together eleven times in 12 hours. The first answer is obtained by dividing 60 by 11, and the other answers by adding 1 hour  $5\frac{5}{11}$  minutes to the last answer, or by multiplying 1 hour  $5\frac{5}{11}$  minutes by the numbers from 2 to 10. At what time are the hands of a clock together between 1 and 2 o'clock? Between 2 and 3? Between 3 and 4? etc., to 10 and 11. At what time are the hands opposite one another between 7 and 8? Between 8 and 9? Between 9 and 10? etc. At what time are the hands at right angles between 4 and 5? Between 5 and 6? Between 6 and 7? Take the position beginning at 3 o'clock first, and then the position beginning at 9 o'clock.

## MORAL EDUCATION.

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### *I.—General View.*

EDUCATION may be roughly divided into physical education and mental education. These cannot be wholly separated either in processes or results. All processes of physical education involve more or less of mental activity. All pre-determined physical action results from knowledge, feeling and volition. On the other hand, all mental action is performed through the agency of the body. Knowing, feeling, and willing, all have their concomitant bodily movements. Thus we see through the action of the eye, and we hear because the ear responds to outward vibrations. In like manner all mental action is accompanied by corresponding bodily action. Hence neither the processes nor the results of physical and mental education can be wholly divorced. And yet they are

so unlike that they are best understood by studying them separately, and afterwards ascertaining their dependence one upon the other.

Mental education may be considered from the standpoint of the intellect, the sensibility or the will; and, consequently, may be roughly divided into intellectual, esthetic, and moral education. Yet these processes of education cannot be carried on independently. The best intellectual action is the result of volition. Feeling results from knowledge; and volition is influenced by feeling. The only avenue to another's will is through his intellect and feelings. Hence all sorts of mental education, intellectual, esthetic and moral, are carried on together. It is impossible to develop either the intellectual, the esthetic or the moral powers of the child apart from his other powers. And yet it is quite possible so to

treat the child as to develop one of these classes of powers out of due proportion to the others : and it is equally possible to induce such activities in the child as will result in wrong habits of action, either intellectual, esthetic or moral.

The intellect, the sensibility, and the will, are all governed by their own laws. Each is made to act by the immediate means peculiar to itself. Each has its own special avenues of approach. Each is susceptible of its own habits of action. Hence the nature of the different kinds of mental education is best revealed by studying each in turn by itself, and subsequently ascertaining the relation which each sustains to the others. The special topic to be discussed in these papers is moral education. Physical, intellectual and esthetic education will be considered only so far as they are necessarily involved in moral education.

It is to be noted at the outset that the term *Education* has three principal significations. It is sometimes used to mean all those influences that are brought to bear upon the child for the sake of inducing in him those activities that will change him from what he is before they are applied to him, to what it is intended that he shall become as a result of the induced educational process. It is sometimes used to designate the processes themselves which take place in the child, as the result of the influences brought to bear upon him, for the sake of transforming him into what he should become. Again, the term stands for the results of the processes just mentioned ; and these results, in the case of any department of mental education, involve the three elements of knowledge, power to act, and tendency to similar subsequent action. These results are produced immediately, not by the influences exerted by the educator

upon the child, but by the child's own activity. Hence the most important signification of the word education is that of the activities which take place in the child himself, and which produce in him the knowledge, power, and habits of action that constitute the difference between the educated and the uneducated man.

So vital, so important, so essential, so all embracing are these processes, that I regard them as the subject-matter of the science of education. For, notwithstanding those old-fashioned school-masters whose main occupation is and always has been lesson-hearing, and who, therefore, have never investigated the science underlying their art ; and notwithstanding the opinions of those conservative college professors who have devoted their lives so closely to the development of special lines of thought that they have not mastered the science which determines the nature and conduct of all educational processes,—not to mention those aspiring youths who, to obscure their own ignorance, endeavour to throw discredit on a science which they do not wish to take the time and trouble to master,—I venture to assert that a properly classified and systematized knowledge of the activities of the child, that are necessary in order to produce in him all needed knowledge, power, and habits of action, constitutes a science.

The subject-matter of that branch of the science of education called moral education, then, may be defined as those activities of the child which are designed to give him all the knowledge, power and habits of action that will constitute him a properly developed and equipped moral being. These activities are to be studied from all necessary standpoints. The most important of these are the following : (1.) The end of moral education. Before we are

qualified to direct the pupil we must know whither he is to go. (2.) The process itself. We need to know just what the pupil must do in order to make him what we would have him become. (3.) The agents by whom the process is to be secured. Upon whom is laid the duty of directing the moral education of the young? (4.) The means by which the result is to be attained. By what agency shall the educator affect the pupil? (5.) The method of procedure. What course shall the educator pursue in the use of the means at his command? These will be considered briefly in order.

1. The aim of moral education includes three elements. The first is knowledge. The child is not properly educated who does not know that it is his duty to seek to promote his own bodily health, strength and skill, so as to make the body an able and facile instrument of the mind. Many children are so brought up that they think it right to subject themselves to unhealthy conditions, if they choose; and there are still more who do not know the relation between temperance, health and efficiency. Let every child be taught that bodily excess of every sort is as wicked as lying or stealing. Let him know his duty also in the improvement of his mental powers. How many men there are who feel no responsibility for lack of intellectual vigour. Every child should be taught that what he becomes physically and mentally depends largely upon himself; and furthermore that it is his bounden duty to make the most of himself.

He should also be taught his duties to his fellow men. We are in the world with others, and from them we are constantly receiving. Food, clothing, shelter, and all other kinds of material appliances for our bodily needs and comfort are the results of

human labour. Is it right to receive and not give? Literature, music and art are the products of continuous effort. Shall we take and give not in return? What a dreary world it would be without cheerful conversation. What right, then, has any man to hold himself aloof from his fellows in morose silence? Is it not the duty of every man and of every child to make others happy by his smiles and cheerful speech? Press home the duty of cheerful sociability. Let no child grow up without being made to see the thousand ways in which he receives good from others, and in which he ought to return good for good.

Go beyond this and show him his duty to God in return for blessings bestowed. Throw around his conceptions of duty to his fellows the sanction of a belief in a common origin and a common destiny. Let faith in the fatherhood of God and brotherhood of man make him feel more keenly his duty to all the world.

The second element in the aim of moral education is power. Temptations to do the wrong often arise. The child should have the moral power to resist. It is one thing to know the wrong and another to be able to avoid it. Opportunities to do the right often arise; but it needs power of will to hold one's self continuously to the performance of the right. This power should be developed from early childhood, so that, when occasion comes, the will can hold persistently to the right course even to the very end.

But a third element is needed. This is the habit of right determination and action. It is closely related to the second element, and indeed implies it, but the two are not identical. Adherence to the right may cost an effort. This should not ordinarily be the case. The habit of right conduct should be so fully

established that action in accordance with the right will be little less than automatic. A man who has a hard struggle to refrain from theft, whenever an opportunity occurs, is not well educated morally. He is not to be trusted.

2. We are next to consider the process of moral education as it takes place in the mind of the child. What must he do in order to attain the results just sketched? We shall be helped on this point by calling to mind two or three of the fundamental laws which govern the action of the mind.

And first let us note the fact that the mind is made to know primarily by the presence to the mind of the things to be known. The moral quality of an action depends upon the effect intended by the doer. Hence the effect of an action must be known in order that the action may be known as right or wrong. For example, a child may be innocently engaged in noisy play, but when the mother declares that the noise makes her head ache, the child at once recognizes the action as wrong. The mere knowledge of an act done or intended is not enough to reveal its moral quality, to this must be added a knowledge of its effect. We should make a clear distinction between what is wrong in itself, and what is merely prohibited.

Another principle of universal application in education is that power is developed by the action of the individual in whom the power is developed. Muscular power is developed by the action of the muscles. Intellectual power results from intellectual action, and moral power from moral action. Power to resist the wrong does not result from a knowledge of wrong, but from the resistance of wrong. Speech, action, and example are all useless, so far as their effect in developing power is con-

cerned, unless they arouse the child to action. If all parents and teachers fully realized the force of this law, and had a clear conception of the true end of moral education, how much less would they govern the children, and how much more would they strive to induce the children to govern themselves. It is the self-determined, the self-directed action of the child that makes him strong, and not the effort of the tender-hearted parent or the strong-minded teacher.

Another general principle of education is this: the repetition of an action produces a tendency to act in a similar manner again. If the repetitions of an action have been so numerous as to produce a very strong tendency to act in the same way, this tendency is called a habit. Habits are formed by the repetition of similar actions. Habits sometimes become so strong that it is impossible for us to break away from them; we are held by them. We acquire the habit of making the letters of the alphabet according to a particular form, and the habit becomes so strong that we cannot successfully disguise our own handwriting. In like manner we form habits of observation, memory, imagination and reasoning. The same is true of the formation of habits of moral action. The man who always tells the truth, soon reaches that state of mind, in which there is no temptation to lie. Truth-telling has become a habit. Yielding to the right motive may become habitual through repetition. Train up a child in the way he should go, and when he is old he will not depart from it, is only an application of this general principle.

3. If children are left to themselves, they are not likely to learn all their duties, or to practice that self-restraint and self-direction necessary for the development of moral power and

the establishing of correct habits of moral action. They need direction in moral education no less than in intellectual. Who should constitute the educators in morals? The schools are often held responsible for this work; but this is without justice. The moral character of children is partly, often largely, formed before they attend school at all: and for this the parents are responsible. The first lessons in love, affection, sympathy, patience, obedience, and mutual helpfulness are learned in the home, and these moral lessons are continued at home till long after the end of school life.

Then, too, the members of the special society in which the child lives exert a strong influence upon his moral character. Society is largely responsible for the child's ideas of honesty, truthfulness, industry, regard for the rights of others, and all other forms of social virtue; and it is exceedingly difficult for the school to raise these ideas much above the level of the social life in which the child moves.

To the moral influence of the home and society is to be added that of the state. If the laws are just to all alike, if they afford protection to the poor and the weak as well as to the rich and the powerful, if they require all to contribute according to their ability toward the expense of what is done for the common weal, and if they punish the offenders of high degree no less than the meanest, then the state exerts no small influence upon the moral character of the young; while to the extent that the laws are unjust, or badly administered, does the state exert a degrading moral influence. The state is an important agent in moral education.

