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GLADSTONE AND HUXLEY ON GENESIS.

BY PROF. N. BURWASH, S.T.D.

IN the midst of his arduous political labors, Mr. Gladstone turns to Biblical studies for a refreshing intellectual change. His recent article on the harmony of Genesis with science, if not quite up to Mr. Huxley's latest table of facts in paleontology, and perhaps not quite abreast of the latest critical interpretation of Genesis, is at least marked by a magnificent faith in the unity of all truth, and by a sympathetic insight, which grasps broad general truth more clearly than is possible to the microscopic investigator of individual facts. The shepherd from the hilltop may make a generalization of the features of the landscape somewhat at variance with the details observed by a ploughman who is laboriously turning over his furrows in the valley below. But his general assertion that the field is a low lying valley will be accepted as true, notwithstanding the fact that the ploughman has discovered in it one or two slight knolls. Such is very much the character of the objection which Mr. Huxley makes to Mr. Gladstone's harmony. He thinks that Genesis must be written down as contradicting geology because some reptilian land animals appear before the birds.

Professor Drummond, in a recent number of the *Nineteenth Century*, has undertaken to correct both scientist and theologian on the basis of the modern Old Testament criticism. While sympathizing in part with what he says, and fully acknowledging that Mr Huxley can be put completely out of court, and

the position of Mr. Gladstone vastly strengthened, by a recognition of more critical methods of Biblical study, we think that Professor Drummond's method of using the modern criticism loses sight entirely of some fundamental truths which the grand old man of faith and antiquated theology sees with magnificent distinctness.

Professor Drummond's interpretation of the first chapter of Genesis finds in it, viewed from the side of science, nothing more than a myth. He maintains, indeed, that this myth teaches divine truth of religion in a poetic form suited to the world's infancy. But while poetically true it is, as science, utterly without value. Of course, with such an interpretation Mr. Huxley can have no quarrel. But in spite of our respect for Mr. Huxley's science and Professor Drummond's modern theology, we cannot but think that Mr. Gladstone's faith has apprehended more truth than either of the others.

In the present triangular form of the discussion two grave questions are started with regard to that most remarkable ancient document presented to us in Genesis i. 1 ; ii. 3.

First,—Does the author of this document at all deal with the natural facts of cosmogony ?

Second,—If so, has he reached any abiding basis of great general truths ?

We are disposed with Mr. Gladstone, in opposition to the two great professors, to maintain the affirmative of both these questions.

We waive for the present the question of the age of the document, and of the history of its appearance in its present place and form. All admit that in its present form it is not later than the time of Ezra, and that certain fundamental outlines of it were known to Zoroaster, to the Etruscans, and to the Babylonians before the time of Moses. We readily acknowledge with Professor Drummond that the document in every form in which we meet it is essentially the product of the religious spirit. We will with him lay aside all theories of vision and other mechanical means by which it is supposed to

be communicated to the mind of man in a merely external form. We are more and more persuaded that in every age the Spirit of God has wrought from within, quickening and strengthening the spiritual powers for the apprehension of all natural and supernatural facts in which God has revealed Himself to man. This we conceive to be the one grand truth taught by the modern theology. We may even admit a development, an expanding growth, in the history of this wonderful document; and that successive men of God, returning to the contemplation of this fascinating theme, and building upon that which had been revealed to the fathers and handed down to them, under the quickening influence of the Spirit of God attained to a clearer vision and a more perfect expression of the great truths therein contained. But, granting all this, the question still remains, Did the profound religious—nay, Divine Spirit, under whose influence this man or these men meditated this theme, give them no sympathetic insight into nature? Were they blind to everything but the barely religious relations of cosmogony? and, Does the simple statement that “God made all things very good” contain the sum total of truth which they apprehended? Is all else a mere rhetorical or poetical expansion? We think not. We believe that in every age the deeply contemplative mind has reached every form of truth, even some of the most magnificent scientific generalizations, by methods far more direct than either the organon of Aristotle or that of Bacon. Even Prof. Huxley would not refuse to recognize an example of this kind in the theory of Democritus, so brilliantly expounded in the poem of Lucretius. Our position is, that in every age the mind of man in its very highest spiritual estate, by a God-given instinct, grasps truths which to ordinary apprehension are only reached and demonstrated by slowly laborious processes of deduction or induction. If this be so, is it incredible that God should have given some of the holiest and most devout minds to see beforehand truths which it has taken the world’s science millenniums to demonstrate? Is there anything monstrously

unnatural in this? We think not. It is very true that truths of nature thus reached will not be in scientific form. They will be broad general conceptions, not detailed categorical statements. It is just such deep sympathetic insight into natural truth and such broad general conceptions that we find in the first of Genesis. And they are so numerous and so remarkable in their character as abundantly to justify the faith of Mr. Gladstone, that their author was moved to understand them by the Spirit of the God of nature. The conceptions of the origin of nature which we find in the first of Genesis, in marked harmony with our modern science, are such as the following:—

(1) There is a clear conception of progress from the rudimentary to the perfect form. Certainly so says science.

(2) It presents the rudimentary world form as fluid, water or nebula; the Hebrew terms imply either. So says science.

(3) It presents light, *aor*, the flowing ray of light and heat, as the first step, the basis, of all cosmical progress. Surely so says science.

(4) It finds the beginning of the effect, light, heat in the differentiation of the atmosphere, thus calling to work the *great fundamental dynamic of geological progress*.

(5) It next builds continent and outline of land and sea under the power of this dynamic.

(6) It brings out of the inorganic earth, first, the organic vegetable world. Here ends the first creation cycle, the first triad of days, the foundation of which is light.

(7) The foundation of the second triad is also in light, but in its definite form, the object and means of vision—sun, moon and stars, alternate day and night, fitted for animate life. If this conception of the luminary, as the fundamental prerequisite of sentient life, is outside the field of geology, it is certainly none the less a great natural truth.

(8) Next comes the grand, true, and not unnatural conception that the world of waters, the ocean, is the great mother of life, which next rises into the air and is finally perfected upon the

land. Could any conception be more true to the teaching of modern science?

(9) Last of all comes man, the climax of creation. Does not science admit this?

(10) There are three words used throughout this document, each one of which indicates a wonderfully broad grasp of natural truth. The first is the little word *ken*, "it was so," after each new stage of creation, marking the establishment at every step of permanent law. The second is the use of the Hiphil, "God said, Let the earth cause to be green," etc. Here is the recognition of second causes. The third is *min*, type or kind. Here is the historic fixity of the great forms of life when once they are brought forth. These generalizations are certainly well supported by science.

These great truths, so true to science because true to nature, lie, it seems to me, sufficiently near to the surface of nature to be not unnaturally beyond the reach of the human spirit raised to its highest energy of contemplative insight by a Divine inspiration. This inspiration is primarily religious, it is true, but yet quickening the whole nature of the man to whom it is given, and making him sympathetically sensitive to every form of truth in nature, or in history, or in inward consciousness. It is supernatural but not unnatural, and yet they are sufficiently deep to be, in that age, beyond the reach of anything less than a *God-given* energy of contemplative insight. They therefore fully justify the faith that they are, not indeed a mechanical, but a spiritual revelation from God. But what, you say, of the six days, the speaking and other anthropomorphisms? Our answer is, these all belong to the religious teaching of the document. The three great truths of a personal God, a Divine Word, and a universal Sabbath law, are embodied in this form of grouping and presenting the creative work. We need no more look for six geological periods to correspond to the six days than we need to inquire in what language the Word was spoken, or whether God saw with a human eye. The man who seeks a merely literal harmony here is in danger of missing the

deeper spirit in his too narrow conception of the outward form. All parties in the present controversy have, we think, read the document too much in the light of a literal supernatural history of creation. It presents itself to us rather as a Divinely inspired meditation upon the origin of the universe, grasping, by instinctive sympathy with nature, great natural truths, and so grouping and presenting them in poetic form as to teach the great fundamental principles of religion—the Divine dignity of human nature, the Divine law of Sabbath rest and worship, the Divine institution of the unity of the family, and the Divine obligation to the essential basis of all civilization in the law of labor.

ADDRESS BY THE PRESIDENT OF THE SCIENCE ASSOCIATION.

[On the afternoon of May 11th, the large lecture room of Faraday Hall was crowded to the doors, on the occasion of the delivery of the following address by C. A. Masten, B.A., the retiring President of the V. P. Science Association. The chair was occupied by Principal Mills, of the Ontario Agricultural College. The address, which occupied nearly an hour, was listened to with great attention to the end.]

COLLEGE EDUCATION AND SOCIAL SCIENCE.

APPEARING before you on the present occasion as the representative of the Science Association at the Convocation of our University, no apology or explanation is needed for bringing to your attention a subject at once scientific and academic—"College Education, and Social Science as a department thereof." Neither this title, however, nor that before announced, conveys an accurate idea of my subject. What I really propose is, from a student's standpoint and with the experience of student life fresh in my mind, to present to fellow-students some thoughts which that experience has suggested.

First,—Regarding the educational forces other than classroom training which surround the student at college, and the importance of these forces.

Second,—Regarding the scope and aim of the ideal university as it appears to me.

And *lastly*, to discuss the particular advantages, under all the present circumstances, which would accrue from the introduction into our college curriculum of a properly equipped department wherein would be taught political economy, constitutional history, jurisprudence, the science of legislation, political ethics and sociology generally; by which latter term I intend to include certain subjects such as the social effect of strikes, of temperance and sumptuary laws, of schemes of public charity, and of other analogous subjects of current thought, which are not properly speaking juridical, economic or historical; and I shall attempt to show the desirability of introducing such a department by referring, first, to the opportunities which, abstractly, these subjects present for disciplining the human mind; second, to the importance of the knowledge they offer; and lastly, to the advantages they afford as a means of liberal education to particular classes of men, especially lawyers, ministers and statesmen.

To the earnest student engrossed in the struggle of college life it must be profitable sometimes to pause a moment and take some large and comprehensive view of the true objects which he has before him, to consider the questions of the why and how of college life—how to study, what to study, and what to do besides, during his university course. In this spirit I propose, then, to consider the first question I have mentioned—what educating influences other than class-room training surround the student at college, and what is the essential of college training.

In the opening remarks of the very able address delivered before this Association by the acting-President, Mr. Elliott, he says:—

“Education includes whatever we do for ourselves and whatever others do for us, for the express purpose of bringing us somewhat nearer to the perfection of our complex nature. But it does more. In its widest acceptance it comprehends the indirect effects produced on our faculties and characters by

things of which the direct purposes are quite different. In a word, it comprehends whatever tends directly or indirectly to develop the greatest possible capacity in both thought and action." Let me emphasize—thought and action—not knowledge. That's where too many students fail. They read, they mark, they learn, but they do not inwardly digest. They acquire knowledge, but they come out intellectual slop-barrels. Useless pieces of mental bric-a-brac. Men to whom Lowell's description well applies,—

"They run bunt up agin a fact,
And go to pieces when they orter act."

An encyclopædia is not an educated man. That man only is truly educated all of whose powers are systematically and symmetrically developed; whose reason proceeds from premise to conclusion with the unerring accuracy of a calculating machine; whose body is trained to be the ready and reliable servant of his mind; whose emotions and passions beat strongly in sympathy with whatever is pure and true and good in human life, and over all whose faculties there presides, firm and strong, capable of guiding and controlling the whole man, a trained will.

Now, essentially, university training is concerned not with the education of the body, the social or moral faculties, or the will, but purely and simply with the education of the mind.

You can readily conceive of a university where the students never take exercise, where no opportunity is offered for social development or moral improvement, and where men become simply book-worms, without any force, originality or will of their own—and yet it might, for a time at least, be a university famous for learning. But you would probably find difficulty in applying the term university to a great rowing or cricket club, or to a Young Men's Christian Association—no, the training of the mind is the essential feature of college education; yet failure must await that university where mentalism is the beginning and the end.

It has been in apprehending and supplying the need for physical, social, moral and religious development, along beside

the mental development of the class-room, that Victoria has in the past shown exceptional sagacity.

[The speaker, after enlarging upon the importance of physical and social training, and of moral and religious development, proceeded to speak of the influence of the work in the college societies in developing the individuality of a student.]

But there is another direction in which the college has clearly apprehended a need of student life and has sought to supply that need. Physical training, social culture, moral and religious development,—these are not all, for with all these the man may be as passive as a block of marble, and all that I have mentioned may be but so many processes working upon that marble, which, carved thereby into the most beautiful statue that was ever seen, is but a marble statue still. Of which Tennyson's lines are the most accurate description—

“ Faultily faultless, icily regular, splendidly null.”

To become educated towards the ideals which I have endeavored to set out requires more than all this. It requires that the student should energize (if I may use the expression), should exert will-power, thought and action, and should undergo the training of experience and failure.

Something positive is required on the part of the educated—not a mere polishing off. How to accomplish this object; how to develop safely and satisfactorily the student's individuality, originality, and will-power, is a most difficult question. At an age when interference is most difficult, and yet when isolation from counsel is dangerous, students must have some mode of developing their own force and their own characteristics. They must have some sphere in which they act alone, unfettered and untrammelled by the immediate oversight of professors and faculty; where each can exercise his own individuality; where they can act and re-act on each other; and where, in a word, they can study not books, but men. The history of every college shows that this need will be satisfied in some form or another, and I think that nowhere has our college exhibited a wiser policy than in directing, at Victoria, this force to the formation of our academic social and debat-

ing clubs. The old Literary Society—elder sister of us all—has a history of which both its own members, the alumni, and the college authorities may well be proud. When we hear of their debates and doings in the old times we feel that verily there were giants in the earth in those days. And the attainments of its present members vouch for the continued efficiency of its training,

The Jackson Society provides a schooling of the first importance to those who intend to enter the ministry of our Church.