The influence of the church is still greater. In the church the child learns not only his higher duties to his fellow beings, but also his duty to

God, the Creator and Preserver. While children are not over critical in regard to the morality of church creeds, they are profoundly impressed by the doctrines relating to God and duty which the church inculcates. So strong are these impressions that they are never fully obliterated, even when the child, grown to man's estate, rejects the grounds upon which these doctrines are made to rest. The sanction of religion is a strong and lasting force in human conduct, now restraining the wayward, and now inspiring the desponding.

But while home, society, the state, and the church do much to mould the character of the young, there still remains a profound responsibility resting upon the teacher. After he limits the scope of his work by making due allowance for prenatal influences and for what is necessarily done for the child by other agents, he still has an important function to perform, which grows out of the nature of his office and the continuity of the relation between him and his pupils. The moulding influence of a good teacher upon the character of his pupils is beyond computation. The fundamental virtues of civil society, — regularity, punctuality, silence, obedience, industry, truthfulness and justice, — are developed and impressed in a good school as nowhere else. Here the child learns to be regular in his attendance, punctual in the beginning and the ending of every duty, silent when others should speak, obedient to the rightfully constituted authority, industrious in the discharge of the duty *lying next, truthful in the scope and the details of whatever he undertakes to tell, and scrupulously just in allowing others what of right belongs to them.* From a man who habitually practises all these virtues, what more need be demanded? And these are pre-eminently school virtues.

These it is the business of the teacher, more than of any other agent, to create. Their constant practice in school is essential to his own success and that of his pupils.

The immediate means by which

the educator moves the wills of children is the feelings which constitute motives. The discussion of these,—their creation, classification, and application,—must be left to subsequent papers.—*Education.*

## THE SCIENTIFIC HUMANITIES.\*

### I.

THE classes of humanity have for their aim, as their very name implies, to awaken in the mind of the pupil ideas and sentiments which may be properly called human, and which, so to speak, add to the mind of the pupil the mind of a complete humanity. In other words we must transport all that is best in the evolution of man into the mind of the individual. In order to do this we must develop in the subject those faculties which are essentially human, and present to those faculties, as their special object, the highest truths, and the noblest sentiments to which our race has attained. Higher education, which presupposes minds already formed, turns wholly from mere observation to discover something new in relation to the objects which it observes; *to know* is its principal aim. Primary education, even while seeking as far as possible to develop the faculties of the pupil, is compelled to occupy itself especially with those subjects which it is essential for every one to know; its aim is the minimum of indispensable knowledge, as the aim of higher education is the maximum of possible knowledge.

It is quite otherwise with regard to secondary or intermediate education. Yet all, who have not studied the

problem philosophically, forget this. No doubt secondary education has objects which it sets before the mind, for the mind of the pupil cannot exercise itself on nothing; but it is not the less true that the proper aim of this education is the formation of the mind itself, its development, its evolution. It is no longer external objects, but it is man, or, speaking more generally, it is humanity, to which it must direct its attention; hence it is, that such studies especially merit the name of the humanities.

As M. Lachelier very properly says, "the true object of these studies is the nature of man, and the moral life of man." For this reason these studies, which are of a highly disinterested character, are also called liberal. Primary studies cannot free themselves from a certain utilitarianism, since they are directed to the necessary, that is, the useful *par excellence*. Secondary studies are mainly directed to the good and beautiful, while the higher studies strive after the true, whether already known or yet to be discovered. In secondary education we may not entirely omit the knowledge of objects, but we choose in preference those objects, the knowledge of which is best fitted to secure the moral development of the individual, and of the society to which he belongs. Instruction is the means, but education is the end.

In short, literature being the freest and the widest expression of the

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human mind, we have hitherto considered it as the base of the humanities, as philosophy is its crown. Such are the principles which inspired education in France from the days of Montaigne, Bossuet and Fenelon, down to Rollin, and the great masters of the French University. Other nations followed us in this. Germany appropriated, and still preserves the spirit of our colleges and universities; but in Germany the separation of students into those of literature and those of science is unknown. Their future physicians and future engineers receive the same culture as their future professors, or future lawyers. Their leaving examination (*examen de maturité*), corresponding to our Bachelor of Arts, opens to their students the universities, and this examination comprises: (1) a dissertation in German, (2) a dissertation in Latin, (3) a Latin theme, (4) a Greek theme, (5) a French theme—all without dictionaries; (6) a thesis in Mathematics, and this is the nearest approach made to the sciences. In the oral examinations the candidates are required to explain Latin and Greek authors, and are examined in Greek, and Roman, and German history. Geography is associated with the history, and is not made a special study. They are also examined in Arithmetic, in Geometry, and the elements of Algebra. They are not examined in Physics or Natural History. In a word, there is required a thorough knowledge of Greek and Latin and Mathematics. As to the sciences, if the student needs them, he must acquire them at the universities. He remains at the university four years after having passed the leaving examination (which will probably be in his nineteenth year); so that at the end of his course he will have reached his twenty-fourth year. This system shows that it is possible to have men of science, without over-loading the

college studies with the sciences, and that a good humanist can, in after life, construct solid bridges, or direct the working of mines. In the gymnasias there are no special science masters. At the State examinations, each teacher is obliged to present himself in two branches of instruction, e.g., in the ancient languages and natural history, in history and the modern languages, or in mathematics and geography, etc. Thus their teachers need not be so numerous. The German gymnasium has generally nine regular masters, and four or five assistants. It is a simple and solid body, as were our own colleges about 1840, before we began, under deplorable inspirations, to separate science from literature. But we have now, besides our students of literature, our students of science, of navigation, of St. Cyr, of our polytechnic, of normal schools, our students of some special branch, and all attracted by the practical end which they have in view, but profoundly indifferent to anything which is not exacted from them. This morselling of studies into specialties, while it leads to the inevitable debasement of learning generally, is still more injurious to the specialties themselves.

While remaining faithful to classical tradition, Germany has tried to avoid those evil effects which in some of our colleges have resulted from the exclusive culture of some one of the mental faculties. We mean that purely formal culture which the Jesuits brought into repute, and which exercised the mind without nourishing it, as if the mind, just as much as the body, did not require food to build up its vital forces, and at the same time afford them exercise. But Germany, while avoiding one danger, has fallen into another. Together with the moral and social sciences she has given a place in the first rank to the historic and philological sciences, and in this

she inclines to mere erudition. Now to learn facts, dates and words, is still to stop at what we may call the material side of human evolution, instead of seeking to penetrate into the very spirit of the humanities. Separated from moral, social, and philosophical consideration, history, geography, and linguistics are still only material sciences, just as much as physics and geology, while they are at the same time much less scientific, and much less useful. In England the school of evolution, the child of the utilitarian school, having its home too in the land of utilitarian traditions, has allowed itself to be drawn aside by the mirage of the natural sciences, and has wished to make them the basis of education. She has thus opposed, in the science of education, naturalism to what we call humanism. Mr. Spencer commences his book on education by declaring that in all things the object to be obtained is knowledge; a principle of which we have seen the falsity. And so throughout his book Mr. Spencer fluctuates between the ideal of primary instruction and that of superior instruction, without even the suspicion of what constitutes secondary instruction. This idolatry of the sciences is the more surprising, as in his *Sociology* Mr. Spencer insists on the impotence of teaching to modify the individual or society, on the inefficacy of primary knowledge, and on the omnipotence of heredity, and on the power of sentiment over that of abstract ideas. The educational theories of Mr. Spencer are thus in conflict with themselves, and are bent on pursuing an end of which they have themselves proved the insufficiency. But further he confuses the internal evolution of man with external objects, the knowledge of which may influence that evolution but cannot produce it. Man is absorbed into nature, and the humanities have entirely disappeared.

## II.

Mr. Spencer would not now be able to compare science to Cinderella, and literature to her proud and frivolous sisters, for it would seem as if pride were on the side of the sciences. Our University has even allowed herself to be invaded by the different sciences, and has given to each a very large place in the programme of 1885. Now, however, we are unanimous in recognizing that scientific education, instead of raising the standard of studies, has in fact lowered it. Notwithstanding this, the positive sciences still exercise, thanks to the Government schools where they are taught, an authority so tyrannical, that it is necessary to estimate their educative power at its true value. The sciences give us models by which we may judge of truth; they habituate us to estimate evidence, they furnish us with the method, which has been called the force of intelligence. • But if they have their advantages, they also have, when considered in themselves, greater disadvantages, which those forget who wish to make them the ground work of education.

In order to justify the increasing importance which is attributed to the elementary teaching of the sciences, it will be necessary to guard against three dangers: the danger of being too material, or too utilitarian, or too special. It is said that you produce in the pupil the habit of observing. But observing what? material objects, which he turns and turns and takes to pieces, and breaks, in order to know their structure and their properties, whether it be a stalk of hemp, or of flax, a grain of wheat, or a flower, or a piece of chalk or of quartz, or it may be, the pen which he uses, in fact any of the objects about him. Thus he acquires the habit of believing nothing but what is before his eyes. This development of the posi-

tive spirit is useful in the domain of the natural sciences, but elsewhere it is not without danger, and requires to be corrected. You tell the pupil that every word ought, according to scientific definitions, to designate something absolutely precise, that can be represented, and is in ultimate analysis sensible. No doubt an excellent habit in geometry and physics, where material things are treated of. But material precision cannot in the same way be used in expressing moral ideas. When we speak to the pupil of duty, of honour, of patriotism, what material representation of these can his imagination set before him? What object discernible by the senses can correspond to these sublime words? These are indeed moral realities, but these scientific education ignores.

The actual study of the sciences, with their infinity of details, and of applications, but without general or philosophic views, has another defect: it is in its tendency too utilitarian. No high aim being set before the pupil, he can only say: I learn arithmetic because some day it will be serviceable to me in keeping accounts; I study physics because it will be useful to me to know the properties of bodies; I study mechanics because it will enable me to make machines; I study natural history because it will serve a purpose in reference to hygiene or to medicine; I study geography because it will enable me to know something regarding different countries and would be useful in case of war, etc. The pupil is thus in danger of taking utility as the universal criterion, and the more the programmes of studies are overcharged with the sciences taught independently, the less will they have an educative value.

But we may go further. While believing that we shall give a depth and

power to the mind by the study of the sciences as at present pursued, in reality they continue to give it only forms. What is arithmetic? What any formal science? Arithmetic and algebra are the rhetoric of numbers. We reason and we deduce; always, however, in reference to the abstract. We apply general principles to particular problems, and the solution of these problems becomes a little mechanical talent, just as the syllogism in the middle ages, or as the reasoning machine of Raymond Lull. The science even of movement, mechanics, called by some the queen of the age, also turns on formal relations in time and space, and, in all its deductions and reasonings, it proceeds on an hypothesis which is the scientific equivalent of the subject-matter of a Latin discourse. It is true that in the one case the pupil must reason correctly, and in the other, when the cause is a bad one, he may even employ casuistry.

But the mathematician does not, in the affairs of real life, reason better than any other because he is in the habit of reasoning in the abstract, and deducing exact consequences from an hypothesis, for this does not enable him to observe and to combine all the data of experience and to foresee or to appreciate probabilities. The spirit of mathematics, in relation to private as well as to public matters, is the art of seeing only one side of a question. In the mathematical sciences we frame for ourselves definitions; in reality it is experience that imposes them upon us, and continually transforms them, and corrects them by new determinations, and we always find in the results more than we had asserted in our definitions and principles. We say two and two make four, and we find five; our narrow formulæ are limited by nature and by circumstances.

## EDUCATION IN FOREIGN PERIODICALS.

DR. J. G. FITCH, ON SECONDARY EDUCATION IN ENGLAND.

*From a Report in the "Educational Times" of an Address before the London College of Preceptors.*

OUR schools, like the other institutions of our country, are the product partly of history and tradition, partly of accident. We have inherited some of them; some have been established to meet local circumstances or the wants of particular professions or religious communities; others are the result of private enterprise. Scarcely any attempt has been made to co-ordinate them, or to assign their relations to each other. Before the Reformation, when education was the privilege of the rich, there were mainly two forms of discipline: that of the cloister and that of the castle or the manor-house. The young squire or nobleman was sufficiently educated if he could ride and hunt, and was skilful in athletic exercises and in the performance of the arts of war. Very little book knowledge was accessible to the country gentleman, or would have been desired by society or himself. . . . And when the Restoration came and the Act of Uniformity had been followed by the secession of those Puritans who for the first time in our history were called Nonconformists, and when the Toleration Act of William and Mary had been reluctantly granted and had obliged English Churchmen to recognize Dissent as a permanent factor in the social system, wealthy and benevolent people began to be sensible of a new danger and to take a new view of the educational requirements of their countrymen. The Church of England and the whole fabric of social order with which the establishment was identified appeared to be in peril, and it was thought that schools

of a new type, designed for the poorer classes—schools in which special pains were taken, by church attendance, by catechism and liturgical teaching—might, if liberally endowed, prove the means of attaching scholars to the Established Church. Hence it was that at the end of the seventeenth century, and for a considerable portion of the eighteenth, nearly all the beneficence of the promoters of education was directed to the foundation of charity schools. Their educational aims were very low, reading, writing, and the catechism forming the staple of the instruction; the scholars were clothed in a charity dress, and were taken diligently to church; and if prizes or funds for the advancement in life of the scholars were by the liberality of the founders attached to the school, they were always devoted to the purpose of apprenticing boys or putting girls out to service. They never provided for the possible advancement of a promising scholar to the university or other place of higher education. The notion of a ladder from the cottage to the university which had prevailed in earlier times, and which has been revived in our own, was not in the mind of the founders of charity schools. The whole aim of these schools was to keep the scholars in the state of life in which they had been born, and to make them content with the established order in church and state, not to encourage intellectual ambition." For our present purpose, it is expedient to remember that schools of this class did nothing, and were meant to do nothing, for secondary instruc-

tion; and that, as they multiplied during the eighteenth century, zeal for the promotion of a liberal education by means of grammar schools was relaxed in proportion. As a matter of historical fact, no very important foundation for higher education owes its origin to that period.

The very word "clerk," with its ambiguous modern meanings, may remind us that the power to write was in England once regarded as the special prerogative of the clergy or of those who were educated in monasteries. A few of the laity were, even in the fourteenth and fifteenth centuries, admitted to the monastic schools, or to the charity schools attached to abbeys and cathedrals; and in the cathedral towns, Carlisle, Winchester, and Salisbury, grammar schools were founded before the end of the fifteenth century. The royal foundation of Eton owes its origin to Henry VI. But it was at the Reformation, and after the Revival of Learning, that the endowed grammar schools became common, and began to be numerous and vigorous enough to exert a substantial influence over the intellectual life of England. It may suffice here to name, with their dates, a very small number of the most famous of these foundations: St. Paul's (1510); Sherborne (1550); Shrewsbury (1551); King Edward's School at Birmingham (1552); Christ's Hospital (1553); Tonbridge (1553); Westminster (1560); Merchant Taylors' (1561); Harpur's School at Bedford (1566); Rugby (1567); Harrow (1571); Uppingham (1587); the Charterhouse (1611); and Dulwich (1619). By the end of the seventeenth century there were in England no less than 620 of these institutions. They constituted the only provision which can be described as of a public kind for the education of the nation. The funds with which some of them were enriched were the spoils of the dissolved monasteries; many other

schools had a distinctly ecclesiastical character. And it is largely owing to this fact that the traditional ideal of a liberal education, which still prevails in England, attaches so high a value to the ancient languages. There is no other nation known to me whose intellectual history has been so profoundly influenced by its possession of educational endowments four or five centuries old; and there is none in which the aims and methods of mediæval teachers have been more reverently followed, or in which the continuity of tradition and usage in reference to learning has been so carefully preserved. The grammar schools were by their statutes enjoined to make the Greek and Roman classics their staple study; for the very excellent reasons that these were then the only studies which had been so far formulated and systematized as to possess a disciplinary character, that they were the keys to open the storehouses of all the knowledge the world then possessed, and, further, that they were the only subjects which the teachers of that time had themselves been able to learn. Most of the grammar schools were intimately connected, either through their governing bodies or by means of scholarships, with the universities. It was their highest pride to produce pupils able to proceed to Oxford and Cambridge, and to distinguish themselves there; and, as a rule, the founders in their deeds and testaments expressed a generous desire to make the schools accessible to students of all ranks, and to enable the child, even of the peasant or the trader, if he were apt and godly, to become a scholar and to "serve God in church and state." And if it has come to pass that in England, perhaps more than in any other land, a man who is proficient in the Greek and Latin languages, claims *par excellence* to be called a scholar; while one who possesses the widest and most philosophical acquaintance

with other departments of human knowledge, but knows nothing of classics, hardly ranks as a liberally educated man; we are to attribute this fact to the existence of the grammar schools, and to the tenacity with which Englishmen have clung during several centuries to the statutes and ordinances of these institutions.

We must note, however, that the fashion of establishing grammar schools with a view to encourage the pursuit of a liberal education may be said to have almost died out by the end of the seventeenth century. The time of the Civil War and of the Commonwealth was not favourable to such intellectual enterprise, for the dominant party was not keen about the promotion of secular learning; and the beaten party was too seriously impoverished by the war to command the means of endowment. . . . Meanwhile it is to be observed that whatever was done for secondary education was done by private initiative, with the co-operation of the universities; or by the efforts of parents who could afford private tuition. . . .

The first symptom of any interest on the part of the legislature in the whole subject was the measure carried through against some opposition by Lord Brougham in 1818, instituting a commission of inquiry into the state of endowed charities, especially those connected with education. The investigation lasted several years, and resulted in the production of several enormous volumes containing detailed particulars about such charities. But it was essentially a lawyers' inquiry. It ascertained the terms of the original deed of foundation, described the nature of the trust property and its present value, told the names of the trustees and of the headmaster, and reported that the will of the founder was or was not carried

out. It was no part of the commissioners' duty to ascertain the educational efficacy of the schools or their fitness to supply the present wants of the community. Still less was it within the province of the commissioners to propound new schemes, or to make recommendations with a view to make the schools more useful. . . . The next step of importance was the appointment in 1864 of the Royal Commission of which Lord Taunton was chairman. . . . It was called the Schools Inquiry Commission. . . . The Schools Inquiry Commission was charged with the duty of reporting on the whole of the educational area which was bounded on one side by the primary school and on the other by Eton and Harvard and the other of the nine public schools. The investigation was elaborate and extended over nearly four years. . . . The late Bishop Fraser visited America, and Mr. Matthew Arnold wrote his memorable Report on the Secondary Instruction of France and Germany.

The information thus accumulated was afterwards summarized in a final report. So far as England and Wales were concerned, it amounted to this: the provision for intermediate and higher education was made up: (1) of endowed grammar schools; (2) of proprietary or joint-stock establishments; and (3) of private schools. . . .

The commissioners reported that a very large proportion of the endowed grammar schools were in a lamentable condition of decay and uselessness, that they were very poorly attended, that they neither gave to any good purpose the instruction in the ancient language contemplated by the founders, nor had done anything, by way of compensation, to adapt themselves to the needs and circumstances of modern life. . . .

—*The Educational Review.*

## THE NORMAL SCHOOL.—AIMS.

## HIGH FUNCTION OF NORMAL SCHOOLS—WHAT IT INCLUDES.

IT might seem extravagant to say that the Normal School is an indispensable factor in the highest civilization. The statement may be justified. Said Lord Brougham, when advocating their establishment in England, "these seminaries for training masters are an invaluable gift to mankind and lead to the indefinite improvement of education. It is this which above all things we ought to labour to introduce into our system." The thought is: stable civilization is conditioned on virtue and intelligence, these on general education, this on efficient educators, these, finally, on training: hence the necessity of institutions that shall send forth those whose mission it is "to open to the light all the recesses of ignorance and tear up by the roots the weeds of vice." To the same effect, Dr. Channing: "We know not how society can be aided more than by the formation of a body of wise and efficient educators. We know not any class which would contribute so much to the stability of the state and to domestic happiness. Much as we respect the ministry of the gospel, we believe that it must yield in importance to the office of training the young. In truth, the ministry now accomplishes little, for want of that early intellectual and moral discipline by which alone a community can be prepared to distinguish truth from falsehood, to comprehend the instructions of the pulpit, to receive higher and broader views of duty, and to apply general principles to the diversified details of life. A body of cultivated men, devoted with their whole hearts to the improvement of education and to the most effectual training

of the young, would work a fundamental revolution in society. They would leaven the community with fresh principles. . . . We maintain that higher ability is required for the office of educator of the young than for that of the statesman. . . . One of the surest signs of the regeneration of society will be the elevation of the art of teaching to the highest rank in the community." The Normal School, then, is an invaluable gift to mankind, because its function is the formation of wise and efficient teachers. It may be well to specify some of the essential aims of a good Normal School.