As regards the Science Society, I said a moment ago that I scarcely know to which of several factors I should attribute the chief share of the education I received at Cobourg, but if I were compelled to give an answer I must say that I think it would needs be in favor of the development directly and indirectly imparted to me by the V. P. Science Association.

College societies, then, are most useful so long as they are devoted to legitimate objects—objects of which the chief, as I have endeavored to point out, is the development of each man's own individuality, and of his powers of independent thought and action. To these are, of course, to be added cultivation in argument, and the promotion of social intercourse and good-feeling, and the development of friendships among students. These are all good.

But I speak as much to the members of the Science Association as to the members of other societies, when I say that it is an injury to your societies, an injury to yourselves, and an injury to our loved institution, when rivalry between you is permitted to carry you outside of the objects I have mentioned, to override your good feeling and sound judgment, and to hurry you into the field of personal animosity and recrimination. It has been my privilege in the past few years to discuss these things with men from various societies, and I speak not alone from my own experience when I say that you may rest assured of this—Your grounds of difference will, in a very short time after you leave here, appear to you much smaller than they do now, and you will regret nothing more than any estrangement that may, through ill-advised acrimony here,

separate you in future life from those who, in the nature of things, are your best friends. The opportunities you have of making good friends in this world are too limited for you to throw away two-thirds of those opportunities while you are at college. By all means let every student esteem his own society the best; let each society emulate the others in seeking to improve its members and perfect its organization, but remember that the advantages which you derive from your own society will never be lessened by treating with all proper respect and courtesy the members of every other society which exists at the college. Let each strive to get for itself the best men, but don't, don't let these things interfere with your personal friendships. Remember that one of the great lessons for you to learn is toleration. Let your rivalry be a noble rivalry. Don't hit below the belt. Fight, but fight chivalrously like the knights of old, as gentlemen and Christians, so that when you leave these walls you may never stand in any other relation than that of brothers, alumni of one Alma Mater, sons of "Old Vic."

Second, of social science as a department of college education. In the ideal university a man should be able to obtain instruction in all forms of knowledge, and discipline in the use of all the methods by which knowledge is obtained. The forms of knowledge are three; first, the knowledge of the conditions under which the human mind can operate and the limit of its powers; second, knowledge of the true end for which its powers are to be exercised; and, third, knowledge of the *objects* upon which its powers are to be exercised.

Assuming, then, that some knowledge, and that not inconsiderable, of the first two forms of knowledge—that is, of logic, metaphysics, moral and religious philosophy—is necessary for any one who would possess a liberal education, I shall out of the third form of knowledge which I have mentioned, viz., the knowledge of the phenomena of the universe as that which lies about the individual man, endeavor to distinguish one class of phenomena which to my mind is not of less importance than any other, and yet has not, in the colleges and universities of

our country, at least, received any recognition proportionate to its importance in the thought and activity of the age—I mean social science.

When we study the history of universities, and consider the forms of knowledge which at successive periods have chiefly engrossed university attention, we find this rule—that in proportion as a subject assumes prominence in the thought of the age outside the schools, in just such proportion does it, *after some delay*, take prominence in the curricula of the schools. This is true of the scholastic philosophy, for to it the great ancient universities largely owe their birth. This is true of the great revival of that classical learning which so long formed the chief foundation of college curricula. It did not begin in the schools—neither did the great development, in later times, of physical science, or the recent revival in the study of English classics. These all first assumed prominence in thought outside the university, and were afterwards there adopted.

At the present time, if one may judge from the signs that lie about him, it would appear that the department of social science is reaching such a prominence in thought outside of universities, that its introduction as a subject of study into their walls cannot be much longer delayed. In the widespread and general interest which is being taken in the economic problems of the age, in strikes, trades unions and tariffs, in the history of our political institutions, in the history of our laws, in the codification of the laws, in all current political events and social questions, and in the wideness with which these questions are discussed, from their practical, their scientific, their philosophical aspects, one sees the forerunner of the introduction into the college curriculum, whether rightly or wrongly I do not say, at any rate the introduction of a department of social science; and, looking at the matter from a simple business standpoint, I have no doubt that whatever institution in Ontario first supplies this want by founding and maintaining a properly equipped department of social science, will make a tremendous advance, and will attract to itself a large body of students. It is what is required.

I remarked a short time ago that the object of university education was, in the first place, to afford a man instruction in all forms of knowledge and a discipline in the use of all methods by which knowledge is obtained ; and, in the second place, to equip him with a fund of such knowledge as will be most valuable to him in his future course. In other words, the object of the university is to impart : First, discipline ; secondly, knowledge.

If then a department of social science, embracing, as I have said, political economy, jurisprudence, the science of legislation, the history of our constitution, early institutions and ancient law, affords an adequate means of discipline for the mind of the student and, at the same time, endows him with a fund of ideas regarding those subjects and phenomena of the external world which are destined to come most closely in contact with the line of life which he is to pursue, then I say that the introduction of such a subject into the college curriculum will be most advantageous to those students whom choice or necessity leads into such a line of life.

How then are the subjects which I have mentioned adapted as a means of disciplining the mind of the student? Does social science as a branch of human learning contain in itself the elements necessary for providing a good education? Does its study tend to enlarge and enrich the mind and at the same time develop its powers? For if it answers these two conditions, of furnishing wide and varied resources of thought, and of quickening and developing the powers of the mind, it satisfies the fundamental requisites of a good education. So far as the subjects embraced are legal, we need only call to mind what law is, and mention a few of the matters to which it relates, to show how far-reaching are its subjects of thought, how great are its stores, how full of profound human interest and concern are the questions with which it deals. It springs from one of the strongest instincts of the soul, the love of justice. As distinguished from physical sciences, which relate to phenomena of nature, law relates to actions of men : it regu-

lates all concerns of man as a social being—his rights, his duties, his capacities, and his incapacities in regard to persons and to things. It is not a thing of the day or the product of any one age. It has gone on with the social development of the people; it cannot be read without a reference to the past to explain a conception or to interpret a rule, and so in the proper study of the law, history comes in as a prominent factor, the history, in fact, of a nation's civilization. Let us take as an instance the law relating to the tenure of land in England. What a light it throws on the structure of society at every epoch! It introduces us almost at once to that remarkable institution which, for something like a thousand years, formed the framework of society and government in Europe—the Feudal System.

And the sources of interest and instruction are further widened when we enter upon the law of archaic times. In this field, opened by Sir Henry Maine in his "Ancient Law," we become acquainted with the ideas that prevailed in the earliest stages of historic man. The field becomes more important and still richer in results, when in his "Early History of Institutions" the comparative method of investigation yields lessons adapted to the present time. When he calls attention to the fact of the political ideas of a race, and its ideas of property also, being bound up with the notions of family interdependency, of collective ownership, and of natural subjection to patriarchal rule, law lends a lesson of profound importance to the statesman and legislator. So much for the character of the ideas; now, how is it adapted to train the reason?

In his essay on "The Uses of the Study of Jurisprudence," Mr. Austin considers that the study of the rationale of law was as well, or nearly as well, fitted as that of mathematics to exercise the mind to the mere process of deduction from given hypotheses, and he cites the opinion of so great an authority as Leibnitz in his support. And with regard to an accurate and ready perception of analogies and processes of inference founded upon analogy, the study of law, if rationally pursued, was, in Mr. Austin's opinion, superior to mathematics, or any of the physical sciences in which mathematics are extensively appli-

cable. For example, the process of analogical inference in the application of law; the process of analogical consequences from existing law, by which process much of law is built; analogical inferences with reference to the consideration of the evidence upon which it is built; the principles of judicial evidence, with the judgments formed upon evidence in the course of practice,—all these show that no study can so form the mind to reason justly and readily from analogy as that of law. And accordingly, he says, it is a matter of common remark that lawyers are the best judges of evidence with regard to facts of matter or existence.

Take again the subject of Political Economy. In the closeness of analysis and severity of method with which Adam Smith and, at a subsequent time, Mr. Mill have, in their classic treatises on this subject, presented an elucidation of its laws, the student has perhaps the best possible example of the application of a practical logic to subjects which must be interesting to every citizen, and to ideas of so general a character and of so important a sweep as to demand the strongest exercise of his thought and reason. And as to the phenomena which it brings to the student's attention, they embody truths of the greatest interest and of the greatest importance: The relative parts of land, labor and capital, in the production of wealth; the relation of the landlord to the tenant, of the capitalist to the laborer; of the true relation of wages to capital; of the causes which induce strikes; of the various schemes which have been proposed for avoiding them; of the socialistic schemes for the nationalization of land; of the effect which the doctrines of socialism would have upon private property; of the effect of poor laws and other charitable institutions upon the social progress of the community; of the various schemes of taxation. All of these, and other subjects equally interesting, are treated by the political economist, and surely must afford to the student one of the best means of enlarging and enriching his mind at the same time that he develops his reasoning powers.

We have thus, I think, shown that the branches which I have mentioned as proper to be introduced as a separate department

of social science are eminently well fitted at once to train and develop the powers of the student and to furnish him with a fund of ideas of the utmost importance, considered in themselves.

But it is in the training which it would afford to students whose ultimate profession was to be that of the law that a course of social science would prove most useful.

Let me endeavor to describe to you for one moment the position in which a law student at the present time finds himself. I mean the average law student who goes through a university course. He goes to the university with no very distinct idea of the subjects that will occupy his attention when he ultimately reaches his profession. He finds there, if he is ambitious, that there lies before him the opportunity of distinguishing himself in classics, mathematics, in science, in modern languages, or in metaphysics. To such one of those departments as he finds most congenial to his tastes he devotes his special attention, and at the end of four years receives his degree, with honors, and goes forth with a full knowledge, according to the latest theory, of the best means of blow-pipe analysis, or of the last developments in the method of the calculus, of the rules by which the placing of the accent on the anti-penult is governed, or of the latest and most approved theory of morals. He is then, at the end of his course, transplanted to a field of entirely new conceptions, and he devotes himself to a technical course, gathering ideas, in the best way he can, the principles of English law from the disjointed, disconnected, ill-assorted materials which are, as it were, thrown at his head. Or, rather, he devotes some part of his time to this task, and a much greater part to the acquirement of practical routine; to learning the whims and foibles of the law officers with whom it is his duty to transact business; of the quips and quirks of the profession; of the *modus operandi*. And he enters his profession not knowing in what way the conception of law in its technical sense is related to other conceptions of law; what are the essential elements of law, analytically considered; what are its subdivisions; how English law has developed into its present form; what are the

sources from whence the law is derived; what part it plays in the development and maintenance of the social relations of the age, and what part it has played in that development in the past; and how it is related to the kindred branches of ethics, of political economy, and of metaphysics.

His condition is well expressed by Sir William Blackstone, in his opening lecture, as follows: "A lawyer thus educated to the Bar, in subservience to attorneys and solicitors, will find he has begun at the wrong end. If practice be the whole that he is taught, practice must also be all that he will ever know. If he be uninstructed in the elements and first principles upon which the rule of practice is founded, the least variation from established precedents will totally distract and bewilder him. *Ita lex scripta est* is the utmost his knowledge will arrive at. He must never aspire to form, and seldom expect to comprehend, any arguments drawn *a priori* from the spirit of the laws and natural conditions of justice."

In this respect, both in this country and elsewhere, the law student is at a disadvantage compared with the student of any other profession. The student of medicine and surgery can resort to schools where he can be thoroughly instructed in all the principal branches of his profession, while the student of law enjoys few opportunities of acquiring anything more than he is able to obtain by reading in a lawyer's office. This furnishes very imperfect means either of rendering him a sound, well-read lawyer, a ready or correct practitioner, or a fluent and effective speaker. He usually commences with few, if any, general directions as to his course of reading, and, having no previous ideas with reference to legal principles, he reads with very little benefit. He has no landmarks to guide him; no fixed points to which he can refer and around which he can arrange his acquisitions. The peculiar, indeterminate, inaccurate, disconnected, unscientific character of English law renders such a course yet more necessary, for it is like a material structure erected upon no settled plan; begun in a remote age; put up bit by bit, here a little and there a little; a wing at one time, a porch at another;

here a tower and there a steeple ; a roof raised a storey in one place and lowered a storey in another ; the materials of brick, of wood, of stone, by turns, and built by workmen of every century. If a student is to acquire a knowledge of such a structure it can only be by first obtaining some general knowledge of the main points here and there throughout it to which he can refer. To fix a certain series of principles to serve as what the French, taking an expression from the builder's business, call "*points de repaire* ;" points which stand as so many natural centres, and by returning to which we can always find our way again if we are embarrassed ; afterwards to mark out a number of illustrative and representative cases connecting themselves with each of those *points de repaire* ;—To impart to the student this general idea ; to fasten in his mind these *points de repaire* ; to show him the main passages and entrances to this marvellous superstructure, and to give him a bird's-eye view of its appearance, is what I have endeavored to point out as the true duty of the ideal university to the law student. By this means he would be enabled to enter upon his professional training with firm grasp of the elementary ideas connected with it, which would enable his progress in it to be at once scientific, accurate, easy and pleasant. On this subject Mr. Austin says : "To the student who begins the study of the English law without some previous knowledge of the rationale of law in general, it naturally appears an assemblage of arbitrary and unconnected rules ; but if he approached it with a well-grounded knowledge of the general principles of jurisprudence, and with the map of a body of the law distinctly impressed upon his mind, he might obtain a clear conception of it (as a systematic or organic whole) with comparative ease and rapidity. With comparative ease and rapidity he might perceive the various relations of its various parts ; the dependence of its minuter rules on its general principles ; and the subordination of such of these principles as are less general or extensive to such of them as are more general and more thorough in the whole of its structure.