I.—*Scholarship the Prime Requisite.*

—1. A mischievous and utterly erroneous notion is too prevalent that teacher and pupil are both learners moving on the same plane, that the minimum of knowledge to be imparted determines the maximum of knowledge for the teacher. The teacher should, indeed, be always a learner if he is to make his pupils learners, but in extent and accuracy of scholarship he must be far in advance of his classes. For (1) a teacher can never impart all that he knows of a subject. As Mr. Fitch says, "there is a large percentage of waste and loss in the very act of transmission." If, *e.g.*, he knows only the four rules of arithmetic it would be a perversion of language to say that he can teach these well. And the reason is plain; to know a subject is to know it in its relations; his unrelated ideas are not knowledge and what he does not know he cannot teach. (2) And this suggests another fact: for effective teaching, clear presentation of the subject matter is essential; this im-

plies analysis into related parts, the perception of wider relations, and the synthesis of all the parts into an enlarged and more definite whole. (3) This is almost equivalent to saying that the teacher must have a logical habit of mind, a power of analysis which is developed by the acquisition of ample and accurate scholarship; speaking generally, the untrained mind cannot be logical, and the illogical mind cannot teach. (4) Again, if a teacher is but little in advance of his pupils, he can not possess that self-respect which is no unimportant element of his power. With ripe scholarship, with a thorough mastery of a subject in itself, and in its relation to long wholes, the teacher fills his pupils with admiration and an ambition to win the attainments which make him what he is. All his work is marked by the ease and dignity of conscious strength. But slender scholarship makes the feeble teacher. He moves with "hesitating step and slow;" consciousness of weakness is revealed in all he does; instead of sun-lit views, he has but twilight glimpses, because he is forever dwelling in the shadow of the unknown. Keen eyes are quick to see that he is groping in a maze without a clue. (5) The whole matter may be put in a nutshell: Faculty (mental power) is organized only by the clear presentation of organized knowledge; the "organizer" must, therefore, have thorough scholarship.

2. Attention may be called to a matter already referred to, viz., the mischievous tendency to exalt method at the expense of scholarship. Now, method in the true sense of the word is invaluable, but method even in its most perfect form, can never be a substitute for scholarship. A man of meagre learning may be a good educator, but only because he has the stimulating power which wakes up mind and sets pupils on a course of self-

education; he is an educator in spite of his ignorance. But given equality in natural endowments, the man who has scholarship without methods will infinitely surpass the man who has methods without scholarship. I agree with the remark of a recent writer: When the typical Scotch schoolmaster held a diploma from Glasgow, Edinburgh, or Aberdeen, the type of intellectual life as a prevalent fact was higher in Scotland than in any other country in Europe, and decadence in this intellectual superiority set in when the university graduate was displaced by men who had received their training in schools of secondary education.

II.—*Culture*.—This is another important Normal aim, connected with scholarship, but not necessary identical with it. Culture cannot be defined, but it is not the less real nor the less useful in education. It means an all-sided development of the soul; it includes wisdom, soberness, righteousness, humanity. By a thorough study of mathematics, or physical science, or philosophy, the intellect may become "a cold logic-engine equally apt in forging the anchors, or in spinning the gossamers of the mind," but this is not culture in the best sense of the word. There is, perhaps, nothing finer than Plato's conception of the cultured man: "A lover not of a part of wisdom, but of the whole, who has a taste for every sort of knowledge and is curious to learn, and is never satisfied; who has magnificence of mind and is the spectator of all time and all existence; who is harmoniously constituted; of a well proportioned and gracious mind, whose own nature will move spontaneously towards the true being of everything; who has a good memory and is quick to learn, noble, gracious, the friend of truth, justice, courage, temperance." This means an equable and harmonious unfolding



of all the powers of man ; the development of the trinity of faculties — intellect, feeling, will—into a divine unity ; the flower and fruit of years of rational culture. It may be unreasonable to demand these high results from the Normal Schools ; but if they are what they ought to be, if their masters and instructors are men of power, fairly in themselves representing this high ideal, they will contribute in no small degree to its realization.

III.—*Method.*—In Normal Schools in which the entire training of the teacher is done—scholastic as well as professional—Method should stand next to scholarship ; in our schools which are confined to the more special function of a Normal School, that of imparting chiefly professional training, Method is the paramount aim. Method is approximately characterized as 1, Empirical, and 2, Rational.

1. *Empirical Method.* This is learned (a) from observation, as when the student-teacher is set to observe—with a view so imitation and reproduction—the methods followed in a good school. Briefly the essence of this method is observe and imitate. Or, empirical method may be learned from (b) an authoritative statement of rules without any reference to their scientific basis ; its essence is, hear and obey. Of course both methods are supplemented by practice-teaching in order, I suppose, that “knowledge” may be perfected by “experience.” It is, perhaps, unnecessary to make a distinction between these methods. They are usually found together, one supplementing the other ; but, jointly or severally, they are essentially empirical, *i.e.*, they make no valid appeal to the reason of things. This method of rule and formula combined with observation and a little practice-teaching has held sway in Ontario for nearly forty years ; to say the least it is an essentially de-

fective method ; a method which, not resting on any knowledge of the mental activities that it is the purpose of the teacher to strengthen and direct, is likely to be barren of good results or positively harmful ; a method which powerfully tends to make the vocation (or shall I say avocation) of the teacher a “sorry trade rather than the noblest of all professions,” and which is responsible for most of the existing defects in the practical working of our educational system. The change to a more excellent way, unfortunately too long delayed, was begun but six or seven years ago ; it insists upon a knowledge of the laws, principles and results of mental action as an essential part of the teacher's preparation ; for the purely empirical—the method of rule and routine—it aims at substituting the Rational Method, which if fully developed and carried out in its integrity in all grades of instruction will, in ten years, produce results never dreamed of in the philosophy of the empiricist.

2. *Rational Method.* This is based upon the idea that in all instructions (1) something is done, (2) in an orderly way, (3) with prepared material, and (4) for a definite end, in other words, that there is an Art of education ; that since this end concerns the mind and its activities, it is necessary for the educational artist to know these in order to work upon them in an orderly way and by the proper means ; in other words, that there is a Science of education grounded upon a knowledge of the nature of mind and of the laws and results of its activity—grounded, that is, on psychology. The Empirical method regards teaching as a mechanic art, and the skilful teacher as a tradesman ; its motto is learn to do by doing. The Rational method regards teaching as a highly intellectual art, and the skilful teacher as an artist ; its prime maxim is, by *knowing*

learn to do; but, also, since the knowledge underlying even an intellectual art is enlarged and defined by the practice of the art, the rational method includes the element of experience in its completer formula, learn to do by knowing, and to know by doing; or, in the language of Bacon: "Knowledge perfects experience." A course for the study

and mastery of rational methodology should include (1) psychology and the kindred subjects of logic and ethics with the resulting principles of education, (2) the history and criticism of educational theories and practice, (3) observation and practice of the specific methods which illustrate the derived principles—*F. A. McLellan, Esq., LL.D.*

### HEREDITY AND ITS LESSONS.

ONE of the most important truths which science has disclosed to us, and one which is replete with suggestions as to the conduct of life, is that of heredity. Instead of conceiving, as some have done, that each child came into the world like a blank sheet of paper, on which could be inscribed at will whatever characters we chose to imprint, we now know that he is a reproduction of past generations—the result of many combinations of character, with certain aptitudes, tastes, powers, faculties, and tendencies derived from his various ancestors. Just as some of his features are said to resemble father or mother, or more distant relatives, and some are combinations of several, so in his character will be represented certain qualities of one or of another, and often a mingling of many, which together produce an individuality all his own, yet gathered from past sources. It may be thought that if this be so there can not be much left for us to do. If each child is to reproduce the past in various forms, and under laws over which we can have no control, how can we hope to alter, by our interference, what is so irrevocably settled? How can we trace fresh characters on tablets already so full of permanent inscriptions? If heredity were the

only element in the building of humanity, there might be force in such an inquiry; but this is not the case. Professor Bradford, in the last number of the *Educational Review*, says: "Evolution works by two factors, namely, heredity, or that which tends to permanency, and environment, or that which tends to variation. The characteristic of the first is that it reproduces the past; of the second, that it adapts to new conditions that which has come from the past." This nature, so wonderfully complex, and so faithfully bearing within it the records of the past, is yet responsive to every touch from without. The environment of surroundings of the child or man always exert a potent sway over him. The influence of the air and the sunshine, of the climate, of town or country, of wealth or poverty, of civilization or barbarism, of care or neglect, of affection or indifference, of everything external, in fact, with which he comes in contact, is momentarily moulding him into new forms, and modifying, in various ways, the nature which he has derived from the past.

Some of these influences are beyond our control, but many of them are within our power, and it is on this well-grounded truth that all our efforts at training, education, and

self-culture should be based. Many of our failures in these attempts come from not bearing constantly in mind these two elements in every life. Every intelligent workman must have some appreciation of the materials with which he works. He must know what can and can not be done with them if his skill is to be effective. To deal with them all alike and to expect that the same treatment will produce the same results would appeal even to the most ordinary labourer as an utter absurdity. Yet in the infinitely more intricate and complex nature of man, where no two minds or hearts or dispositions are exactly similar, how common it is to apply the same methods, to urge the same motives, to exert the same influences, to use the same drill, and then to be utterly astonished that the same results do not supervene. If the builder gave no more attention to the different varieties of wood than we give to the varieties in human nature we should justly deem him incompetent and untrustworthy. It is for this reason, far more than for any curious research, that the great principle of heredity should be studied in its manifold bearings by those who aim to train children, to influence

men or to improve themselves. If it is true, it is full of meaning to us all. It suggests that if we would make impressions, or form habits, or instil virtues, or correct faults, we must know something of the nature we thus attempt to influence. What may be effectual in one instance may be powerless in another and ruinous in a third, for the needs are as varied as the natures. It is because that which the individual inherits from past ages, while ineradicable, is yet being constantly modified by what comes to him from without, and because these two forces are always co-operative, that he who would direct the one must understand the other. If it be said that this view fills the whole subject of education with difficulty, it cannot be denied. But if it is real and honest difficulty, who would bury it out of sight? Must it not be faced courageously, and grappled with earnestly? The possible has always sprung out of what seemed at first impossible, and this is no exception. So far from producing discouragement, it opens up new fields for thought and for work, which afford the richest promises for future harvests.—*Philadelphia Ledger.*

#### NOTES FOR TEACHERS.

**THE POWER OF THE WORLD'S ENGINES.**—The steam engines of the world represent approximately the working power of 1,000,000,000 men, or more than double the working population of the world, the total of which is estimated at 1,455,923,000 inhabitants. Steam has accordingly enabled man to treble his working power, making it possible for him to economize his bodily strength while attending to his intellectual development.