"In short, the preliminary study of the general principles of

jurisprudence, and the mental habits which the study of them tends to engender, would enable him to acquire the principles of English jurisprudence, in particular, far more speedily and accurately than he possibly could have acquired them in case he had begun the study of them without the preparative discipline."

But, it may be said, if such training is desired let the man who requires it take the course already provided. Let him take the LL.B. course and then pursue his technical training. No doubt such a course would be proper and highly desirable if there was no limitation to the time at a student's disposal. As the song runs,

" If a man could be sure that his life would endure
For the space of a thousand long years,"

he might do a number of things not practicable under the present conditions. Methuselah might with much propriety have taken half a century to get his doctor's degree, and might very fairly have been required to pass an examination upon the contents of the British Museum before commencing to practice law as a promising young fellow of two hundred or thereabouts. But we haven't time.

The distinguishing characteristic of this age is that it is utilitarian. Of culture for itself, pure and simple, the world has ever been impatient, and at no time has it been more impatient than at the present. Its language is, "Be of some use to me or away with you." It is this spirit which is continually leading men to say, "What are the practical advantages to you, as a lawyer, of a university course?" and it must be confessed that, viewed in this aspect, the study of Greek particles, of the calculus, of the angles of crystals, is of minor importance to the man whose ultimate object is the study of the law, and might well, to some extent, have social science substituted for them.

By general training such a man is merely exercising (with reference to his calling) the mental powers. By a training in social science he is at once exercising the mental powers and making the very acquisitions without which he is not fit to exercise his calling. If I want to go to Toronto on foot I may

acquire the swiftness and endurance which would help me to my goal by preparatory walks on the road to Grafton. But by setting out at the commencement for Toronto, I am at once acquiring swiftness and endurance and making a progress (during the acquisition) to the point which I am specially aiming to reach.

Now, regarding theological students, it often happens that they go from a strictly scholastic life to their ministerial duties without passing through much practical contact with men and things, and the result too often is the formation of a character much swayed by theory, and by unpractical and sentimental views. They too often lack a clear, well-defined, dispassionate perception of the many phases of justice, of right and wrong, that arise in the social intercourse of men, and in the kindness of their hearts their motto often is, "Be generous first and just afterwards," rather than "*Fiat justitia, ruat cœlum.*" To such tendencies the study of our law, with its clearly defined rules of right and justice—rough sometimes, but firm, true, accurate, the product of the vigorous and unshackled common sense of thirty generations of English judges, upon practical issues, forged from the heat of conflicting interests—affords the best possible antidote.

But as regards the study of social reforms, the theological student more than any other professional man needs to have a training in social science. In all the great movements of modern social reform ministers are either leaders or prominent assistants. Take as an example the great Scott Act agitation that has been sweeping over this country. The great leaders in that movement are the pastors of the Evangelical churches. And not alone in temperance, but in public charities, in the mediation between various social classes, in the direction of philanthropic movements, the community is looking more and more for direction to its ministers. It looks to them as men who are not wholly absorbed in their own personal affairs and have leisure for public spirit; or rather, it looks to them as men who regard it as part of their personal business to serve the largest interests of their fellow-men. "The Church is called to an ethical revival,

and the new interest of the community in social reforms is the peculiar and God-given opportunity for the profession of the ministry. This leadership, however, to which the ministry is thus providentially called cannot be accepted without preparation. Most persons would agree that no adviser concerning the problems of social duty was so safe or unselfish as a thoroughly wise minister, but most persons would also agree that ministers, as a class, are very easily misled by false political economy, sentimental philanthropy and impracticable views of life. The ministry will then simply miss its great modern opportunity, if the schools wherein the ministers are trained do not undertake the study of the principles of social science."

But again, the university owes it to the state to prepare and send forth a body of men trained in the principles of statecraft. It has been a reproach to politics in this country that they were so conducted that men of refinement and culture would not enter them, and of universities, that they turned out men useless in the state; and the reproaches on both sides have had too much of truth in them. Politics has not been a field on which men of culture and sensitive refinement could enter with much pleasure, and men from the schools have been too unpractical to serve their country politically. They were as men who had kissed the fairy queen, and wandering with her amid the dim loveliness of an enchanted land, cared not to return to the familiar scenes of home and fatherland, though they lay but at arm's length overhead.

But it is the duty of our universities to alter this. It devolves on them to furnish men—true men—strong men—men of patriotism and fire, and men filled with lessons of the past—with the principles of political wisdom—with principles of political morality. Before us lie great economic problems. While I speak great circles of business on this continent lie paralyzed under strikes. The men by whom these and similar questions are to be solved, if the right result is to be obtained, must be men imbued with sound principles, both of political economy and justice. If this beloved Canada of ours is to become a nation among the nations of the earth; if she is to

grow from a weak, frozen colony to a great and strong Dominion; if the ship of state is to be safely guided past the shoals of disintegration that already appear, and safely past the rocks that yet remain unseen, it must be, it can only be, because we have men at the helm who *are* men—

“ . . . high-minded men,
 With powers as far above dull brutes endued,
 In forest, brake, or den,
 As beasts excel cold rocks and brambles rude;
 Men who their duties know,
 But know their rights; and, knowing, dare maintain ! ”

Let our university accept the great task of bringing forth such men. No aim is higher, no ambition more noble. For as Cicero said of old, “ In no one thing do mortals approach nearer to the gods than in the founding and preserving of states.”

EDUCATION IN JAPAN.

BY MR. JUZO KONO (LATE OF TOKYO, JAPAN).

JAPAN is an independent Empire, having about 38,000,000 people in the various islands which extend from the icy waters of the Okhotsuk to the tepid waves of the Eastern Sea. Although it is one of the oldest countries as an independent nation, it was but recently opened to the world; and consequently, its geography, history and national character are very little known. However, the very little that is known clearly shows that its people are very different from other Asiatics, that they are making all possible improvements in their country—in short, that they are a people of wonderful promise. And one can easily see the eagerness with which they are introducing new ideas by studying their action in educational matters.