**A NOVEL SCHOOL.**—A school is about to be opened by the University of Genoa for the purpose of educating, or preparing, persons who intend to become explorers. The course will include topography, meteorology, geography, the history of races, anthropology, zoology, anatomy, botany, medicine, mineralogy, and photography. The lectures are to be entirely free. The only expense in connection with them is a fee of twenty lire to be paid for the cost of an exam-

ination at the end of the course ; after which certificates of proficiency will be given to the successful candidates.—*School Guardian*.

SEWING MACHINE MOTORS.—A Berlin electric light company has for some time been supplying small motors for running sewing machines with power from its central station. The cost is quite low and a large number are in use.—*Amateur Electrician*.

LEARN TO DO OUR DUTY.—Charles Dickens says : “ Unless we learn to do our duty to those whom we employ, they will never learn to do their duty to us.” In this matter action and reaction are more nearly equal than we think. We get back what we impart—kindness, good words, fair and honest dealing toward servants or children or strangers or enemies, will bring back the same thing from them. Hate itself will soon melt before love, and the kind and faithful man will be kindly and faithfully dealt with.—*Cumberland Presbyterian*.

THE TEACHER'S OFFICE.—Mr. George William Curtis addressed the National Educational Association at Philadelphia on “ The Public School and Civil Service Reform.” In the course of his remarks he said : The dignity, the influence, the power of the teacher's office are incalculable. Is any public duty more transcendent than that of enabling the duties of that office to be discharged more satisfactorily, of constantly elevating it both in the respect of him who fills it and in the confidence and honour of the public for whom he holds it ? Shall we spare any thought, any effort, any cost to make the public school what we mean it to be, the cornerstone of the ever loftier and more splendid structure of political liberty, and to impress upon the teacher by our sympathy and care the

central truth of the school system, that the child is educated by the State, not that he may read and write only, but that the trained power and noble intelligence of the American citizen may tend constantly more and more to purify and perpetuate the American Republic.—*The Critic*.

WHERE PUMICE STONE COMES FROM.—We often hear it remarked, and particularly after an eruption of a volcano, that pumice stone ought to be plentiful and cheap, as quantities must have been ejected during the volcanic disturbance. As a matter of fact, however, none of the white stone in general use is obtained from active volcanoes. It comes from deposits of the article discovered in one or two quarters of the globe, the best of which is at present to be found in the Island of Liparia, situated in the Tyrrhenian Sea. The island is mountainous in character, and consists of tuffs and lavas and of highly siliceous volcanic products. The district where the stone is found is called Campo Blanco or Mote Petalo (1,500 feet above the level of the sea). After riding a considerable distance, partly along precipitous paths sufficiently dangerous to be interesting, and partly through vineyards and over grassy plains, one almost suddenly comes upon a seemingly snow-clad narrow valley enclosed by hills, also quite white, and the whole glaringly bright on a sunny day. Into these hills workmen are ceaselessly digging deep burrows, working within by candle light. In their excavations they come across many lumps of pumice stone, which are placed in baskets, subsequently being conveyed along the valley to the seashore, where small boats are loaded and sailed to the seaport near by, where the stone is sorted, packed and shipped to distant parts, either via Messina or Leghorn.—*Manufacturer and Builder*.

## GEOGRAPHY.

AN EAST AFRICAN RAILROAD.—The light gauge railroad now building, from Mombasa to Lake Victoria Nyanza, will be 600 miles long. It can easily be completed in four years but it is not known yet how soon it will be pushed through to the Lake. Stanley thinks it would begin to pay interest on the investment as soon as completed. He believes the British Government should help build the road, as it lies wholly in British territory, and its completion will advance the interests of the country.—*The School Journal.*

A UNIVERSAL STANDARD MERIDIAN.—The advantages of the establishment of a universal prime meridian, and so a universal standard of time, have long been recognized; but national jealousies have thus far prevented its accomplishment. So long ago as 1632 Cardinal Richelieu proposed and Louis XIII. decreed a point on the island of Ferro, in the Canary group, for a primary meridian, and it was used by France for a hundred years or more, and is still recognized by many geographers as the dividing line between the eastern and western hemispheres. The meridian of Greenwich has, however, long governed the calculations of the great majority of mariners and astronomers, and in both the nautical almanacs published by the British and United States Governments, and in the nautical charts carried by the vessels of these nations, longitude is reckoned from this line. But no meridian has yet been accepted by all the nations as the standard, France having so late as 1884 proposed a line in the Pacific, crossing Behring's Strait and keeping almost wholly to the ocean, and efforts are still being made for the solution of

the question. The latest and most promising scheme presented is that of the Bologna Academy of Sciences, recently submitted by the Italian Government to the various nations for judgment, which contemplates the adoption of the meridian of Jerusalem as the prime meridian, and the beginning of the universal day there at noon, thus securing an almost exact coincidence of the universal and chronological days. It is urged for this plan that, owing to the comparatively neutral position of Jerusalem, an international observatory could be established there on the prime meridian, which in the impossibility of obtaining ground for international ownership, could not be done on any of the other meridians suggested. Moreover, it offers a primary lying largely upon land, which for purely scientific reasons is highly desirable—a respect in which the meridian of Greenwich, traversing the ocean for nearly three-fourths of its length, is especially objectionable. The meridians of Rome and Washington would give a much longer land-line, lying on land ninety and ninety-five degrees respectively, while that of Boston extends on or close to land for 138 degrees, exclusive of that touched in the Antarctic regions. The Jerusalem meridian, however, as a land-line of ninety-three degrees, traversing comparatively accessible regions and amply sufficient for scientific purposes, and, as averting national jealousies, is preferable to any other suggested. Its adoption would, of course, necessitate an entire recasting of charts, and as the preparation of those using the Greenwich standard have cost a total of more than \$5,000,000, there may be opposition to the change on the score of expense. But

as, once adopted, the Jerusalem line of reckoning would be universal, and the necessity for such a standard is becoming imperative, the proposals of the Bologna Academy are worthy of more than passing consideration.—*Chicago Interior*.

THE WARM SPRINGS AT BANFF, ALBERTA.—One of the springs fills a basin at the foot of a low cliff of travertine, and is fenced about so that swimmers may enjoy their bath undisturbed. I tried a dip in this pool on a chill September afternoon when the mountains were freshly powdered with snow, and a cold rain was falling in the valleys. Emerging from the adjacent cottage in a shiver, I leaped into the water, and was at once as comfortable, so far as warmth is concerned, as if I had been sitting

at the hotel fireside, and though the temperature was but little below blood heat the bath conferred something of the pleasure that a swimmer feels in buffeting with breakers. The immediate effect is bracing, and while those who remain long in the water say that they feel lassitude and enervation afterward, I experienced nothing of the kind, though I swam about for not less than twenty minutes. The presence of lime and sulphur makes the water at least as dense as that of the sea, and the bather feels more buoyant and swims with slighter effort than in fresh water. Though displeasing to the nostrils, it does not offend the taste; and if, by chance, it gets into the nose or throat, it does not nauseate, as salt and river waters are apt to.—*Goldthwaite's Geographical Magazine*.

## PUBLIC OPINION.

FREE SCHOOL BOOKS.—The Dominion Grange at a meeting held lately declared against Free School books.

MODERN EDUCATION.—Lord Reay's address on "Modern Education" at the distribution of prizes at the College of Perceptors contained some wise suggestions. He would like to see the methods of classical education brought to bear upon modern education. The great advantage of classical education, at its best, is that it restricts the mind of the learner to a few closely related subjects, such as language, literature, history and geography, that can be studied minutely up to their higher stages. The period covered is not too vast for mastering; the problems are not too numerous or intricate for investigation; and every subject bears upon the other subjects that are taught beside it. Everything that is learnt converges to one

focus. If German, French or English were studied in the same way, they might yield a similar degree of culture; but in modern education, instead of restricting ourselves to a few related subjects, we attempt to teach everything. Young ladies add to modern subjects the Latin and Greek learnt by their brothers, and combine the evils of both modes of education. The University Local Examinations encourage pupils to take up the greatest number of subjects possible by awarding the highest distinctions for the largest aggregate of marks. Lord Reay contended that less depends on what is learnt than on the way in which pupils learn. The ideal curriculum should aim at developing power and forming taste rather than at the accumulation of knowledge; yet knowledge is not to be despised. Only let us remember that the more knowledge we de-

mand the less opportunity will there be for culture. There is no block-head like "the bookful blockhead," who, as was cleverly said by somebody, gets rid of his brains to make room for more learning.—*The School Guardian.*

VERY GREAT.—The need of definite religious instruction in our Public Schools is very great. The Bible is the true text-book. It is found in the United States that when the Bible is excluded it means practically the exclusion of religion in any form. Professor Swing, of Chicago, says: "Thirty-three years ago, McGuffey's Reader contained 101 pieces in prose and poetry, thirty-three of which were religious. In his Sixth Reader, published recently, but seventeen of the 138 pieces pertain to religion. . . . The religious sentiment is weakened still further in a recent Fifth Reader, which has only four religious pieces in 100; and in a popular Fourth Reader there is not a religious piece. In an elegant Fifth Reader, of a great publishing house of to-day, five out of ninety chapters are granted to religion."—*The Evangelical Churchman.*

A CANADA WHOSE LOYALTY IS ABOVE SUSPICION OR REPROACH.—The Canadian people are standing, as would appear, at the parting of the ways, and deliberating whether they shall in future pay tribute to the American Republic, or consult their truer interests and duty by remaining staunch in spirit and in letter to their connection with the British Crown. They can see at least the light in which the Mother Country regards the Colonies generally, and the Dominion of Canada in particular. Great pride is taken in their progress. Deep interest is felt in their affairs. The Mother Country has granted them the fullest control over their

own fortunes, and has not reserved to itself even the right of objecting when by their laws and tariffs they inflict what we may deem injustice upon our citizens and impose burdens upon our trade. That does not prevent us from being ready to receive, and even going out of the way to search for, proposals by which the intercourse between the Colonies and the United Kingdom may be made more close and intimate. If the Colonies or their representatives come forward with any feasible plan, it will receive eager and careful consideration; if they propose an "Imperial Customs Union," on a basis approximating to Free Trade, we shall know, as Mr. Goschen says, that they mean business. In the meantime, we can only manifest our goodwill, and hold out our arms; and even this cannot but have a good effect, in Canada and elsewhere. Granting that the proposed Reciprocity will be entertained by the United States, and that its advantages to Canada are what they are described in Opposition speeches—and both these inferences are vehemently denied—no fancied trade benefits could be an adequate justification of abandonment of principle and dereliction of duty. Canadian history for more than a hundred years attests that loyalty to the British Crown and connection is a living and moving power in Canada. In the present struggle the hope and expectation is that it will prove irresistible, even by the influence, real or fancied, of the "almighty dollar." The American party have showed their hand too plainly. Some of their false cards have been turned up on the table. It has been made manifest that their policy, even if it could be shown to be profitable, is none the less mean and pusillanimous. It is yielding to compulsion, threat and bribe what is refused to honourable and generous dealing. From the

"true North," which the Poet-Laureate praised for its tone of Empire and its scorn of such as were ready to cry "So loyal is too costly; loose the bond and go!" we should hardly expect to find approval of politicians who make no account, in their secret bargainings for trade advantages, of the traditions and status of their country, their own pledges, and the rights of other nations dwelling under the same flag. But besides pointing out the road of honour and of loyalty, it will be well that those who are fighting the battle of British as against United States supremacy in the Dominion, should take pains to show that the path of patriotic duty is also the way, in which the most substantial as well as the highest interests of the

Dominion will be best served. This also should not be difficult. The disloyal course, veiled or open, will be the more costly in the end. Commercially and socially, Canada has thriven as rapidly and steadily under the protection of the British flag, and in complete control of its own destinies, as it could have done had it been chained to the car of American politics. Its people should know that they have everything to gain and nothing to lose by strengthening their attachment to the Crown, and drawing closer their commercial and fiscal relations with the United Kingdom. We count, therefore, upon the Dominion elections leaving us a Canada whose loyalty is above suspicion or reproach. *Edinburgh Scotsman.*

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### EDITORIAL NOTES

IN the Report of the Minister of Education, laid on the table of the House of Assembly last month, will be found an able report, on the aims and present state of our Normal Schools, by the Director of Normal Schools. From the Report we publish an extract this month which will repay a careful reading by all our teachers. Dr. McLellan complains of lack of culture in the candidates for teachers' certificates, which arises from want of thoroughness in preparation for the important work of a teacher. Mr. J. J. Tilley, Inspector of County Model Schools, is much dissatisfied with the conditions of these schools and makes practically the same complaint as Dr. McLellan in regard to the hurry that has been for some time so prominent a feature in school work. To these unsatisfactory statements, we must add that we know that the masters in the Normal Schools concur, in these opinions. These gen-

tllemen are competent witnesses. It now becomes the duty of educators in Ontario to find out the causes and apply the proper remedies.

IN the February number of this magazine we referred to some of the methods for the professional training of teachers with special reference to those of our higher schools. Since then, our attention has been directed by a valued correspondent in Montreal to the plan in the sister province for the due performance of this difficult and important provincial work. Our readers will recollect that this arrangement in Quebec is similar to one which we commended to their attention, though at the time of writing we were not aware of its being in operation in Montreal. Our correspondent assures us that this mode of dealing with the question has given much satisfaction to teachers, Normal School and University. The question



is fairly before the country ; let us have all possible information on the subject.

EDUCATION OF TEACHERS.—Referring to the article in our issue of Monday, we are glad to state that arrangements of the kind desired by Dr. Gordy in Ontario are already in operation for the province of Quebec in McGill University and the Provincial Normal School affiliated to it. These arrangements are twofold. First—Teachers in training who have taken the higher diploma of the Normal School may enter the University as undergraduates in arts, and may go on to the intermediate examination, and while pursuing their course have the same privileges as to bursaries, etc., and are under the same obligations with students of the Normal School. On passing the intermediate examination of the University, they may obtain an academy diploma, or at their option may continue for two years longer and on graduating may take a

diploma of the highest grade. Secondly, undergraduates of the faculty of arts, who have not attended the Normal Schools, but who are desirous of becoming teachers, may obtain the highest grade of diploma, and in order to enable them to do so a special course of lectures on pedagogy is provided for them by the Principal of the Normal School, which such undergraduates may attend in the third year of their course, and along with this they are required to take, under the supervision of the Principal of the Normal School, a certain amount of teaching in the Model School, so as to give them practice in the best methods. In these ways provision is made, under regulations of the University and of the Normal School, approved by the Protestant Committee of the Council of Public Instruction for securing highly qualified teachers, both male and female, for the more advanced schools.—*Montreal Gazette, March 24, 1891.*

### TWILIGHT BESIDE THE SEA.

ESTHER M. CHAPMAN.

Twilight beside the sea—  
Alone upon the shore  
I stand and list the waves'  
Subdued and ceaseless roar.  
The sun sinks deeper down  
And o'er the waters vast  
Red glowing streaks of light  
And shadows strange are cast.  
And nearer now my feet  
With billows white and wide,  
Whose strength no man can stay,  
In rolls the mighty tide.  
How many voices speak  
From out the restless foam  
A murmur soft, a laugh,  
A whisper of my home ;  
And then in cadence deep  
The slumber song that oft

Has lulled me into sleep.  
And now a strange old tale  
Told by a neighbour child,  
As comrades crowded round  
To hear its wonders wild.  
I seem a boy again  
Low crouched upon the stair  
Down leading to the street,  
All eager for my share  
Of folk and fairy lore  
While soft the moonlight sheds  
Its light o'er clustering vine  
And fragrant flower heads.

Twilight beside the sea !  
O'er all the world a hush  
Except the voice of waves  
In ceaseless throb and rush—

—*The New Orleans Times-Democrat.*

SCHOOL WORK.

CLASSICS.

J. FLETCHER, B. A., Toronto, M. A., Oxon., Editor

NOTES ON CICERO, IN CAT., III.

§ 22. *Si dicam*.—If I should say. (Brad., 453.)

*Nimum*, etc.—I should be presumptuous and intolerable.

*Mentem voluntatemque*. — Hendiadys. This firm resolve (mind and purpose).

*Ad haec*, etc.—Obtained such strong proof as this. (Brad., 88.)

*Fam vero*.—Then again. Like *Quid vero*, below.

*Ille Allobrogum* to *sic*.—Usually omitted.

*Tanta res*.—Such an important secret.

*Huic audaciae*.—(Abstract for concrete.)

From this audacious crew (dat. after *eruptum*).

Compare the proverb [of late but uncertain origin] : *Quem deus perdere vult, prius dementat*.

*Homines Galli*.—Men of the Gallic race : *i.e.*, of their warlike character.

*Ex civitate*.—Belonging to a community.

*Male pacata*.—Hardly reduced to submission. They had been subdued in 121, but were always inclined to revolt. cf. *Cæsar B.G.*, B. i. 6 : *qui nuper pacati erant*.

*Una*.—Predicative. Is the only nation remaining (referring to Gaul generally). Of course this was before *Cæsar's* wonderful conquest of Gaul (58-50).

*Ultrò*.—Unsolicited (*ultra*, beyond : *i.e.*, beyond what might be expected).

*Patricius*.—Members of the old nobility. They had no distinctive political privileges, as in the older time, except that the title *princeps senatus* (leading man in the senate) was usually limited to them. The new nobility was composed of the descendants of those who had ever held any of the offices of state (*i.e.*, been *quaestor*, *aedile*, *praetor*, or *consul*). They constituted a hereditary oligarchy, preventing anyone, not a member of their body, from being elected to office,

and, as members of senate (holding the *quaestorship* was the qualification of admission), administering the government.

§ 23. *Ad omnia pulvinaria*.—In all the temples : lit. cushions. These were the cushions on which the statues of the gods were laid, two and two, at the banquet (*lectisternium*) which was usually associated with the public thanksgiving (*supplicatio*).

*Togati*, etc.—You have won a victory in the garb of peace under the leadership and command of one also in the garb of peace.

§ 24. *Quas vidistis*.—The struggle between the oligarchic party under Sulla and the democratic party under Marius and Cinna.

*Collegam*.—Cinna.

*Redundavit*.—Zeugma. Was piled . . . and swam with blood.

§ 25. *Quae*—pertinent. That aimed not at the ruin of the country, but at a change of government.

*Uno*.—Intensive (Brad., 529).

*Post hominum memoriam*.—Within the memory of man, since the dawn of history.

*Quale bellum*.—A war such as.

*Barbaria*.—A foreign country, as opposed to Greece or Rome ; an Asiatic despotism.

*Tantum*.—Only so many.

*Infinitas*.—Exterminating.

§ 26. *Mutum*.—That cannot speak ; *tacitum*, that does not.

*Nostrae res*.—What I have done, my reputation.

*Coeli regionibus*.—The quarters of heaven : *i.e.*, north, south, east and west. *Regiio* (*rego*, keep straight) is literally a line : a boundary, a division. Pompey had conquered both in the east and the west.

*Duos cives*.—Pompey and himself.

*Monumentis*.—Of literature, often in the sense of *works*. Tr.—For these high achievements, gentlemen, I seek at your hands no reward of merit, no mark of honour, no monument of glory except the undying remembrance of this day. All my triumphs, all my marks of honour, all my monuments

of glory, all my badges of distinction I wish treasured and laid up in your hearts. No mute or silent statue can give me pleasure, nothing in short which one, even less worthy than myself, can win. My reputation shall be kept fresh in your memories, shall grow upon your lips, shall go down to posterity firmly established in the pages of literature. I see that one and the same period has been set for the existence of this country—and I hope that will be to all time—for the remembrance of my consulship, and for the remembrance of the fact that at one and the same time two men appeared in this state, one of whom fixed the limits of your empire not by the divisions of earth but by the four quarters of heaven, the other of whom preserved from destruction the seat of that empire and its eternal home.

*Exstitisse.*—May depend either on *mémoriam* or on *intellego*.

§ 27. *Fortuna atque condicio.*—Hendiadys. Happy condition.

*Oppressos.*—Crushed.

§ 28. *Ad vitæ fructum.*—As far as the enjoyments of life are concerned.

*In honore vestro.*—In your gift, Lit., in the way of office (usual meaning of honor) from you.

*In gloria virtutis.*—In the glory which true merit wins.

*Altius,* etc.—Any higher distinction to which I can attain.

§ 29. *Illud perficiam,* etc.—This much I will certainly do: I will keep before my eyes and adorn by my private life, the achievements of my consulship.