We do not know much about the history of the ancient Japanese. However, there is no doubt that they regarded education as an important promoter of the prosperity and happiness of the individual and of society. In the third century of the Christian era our Emperors and their subjects began to turn their attention towards education. They made it a prin-

cial department of the government. While bloody war was raging in Western Asia in the cause of the Arabian Prophet, the system of education was reformed, a university was founded, and many schools were organized in the various provinces of these islands in the far East. While the Danish fleets were triumphantly sailing in the English Channel, the songs of new learning were echoed in the islands of the Japan Sea.

But this condition gradually changed. The revival of new learning was soon followed by prolonged civil war. The real power of the government passed from the hands of emperors into those of warriors; and the glittering suns of new learning silently sank from the bright sky into dark monasteries. Year after year war was renewed, until about two hundred and fifty years ago, when an adventurous warrior suddenly rose from the rank of a small lord, crushed all other upstarts, and laid the strong foundation of the Tokugawa Dynasty. As William the Conquerer established a feudal system in England, this Tokugawa and his descendants, whatever their real object, founded a most strict feudal system over the whole country. At the same time, they revived the forgotten Chinese moral doctrine, and introduced dreadfully wearisome social etiquette. They roughly divided the common people into four classes—the soldiers, the artisans, the merchants, and the farmers—fixing the soldiers on the highest rank, and the farmers on the lowest grade of the people. Intermarriages of the soldiers with the other classes were forbidden. The soldiers, however ignorant and foolish, kept the same position as their fathers; while the other classes, however learned and wise, were obliged to remain forever as the farmers, the merchants, or the artisans. For the former, schools were founded by their lords; while to the latter such a privilege was unknown. The pleasures of the first class might be taken from poetry and philosophy; but the knowledge of the second classes was limited to elementary arithmetic, to the doctrines of obedience, and to a particularly monotonous penmanship of Chinese characters. Such was the general educational system in Japan when she opened her ports to civilized nations.

The opening of the country to the civilized nations was followed by another long civil war. This civil war resulted, however, in the fall of the Tokugawa Dynasty, the restoration of Imperial power, and above all, the introduction of modern thought. Since that time modern inventions have been introduced. Wonderful improvements have been made in agriculture, commerce, and jurisprudence. A strong army and a powerful navy have been organized. Nor has the educational advancement been less rapid. The first step taken for that purpose was the establishment of a Royal school for nobles. Then the Tokiyo University (Imperial) was founded. The school age of children was fixed at six to fourteen years. A great many common and high schools have been founded. The code of education has been promptly revised from time to time, according to the progress of the people, and the sphere of the Educational Department, in our government has been considerably enlarged. As all the people, from a poor widow of a quiet hamlet to the powerful ministers in the government, are under the same law, the children of all ranks may be educated in any institution of the country. Even the helpless girls of a small cottage can safely sit side by side in the same schools with the princesses of the Royal family. And how accessible the privilege of liberal education is to any person can be easily seen from the following statistics for 1884 published by the Educational Department:

THE KINDS OF INSTITUTIONS.	NO. OF INSTITUTIONS.	NO. OF INSTRUCTORS.	NO. OF ACTUAL ATTENDANTS.
Kindergarten.....	17	39	1,116
Common or Public.....	29,253	97,316	3,233,226
Normal.....	63	714	7,270
Middle (High).....	142	1,133	15,690
Professional.....	103	583	8,913
University.....	1	194	1,880
Miscellaneous.....	1,328	2,230	58,090
Total.....	30,889	102,209	3,326,185

These institutions are all organized after European and American models. But above all, the Imperial University in Tokiyō is the best modern institution and the flower of intellectual progress in Japan. She has one preparatory school and five colleges—science, law and political science, literature, medicine, fine arts—under her control. Under those colleges there are several departments. The medical college has the two best hospitals in Japan. Scientific students are sent to distant places, specially or regularly with professors, at the expense of the institution. For the encouragement of students in their special departments liberal scholarships are established. Promising graduates of the University are sent from time to time to European and American universities, each receiving more than \$1,000 for their expenses per annum. In the completeness of musea for general scientific purposes, in the ample supply of apparatus for physical and chemical experiments, in the sufficiency of specimens for mineralogical studies, in the extent and luxuriance of the botanical gardens, in the completeness of observatories for astronomical and meteorological observations, in the convenient arrangement of libraries and reading-rooms, and in all conveniences for instructors and students, our University stands proudly without a rival in Eastern Asia.

Ah! what progress! Twenty-five years ago three hundred feudal lords were fighting against each other. Now the whole country, from the mountains of the North to the steaming seas of the South, is peacefully governed under one administration. Formerly the people were divided into rigid castes; now they are one in the eyes of the law. Fifteen years ago the number of schools was quite small; now there over 30,000. Then the University was nothing more than a weak institution; while now she has one school, five colleges, and 2000 bright students. Then the movement of the hands of a watch was a miracle to them; but now street cars, railways, telegraphs, telephones, and electric lights are common to all. Is there any other nation under the heaven that has made such rapid pro-

gress in so short a time amid so many dangers. But if we quietly investigate what kind of progress ours is, we can not but say that it is material and intellectual, and not moral or spiritual. Was physical training enough for the independence of Sparta? Was mere intellectual progress able to save Athens from her ruin? In my view, the most important thing our people can learn is that Christianity has been the foundation of European and American civilization, and that Christian doctrines have been the vital principles of their educational system. If I am not mistaken in the above statement, I have no hesitation in saying further, that if Japan wishes to become the leader of the Asiatic nations, and to stand proudly as an independent civilized nation in the grand drama of modern civilization at the dawn of the twentieth century, she must have introduced, besides German training, Roman law and Greek philosophy, pure and genuine Christianity.

At the same time, we must not forget that Christianity met opposition at first wherever she went, and that such too is the case in Japan. She is now marching against Buddhism, Sintoism, Confucism, and above all, the modern infidelity of Europe. The Buddhists and literary men are publishing from time to time books and pamphlets boldly attacking Christianity. Their arguments "are brought forward in an orderly and philosophical manner. The principles of Causation, Agnosticism, the problem of Evil, the Trinity, etc., are accurately considered. Missionaries, and those interested in the Christianization of Japan, should take into consideration the progress in thought, and rapid development of the reasoning faculties of the scholars and literati of Japan. It must be remembered that the scientific and philosophical works of the leaders of Western (European) thought are becoming the hand-books of the educated classes in this country, and, therefore, the simple platitudes of religious workers and writers must give place to a more argumentative and careful exposition of the grand and incontrovertible truths of Christianity. There is a rapidly spreading interest in the tenets of Christianity, which may be known by the increased

zeal of its opponents, but it is for this very reason that the faith should be expounded, and the scholastic arguments of those who would oppose its progress should be met by that wisdom whose convincing power bears evidence of its Divine source."* We do not fear rationalism, materialism, skepticism, and a hundred other 'isms. We earnestly believe that true science and true religion will joyfully meet some day, hand in hand, before the throne of the Almighty.