*Ita,* etc.—In working for the common weal, I will so conduct myself as never to forget my past.

## MODERN LANGUAGES.

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

### EXERCISES IN ENGLISH.

I. Contract into simple sentences.

(a) It was in vain that the chairman strove to maintain order.

(b) He made a great mistake when he refused their offer.

(c) We did not expect that he would be so willing to come.

(d) Unfortunately there was no one present that could tell us.

(e) We put several questions to him but he made no reply.

2. Expand into compound or complex sentences.

(a) Believing the report to be false he paid no attention to it.

(b) He will not be able to finish it in time without some assistance.

(c) Such being the case we may as well go home.

(d) I would not part with it now for twice that amount.

(e) Have you kept a list of the applicants?

3. Change from compound to complex, or *vice versa*.

(a) He asked several of the boys, but none of them seemed to know.

(b) She had only one, and that was too small.

(c) If we don't hurry we shall be late for the train.

(d) As I have not heard from him since I feel rather anxious.

(e) Select one for yourself, and then pass the box to the next boy.

4. Change the principal clauses to subordinate, and *vice versa*.

(a) I worked at it for nearly an hour before I solved it.

(b) He did it by a method that we can not understand.

(c) We must finish this job before we leave.

(d) He acted just as any sensible man would do.

(e) I was standing at the door when the blow was struck.

5. Change the voice of all the finite verbs.

(a) It has never been known to fail.

(b) Did any one mention his name?

(c) Who broke that pane of glass?

(d) They would only make fun of her if she did that.

(e) What does the *Globe* say about the letter he wrote?

6. Substitute equivalent expressions for those italicized.

(a) When he took the reins of government the country was infested with robbers, but he soon found means to extirpate them.

(b) The departed hero was born in an age more fertile of great events than any period of recorded time.

(c) Though he occupied such eminent posts, and fulfilled such august duties, it was not till he died that we realized what a space he filled in the hearts and minds of the English people.

7. Combine the following groups :—

(a) Into a simple sentence : They advanced against the champions. Their spears were levelled. Their ranks were closed. It was a sight to make the bravest shrink.

(b) Into a compound sentence : He disguised himself as a poor merchant. He walked along the street. He dropped a gold coin on the ground. He took care not to lose sight of it.

(c) Into a complex sentence : They reached the market place. The cripple refused to dismount. The horse belonged to him. He needed it most. The cadi would surely adjudge it to him. He made these assertions.

(d) Into a compound complex sentence. The king promised to pardon the surgeon. The surgeon then related the whole matter. He acknowledged his guilt. He had intended to use the fatal lancet. He was about to do so. He read the words engraved on the basin.

8. Break up into a series of short simple sentences :—

On one of those excursions which I was in the habit of making up the river by moonlight I had a rencounter, which, even now, when I am surrounded by kind faces, I cannot recall without a nervous feeling.

9. Change to indirect narrative :—

After glancing around the room to see that all were present, the doctor began : " You will bear with me, I am sure, my young friends, while I explain why I have considered it necessary to invite you to meet me here this evening. I promise to be as brief as I can, but, to make myself clear, I must recall to your minds some facts already known to you."

10. Change to direct narrative : They would all remember that a fortnight before it had been his painful duty to lay before them some facts that came to his knowledge respecting the loss of a purse belonging to one of their number.

11. Write sentences exemplifying :—

(a) The different kinds of co-ordination, copulative, adversative, alternative (disjunctive), causal.

(b) The different relations a noun clause may stand in to the rest of the sentence.

(c) The different grammatical values that an infinitive phrase may have.

12. However despised and degraded on ordinary occasions, the great numbers of the Anglo-Saxons must necessarily render them formidable in the civil commotions which seemed approaching, and it was an obvious point of policy to secure popularity with their leaders.

It was accordingly the Prince's intention, which he for some time maintained, to treat these unwonted guests with a courtesy to which they had been little accustomed. But although no man with less scruple made his ordinary habits and feelings bend to his interest, it was the misfortune of this Prince that his levity and petulance were perpetually breaking out, and undoing all that had been gained by his previous dissimulation.

(a) Write out in full, classify, and give the relation of the first clause.

(b) How is the second paragraph connected with the first ?

(c) Point out the difference in the nature or function of the relative clauses in the second sentence.

(d) Classify and give the relation of the subordinate clauses in the third sentence.

(e) Classify and give the relation of the phrases, " to treat in courtesy," " with less scruple."

(f) Classify and give the relation of the italicized words.

(g) Give the objectives corresponding to *despise*, *number*, *policy*, *courtesy*, *petulance*, *habit*, *scruple*.

(h) Give the noun corresponding to *maintain*, and the verb corresponding to *dissimulation*.

(i) Form all the derivatives you can from *civil*.

(j) Give all the inflected forms of *Prince, break, he*.

(k) Select all the words in the last sentence that are not of native origin.

13. Fill the blanks with the proper prepositions.

(a) His duties often bring him ——— contact with them.

(b) The poor fellow was verging ——— insanity.

(c) Their house is almost surrounded ——— trees.

(d) See that you profit ——— your experience.

(e) He seems to be possessed ——— a good stock of courage.

(f) He accused her ——— copying it from the book.

(g) Yours is not to be compared ——— mine.

(h) Will your mother be angry ——— you?

(i) You will soon feel the need ——— warmer clothing.

(j) It looks very different now ——— what it did before.

14. Point out the difference in the function of the italicized words, phrases, or clauses.

(a) *His* flight was speedily followed by his recapture.

(b) I will make *you* a present, but I cannot make *you* my heir.

(c) Feeling a *little* thirsty I asked a *little* boy to bring me a *little* water.

(d) Your fruit has kept *well*. Has he kept *well* since his return?

(e) The experiment proved a *failure*. He proved the *failure* of the scheme.

(f) The child is not to be *left alone*. He wanted to be *left alone*. It is not safe for him to be *left alone*. He is not fit to be *left alone*. It makes him nervous to be *left alone*.

(g) I think *that all can hear you*. Stand up so *that all can hear you*. I am glad *that all can hear you*.

15. Point out the ambiguity in the following.

(a) Have you forgotten how much you owe him?

(b) Such indications are not to be mistaken.

(c) He acted so as to leave that impression.

(d) His appearance had nothing to do with it.

(e) Most eminent physicians have held this view.

(f) It surprised me to see how little things of this kind affected him.

(g) He made up his mind the next time it happened to report the fact.

(h) We have decided to take ancient history only on Mondays.

(i) He is not to be frightened in that way.

16. Pronounce the following correctly, noting any common mispronunciations: covetous, insidious, grievous, unctuous, presumptuous, allies, deficit, genuine, fertile, towards, shriek, strength.

17. Criticize and improve the following.

(a) It was his purpose, at the same time, to have rendered the experiment as complete as possible.

(b) One part of his dress only remains but it is too remarkable to be suppressed.

(c) His aspect was bent on the ground with an appearance of deep dejection, which might be almost construed into apathy, had not the fire which occasionally sparkled in his red eye manifested, etc.

(d) The fore part of his thighs, where the folds of his mantle permitted them to be seen, were also covered with linked mail.

(e) Even the common people had commiseration with the follies of Prior Aymer.

(f) There was a huge fire place at either end of the hall.

(g) His wealth had but swelled him like a bloated spider, which might be overlooked while he kept in a corner, but would be crushed if it ventured into the light.

## CLASS-ROOM.

### ARITHMETICAL PROBLEMS.

1. How many feet in length must be cut from a 2 in. plank 14 in. wide to reduce its measurement by 7 ft. board measure?

*Ans.* 3 ft.

2. A train 420 yds. long, running 24 mls. per hr., crosses a bridge in 10½

secs. less than 2 mins. How long is the bridge?

*Ans.* 860 yds.

3. A man sells a team of horses for \$245.25, gaining \$4 $\frac{7}{8}$  on one horse, and losing three times as much on the other. If one cost \$15 more than the other, find what the owner paid for each. *Ans.* \$135, \$120.

4. Find the cost of the following bill: 1 pt. syrup at \$0.60 per gal. ; 13 lbs. 8 oz. sugar at 9 lbs. per \$1 ; 20 lbs. rice at \$5.45 per cwt. ; 1 book containing 160 pages of foolscap at \$3.30 per ream. *Ans.* \$2.94.

5. A bin 8 ft. x 8 ft. 3 in. is of such a depth that it can contain an exact number of tons of coal, whether it be soft or hard. Find depth of bin. *Ans.* 7 ft.

6. How many minutes elapsed from 8.35 a.m. 25th of last February to the 27th March at 9.37 p.m. *Ans.* 43,982.

7. A man can do as much work in 9 hrs. as his son can do in 13 hrs. If the daily wages of the father be \$1.25, what should the son demand as his average monthly wages? *Ans.* \$22.50.

8. A buyer upon asking a farmer how much wheat he had in his load was informed that if he had just twice as much on his waggon he would have an exact number of bushels—whether it were wheat, barley, or oats. The buyer pays him 95 cts. per bush. Find the proceeds. *Ans.* \$32.30.

9. If 10 lbs. of flour be the product of 12 lbs. wheat, what should be the price of a barrel of flour if wheat be worth 90 cts. per bush., adding  $\frac{1}{3}$  of prime cost for grinding? *Ans.* \$3.92.

10. On a map drawn on the scale of  $\frac{1}{4}$  in. to a mile, a township is represented by a rectangle  $\frac{3}{4}$  in. x  $1\frac{1}{2}$  in. Suppose this township to be divided into farms of 100 acres

each, worth, on the average, \$2,875. Find its value, reserving  $\frac{1}{2}$  of the territory for roads, etc. *Ans.* \$408,250.

SUGGESTIVE QUESTIONS ON THE GEOGRAPHY OF EUROPE.

1. What remarkable feature have you observed common to the peninsulas of this continent? Explain cause.

2. Name the special causes that affect the climate of Europe, and observe results upon the peoples, productions, industries, etc.

3. Name those countries on the Continent that surpass Great Britain in any respect, and state the respect in which each has the advantage.

4. Make two lists, one containing the former great centres, the other, the modern centres, of the Continent, and explain the causes leading to these changes.

5. Contrast the chief countries on the Continent with respect to the extent of coast line, and make observations upon any results springing therefrom.

6. Identify the great mineral deposits of Europe with their respective countries, naming the characteristic mineral in each.

7. What various ways of classifying the islands of Europe suggest themselves to your mind? and give examples of each.

8. Write a short composition on the "river system" of Europe, adding any particulars to make the account more interesting.