At first our people rejected foreign nations, for they did not know the worth and excellence of European civilization. But, once knowing its value and opening the country to the Europeans and the Americans, they have made most encouraging progress in a short time amid dangerous circumstances. Now, all the people are not yet convinced of the goodness of Christianity. However, some day—which will soon come—when once they know its value and open their hearts to the blessing of this religion, they will act a more wonderful part on the stage of universal history. It is not very long (and who can doubt it?) that Japan will send out her own missionaries to other Asiatic countries, before the Negroes of the South, the Indians of the North, the Chinese of the West, and the French of the East will all have become Christian peoples.

In conclusion, we cannot but humbly express our hearty gratitude toward those civilized nations that are kindly helping on in all possible ways the civilization of our native land, and finally, to One "who helps those who help themselves."

The Chemical News gives an account of a microscopic slide containing the Lord's prayer written in the four hundred and five thousandth part of a square inch. The slide is in the possession of the Manchester Philosophical and Literary Society, and was engraved by a Mr. Webb, with the aid of an instrument, also in the possession of the Society.

* An English newspaper in Japan.

THE INFLUENCE OF LANGUAGES UPON NATIONAL CHARACTER.

BY REV. JAMES ROY, LL.D.

WHEREVER we see groups of men separated from each other by differences of speech, we find, also, differences of character. Ancient Greece and Palestine, England and the land of the clicking Hottentots, North America and China, differ as much in character as in language. Is there any connection between the two? National character certainly re-acts, directly and indirectly, on language, deciding its tones and selecting its vocabulary, arranging its syntax for slow and dignified, or for swift and brilliant utterance and thought; or leaving the language to die of stagnation and uselessness. Does language re-act on character? It must do so. Though the character of a people, working for generations, decides the form of the speech they use, each generation that inherits the completed product of the previous age is educated by the language handed down to it. That speech whose sounds can be represented by no letters, if such a speech really exists, as some assert, and whose collection of words is adequate only to the simplest wants of man, can never put the people who use it upon the same level as that of a race whose language is capable of expressing the play of imagination and the subtleties of metaphysics.

The influence of any language depends upon its own genius, the literature it provides, and the religion to which it is allied.

By the genius of a language is meant the capabilities of it, as determined by its vocabulary, its etymology, its syntax and its prosody. It is at once the temper, the structure and the adaptability of the linguistic tool; and as he who uses a fine or a heavy instrument develops delicacy or strength of touch, so is a man's character silently moulded by the speech he habitually employs. If "he who knows four languages is worth four men," it is not so much by the amount of knowledge accumulated as by the more cosmopolitan character acquired.

Vocabulary determines character. By this it is not meant

that the absence of a word which properly designates an object or quality implies the absence of that which it designates. For instance, those who have read the "Madame Thérèse" of the Erckmann-Chatrian novels, find in the household of Dr. Wagner, his nephew Fritz, and the housemaid Lisbeth, all that is implied in the word "home," though the Doctor had no French word exactly corresponding to it. Fancher de St. Maurice, too, in his "A la Brunante," describes a charming scene of home-life in a village of Verchères, where Rose Bernard captures all hearts with her blonde hair and winning ways, before the disaster that drives her lover mad; yet the scene of the domestic felicity is, to those who enjoy it, known only as a "logis," a stopping-place, or as "Chez Bernard," a place where one is with Bernard. So, too, we have, amongst English people, all that is meant by the French *naïveté* and the German *gemüthlich*, though we can find nothing but circumlocution with which to convey what the French and Germans express by a single term.

Nevertheless, national, as well as individual, character is moulded by vocabularies. Commerce and the arts of social life depend upon them. What discrimination of subtle shades of thought is acquired by the mere mastery of the Greek verb, with its nearly 1,300 forms, and by the use of its numerous transitional particles and abstract terms! With such a language, even children would become philosophers; and we cannot wonder at the keen subtlety of thought in those shopkeepers of eastern cities, who, during the controversies of early Christianity, would ply their customers with questions on being and essence and substance, on emanation and procession and generation, as applied to spiritual existences, even if we do mourn the loss of all the spirit of Christianity in the midst of the intellectual acumen. What possibilities of fun, too, lie in a language that can designate a dish of fish, flesh, fowl, and all kinds of delicacies, by a word of 169 letters! Compare with such a language the Hebrew. This has, for its principal connective, disjunctive and transitional distinctions, chiefly the one word

“and.” In its verb, it has few distinctions of mood and tense, and systematically expresses present or future action by what normally expresses the past. It has so few adjectives that nouns must be used in a peculiar way to express adjectival relations. It has no neuter gender, and comparatively few abstract terms, and is, consequently, obliged to give its descriptions of conduct and principle chiefly in concrete and dramatic narrative, by allegories and parables. Prof. Robertson Smith, in his “Prophets of Israel,” pp. 125-6, calls it “a language which, though unfit for the expression of abstract ideas, is unsurpassed as a vehicle for impassioned speech . . . preserving all the effects of pointed and dramatic delivery.” Such a language could not be other than anthropomorphic in its descriptions of the being and actions of the Deity; but, while the doctrine of the unity of God preserved the nation from every form of materialism in their theory of the universe, by rendering it impossible to identify the one great cause of all things with any form of things visible, this very tendency of the language threw around God an air of personality which made Him dear to the Jewish heart. Thus, from the notion of the unity of God, and from the natural tendencies of the language, was developed, through the guidance of Providence, that spirituality of thought and life that raised the Jew, in religion, to the position taken in beauty by the Greeks, and in law by the Romans.

Compare, also, with such a language as Greek the Indian dialects of America. In Ojebway, for instance, *pe-zhe-ke-wa-gin* means “buffalo-hide,” *wah-wahsh-kosh-wa-gin* means “red deer’s hide;” but the term *wa-gin* that enters into each compound has no meaning at all when used by itself. The Ojebways, then, have no term answering to the abstract concept “hide.” There is no word for “time” in the language, although there are expressions for different kinds and portions of time. *We-de-ga-mah-gun* is the word for “husband” or “wife;” but it conveys a meaning only when accompanied by such words as *nin* for “my” and *ki* for “your.” There is no term for the abstraction “husband” or “wife.” *Kah-ge-ga-be-mah-de-ze-win* means “life everlasting;” but *kah-ge-ga* has

no meaning when alone; the Ojebway has no adjective for "everlasting," as an abstract conception. Kah-ge-nik, "always," "forever," is an adverb. Compounds serving for abstract terms are formed, however, but are not really such. Nin-ninj is "my hand." O-ninj-e-mah is "hand;" but o is the prefix of the third person, "his;" and the termination e-mah gives the compound the sense of "hand." So, oosh-te-quahn-e-mah answers for "head." Not even by adding a termination to the word Canada has the Ojebway been able to form an expression for the abstract conception "Canadian." The Ojebway word used in the far West for "Canadian," so Archdeacon Vincent assures me, is moo-ni-ah-wi-ni-ni, an awkward, unhandy person, unfamiliar with Indian ways.