9. Make a list of our various imports from Europe, naming the locality where each is produced.

10. Give instances from the continent of Europe where nature has offered (1) an effectual, (2) an ineffectual barrier, to man's ambition.

## CONTEMPORARY LITERATURE.

THE *Overland* announces for April an illustrated paper on Californian Dairies. "The Old World Judged by the New," by James D. Phelan, will also appear.

AN independent and breezy weekly is the *Saturday Night*. The page that attracts most attention is from the pen of that able writer, "Don." A recent issue contains a critique of Edward Blake's letter. There is no scandal in the society news.

THE *Quiver* for April opens with a breezy paper by Rev. B. G. Johnson, the "Rough Days of March." "A Cordial for Care," and "Light Enough to Get Home," are short and helpful chapters. A new serial, "On Stronger Wings," is begun in this number.

THE *Publisher's Circular* is now issued once a week instead of once a fortnight. The size of the page has been enlarged, which will afford greater facilities for illustrating. The latest issue affords its readers an opportunity of looking at the pleasant faces of great publishers when bent on enjoyment.

THE *Dominion Illustrated* has recently been greatly enlarged and promises a brilliant future under the new management. "A Reverent Pilgrimage" is a series of articles on Old World cities which cannot but afford pleasure. Specially worthy of mention are the illustrations, "Tree in Stanley Park," and "Winter view of St. Hilaire Mountain."

By prize competitions and its own high standard the *Decorator and Furnisher* stimulates the followers of Art. Decorative charts drawn to a scale are being given in the present issues, from which anyone may decorate his home without calling in the services of a professional. The illustrations are, as usual, of great beauty.

"OUR Government," a series of articles running in the *Wide Awake*, is by Hon. John D. Lang, ex-Governor. Besides the unique Pepper story by Margaret Sidney, there are

two other serials of interest. Many short stories of worth will appear during the year. "Drawing the Child Figure" is a paper of practical instruction in art.

THE second paper by Francis Parkman on the "Capture of Louisbourg" appears in the April *Atlantic*. "The House of Martha" is continued by Stockton's master hand. "The Brazen Android," a remarkable story of old London, by W. D. O'Connor, begins in April and will be concluded in May. The number is a specially strong one in poetry as well as prose, poems being published by Scollard, Parsons, Collier and Hayne.

*The Cornell University Register.* 1890-1891.

*Supplement to Catalogue of Pedagogical Library, Philadelphia Public Schools.* Edited by Supt. James MacAlister.

*The Riverside Literature Series.* No. 49. February, 1891. Hans Andersen's stories, newly translated. Part I. (Boston: Houghton, Mifflin & Co.)

*National Music Course.* New Fourth Music Reader. By Mason and Veazie. (Boston: Ginn & Co.)

*Moffat's Perspective.* By Joseph Vaughan, Art Master London School Board. (London: Moffatt & Paige.) 3s. 6d.

*Hygienic Physiology.* By D. F. Lincoln, M.D. (Boston: Ginn & Co.)

*Physical Laboratory Manual and Note-Book.* By Alfred P. Gage, Ph.D. (Boston: Ginn & Co.)

*Riehl's Der Fluch der Schonheit.* Edited by Prof. Thomas, of the University of Michigan. (Boston: Heath & Co.)

*Storm's Immensee.* Edited by Dr. Bernhardt. (Boston: Heath & Co.)

*The Smaller Cambridge Bible for Schools.* The First Book of the Kings. By Prof. J. R. Lumby, D.D. (Cambridge: At the University Press.)

*Pitt Press Series :*

*An Apologie for Poetrie.* By Sir Philip Sidney. Edited by Evelyn S. Shuckburgh, M.A. (Cambridge : At the University Press.)—Mr. Shuckburgh, the Librarian of Emmanuel College, deserves the thanks of all students of Elizabethan literature for his work. The edition of 1595 is the one used here and the text is accompanied by many good notes and a life of the beloved Philip Sidney which is so good that one lays it aside to read over again. Altogether the book is one which may be studied with satisfaction and advantage.

*Moffatt's Edition of Shakespeare's Hamlet.* (London : Moffatt and Paige.)—The editions of the "Plays of Shakespeare" issued by this firm are remarkable for presenting, in small compass, everything needed by the student. We remark, among other good features, useful notes on the "Language of the Play."

*Longmans' Primary School Grammar.* By David Salmon. (New York : Longmans, Green & Co.)

A good Practical Elementary Grammar. The exercises are valuable.

(1) *The Pitt Press Euclid.—I.-IV.* Edited by H. M. Taylor, M.A.

(2) *The Pitt Press Euclid, III. and IV.* (Cambridge : At the University Press.)

(3) *Euclid. III. and IV.* By H. S. Hall, M.A., and F. H. Stevens, M.A. (London : Macmillan & Co., and New York.) 2s.

(4) *The Elements of Euclid. Books I.-III.* By Horace Deighton, M.A. (Cambridge : Deighton, Bell & Co. ; London : George Bell & Sons.)

The general conviction among mathematicians and mathematical teachers especially, that the commonly-used text-books of Euclid are capable of improvement, is practically shown by the appearance of so many new editions. Of these before us the most important is probably that of Mr. Taylor, of Trinity. His work is not a re-translation from the original Greek, but rather a new version of geometry on the basis of Euclid's Elements. We note some changes in the definitions, e.g., "A

figure is a combination of points, lines and surfaces." Mr. Deighton's work, on the contrary, is a re-translation of the original, and the present is a revised edition. The editor has been at special pains to help the student to do Exercises on the Propositions. The edition published by Messrs. Macmillan & Co. is also a good one, and, in common with the others mentioned above, has many excellent features.

*Evidence of a Future Life.* By Professor Luther A. Fox, D.D., of Roanoke College. (Philadelphia : Lutheran Publication Society.)—Dr. Fox's work, which he modestly hopes may "accomplish some good in the world," is an argument drawn from reason and revelation, designed to set forth clearly the evidence of a future life and meet the objections and uncertainties, frequently unexpressed, which cling to the thoughts of many on this subject. The book is valuable and suggestive.

*Hand-Books for Bible Classes and Private Students.*

*Church and State.* By A. T. Innes, Advocate. (Edinburgh : T. and T. Clark.) 3s.

The above-mentioned series of hand-books, edited by Prof. Dods and Dr. Whyte, is a useful one. Thirty-two volumes have now been issued. "Church and State" is the latest of these. Like some preceding volumes of the series it is historical in its character. It traces the connection of "the two most celebrated forms of association in history," from the early Christian to the present time, not, however, going beyond Europe and America. Thus we have instructive chapters on "The Reformation" and some account of the Disruption, the Oxford movement, and the modern Catholic Church, which will repay the attention of the reader.

*Mechanism and Personality.* By Prof. F. A. Shoup, D.D. (Boston : Ginn & Co.)—One of the constant surprises about the making of many books is that so good a *raison d'être* can be given for the writing of almost all.

Dr. Shoup's work is an attempt to give an outline of philosophy in the light of the latest scientific research. It is well done.



*College Series of Latin Authors, Livy Books I. and II.* \$1.35. Edited by J. B. Greenough. (Boston: Ginn & Co.)—Another well-edited and well-printed volume of this series.

*Lessons in Astronomy.* By Prof. Young. \$1.30 (Boston: Ginn & Co.)—A simpler and more elementary work on astronomy than the larger work by the same author, well adapted for use in schools.

*A Primer of Ethics.* By Benjamin B. Comegys. 50c. (Boston: Ginn & Co.) This is a step in the right direction. The lessons are based on Jacob Abbott's "Code of Morals," and may help us "to get back a little reverence in place of the growing bumptiousness and smartness," as Charles Dudley Warner says. It would be something to have lessons learned at school about truth, honesty, industry, obedience and other virtues. If the author had permitted himself to refer to Scriptural stories instead of the little anecdotes he gives, this would have been a better book.

VICK'S Floral Guide for 1891 has just been published, and is full of information for all who wish to know about flowers and vegetables.

FROM MESSRS. MACMILLAN & CO.

*Elementary Classics:*

*Xenophon. Anabasis III.* Edited by the Rev. G. H. Hall, M.A.

*English Classics:*

*Shakespeare. Hamlet.* Edited by K. Deighton. 2s. 6d.

*Scott's Lay of the Last Minstrel. Cantos, IV.-VI.* Edited by Prof. Stuart and Prof. Elliot. 1s. 3d.

*Shakespeare. Coriolanus.* Edited by K. Deighton.

*English Men of Action: Warwick the Kingmaker.* By Charles W. Oman. 2s. 6d.

*Chronological Outline of English Literature.* By Frederick Ryland, M.A. 6s.

*Arithmetic for Schools.* By the Rev. J. B. Lock. Edited by Prof. Charlotte A. Scott.

The latest issue of the *Elementary Classics* is even better than the high average of the

other numbers. It is intended for more advanced students, and contains introductory essays on "The 'Deserted Cities' of Mesopotamia," "The Great Monarchies of the East," "The Greek Mercenaries of Cyrus," etc., which, along with the Notes, Maps, etc., furnish all that a student needs. There is an index to the Notes.

*Hamlet, Coriolanus, and the Lay of the Last Minstrel* are important additions to the English Classics. Mr. Deighton's Shakespeare work shows diligent study and appreciation of a student's difficulties. These texts are, as we have frequently said before, very serviceable and altogether suitable for the upper classes of secondary schools.

Four hundred years and more have passed since the death of the King-maker, yet he has never found a biographer till now, except in "The Last of the Barons." Warwick was a strong man who lived in troublous times, and who was marked out as a leader, alike by birth and talents. Mr. Oman has availed himself of original documents and has given us a historical biography of permanent value of a man whom his friends called "a very noble knight, the flower of manhood," but who "was doomed to spend in the cause of a faction the abilities that were meant to benefit a whole nation."

A comprehensive tabular summary of English Literature, comprising (1) a list of works arranged chronologically under dates from 600 to 1889 A.D., with contemporary English biographical dates, corresponding events in foreign literature and general history and short explanatory annotations; (2) a list of authors, arranged alphabetically, and the chief works of each, with dates. The book is well arranged and complete: it will, doubtless, save much time and trouble for those who use it as a book of reference.

Mr. Lock's works are model mathematical text-books, and his arithmetic, at once simple, scientific, accurate, logical in arrangement, and full of good questions, is one of the best-known of these. An American edition is now issued, adapted for use in Canadian or American Schools.