Now, it will need no more than a moment's thought to convince any one that, even from vocabulary alone, the educating influences of these three languages must be very widely different. The fact that the ancestors of the present Indians had formed such a subtle distinction as that of two first persons plural, one including the persons addressed, and one excluding them, whatever it may teach as to the civilization of those ancestors, cannot alter the effects of the rarity or absence of abstract terms on the Indians of to-day. The difficulty of making Indians familiar with philosophical abstraction must be very great.

Here it may not be out of place to notice an important question hinging upon this fact of the paucity of philosophic terms. It is often supposed that, by the reading of the damnable clauses of the Athanasian Creed, the Church of England excludes from the possibility of salvation particular individuals, such as Bishop Ulphilas, Thomas Firmin, Channing and the authoress of the hymn, "Nearer, my God, to Thee," Mrs. Sarah Flower Adams. On this point it might be sufficient to say that the Convocation of Canterbury, in 1879, pronounced the following words: "Moreover, the Church does not herein pronounce judgment on any particular person or persons, God alone being the judge of all,"—"but warneth against errors

which, from time to time, have arisen in the Church of Christ." But what is stated here in general terms finds a more practical confirmation in a Canadian fact. When the venerable Canon on whom the duty devolved, translated the Prayer Book into Ojebway, he could find in that dialect no words capable of rendering the Athanasian Creed. Consequently, the Ojebways know not its refined subtleties of discriminating thought. Yet they are not considered as being either beyond the pale of salvation, or as dependent merely upon the uncovenanted mercies of God. There is danger even in the unintentional rejection of truth. There is mercy where truth is either not presented at all, or so presented to the truth-seeking and truth-obeying mind that it bears the appearance of error rather than truth. In the latter case, the rejection is not really the rejection of truth, but of error; and the disposition is to receive the truth, if it were seen to be such.

A deeper conviction of the power of language to influence character will be produced by an examination of syntax and etymology. Here let us take an example first from the German. I quote at random a sentence from page 11 of Weber's "History of German Literature," and give it in a translation, as literal as possible, preserving the order of the words as in the original. "What wonder, if they soon the progress of Charles towards Spain, who in French and Spanish romances in the army lived, now fixed their eye upon, his conflict with the heathen in the light of a crusade, himself in the glory of a warrior of God, an armed deliverer, and his twelve peers in the brilliancy of divinely called knightly apostles and martyrs placed!" I ask attention to the following points. The verbs "fixed" and "placed," being at the very end of their several subordinate sentences, keep the mind in complete suspense until the end of the sentence is reached, force the memory to retain every minute detail from the beginning to the end, compel the most accurate observation of these details, and an almost instantaneous synthesis of all the details into one general conclusion. The difficulty of all this, to a foreigner, is

increased by the absence of any principal verb, by the introduction of a sentence and an appositional phrase into the body of other sentences, the interposed sentence having its own inversion of what seems to us the natural order of thought and expression; the absence of any conjunction between the leading sentences, and the distance of the relative "who" from its antecedent, while it is adjacent to a substantive to which, in German, haste and thoughtlessness might falsely apply it. Some of these difficulties would not be apparent to a German, for his knowledge of gender and construction would make that natural to him which is most unnatural to us. Nevertheless, even to him, the demand of such a sentence for observation, analysis, synthesis, memory and generalization must have an immense disciplinary and educative force. What scientific discipline it must have for a stranger who learns it can easily be imagined, and will show that we are not confined to physics alone for means of the highest mental culture. But, in saying that such a syntax leads to accurate and long-sustained observation, and to comprehensive and philosophical conclusions, to reason and the faculty of criticism, have I not pointed out the very features that distinguish the German literary character? Has not the language developed, to a great extent, the type of literary life?

Yet another feature must be noticed, the formation of compound words. This may be treated here, though it is properly etymological. German has adopted words from other languages; but its genius is to form compounds from its own simple terms. Where French and English call in the aid of Latin and Greek, the rugged independence of German permits no such course of conduct, but shows that it is quite prepared to furnish its own technical terms. For "fire-insurance office," it says *Brandversicherungsanstalt*; and for "sesquicarburetted hydrogen," it says in one word, *Doppelkohlenwasserstoffgas*, even if it threatens to exhaust all the alphabet in doing so. By this independence of foreign languages, the individuality of national character from which it was developed is, in its turn, strengthened and per-

petuated. To understand the term "carburetted hydrogen," the uneducated Englishman must depend upon the authority of one who has learned something of Latin and Greek; but the most illiterate German can find all he needs to know, without any appeal to external authority, in his own compound, double-coal-water-stuff-gas.

Many circumstances must combine to develop individuality, self-reliance and private judgment in a people; but, so far as language can exert an influence on him who uses it, these qualities must be developed by such a speech as the Greek or the German. To prove that I am not alone in forming this opinion, I present two quotations. The first is from a lecture on the "Characteristics of Languages," by Henry Craik, and is as follows:

"The Saxon words have the advantage of making their way more directly to the understandings of the larger portion of Englishmen. Many who have a general notion of what is meant by such terms as 'precursor' and 'felicity,' do yet more clearly apprehend the force of 'forerunner' and 'happiness.' The meaning of the latter class of expressions comes to the mind with the rapidity of lightning, while the former, being more slowly apprehended, are less effective in making the requisite impression upon the hearer." Page 51. This quotation, though written with reference to the effects of a language on a hearer, yet shows what must be its effect in developing or retarding the understanding, and that the language which forms its compounds from its own simple terms must have the advantage in the formation of a self-reliant and independent private judgment. The next quotation is translated from the work on Germany of that most wonderful woman, Madame de Staël. "Finally," she says, "the general spirit of the Teutonic dialects is independence." Page 139.

My next appeal, in support of the opinion that the structure of a language moulds the character of the nation that uses it, must be to the French. Here we have a language which has grown, by a series of successive changes, from another language, Latin, and that not the classical Latin of literature, but the low,

unpolished Latin of the mob, and the soldiery that sprang largely from the mob. To understand how a French word means what it does, and has taken the shape it has, we are dependent upon the authority of those more learned than we. Take, for instance, the word *cheval*, the French word for "horse." The derivation of that word is from Latin, and not from the classical *equus*, but from the word *caballus*. An intelligent use of the French word, then, renders an appeal to external, learned authority indispensable; hence we can understand the value of such labors as those of Brachet and Littré, and of the patient German investigators who preceded and inspired them. Could we tell, even in the word *cheval*, how the hard Latin c of *caballus* comes to have the sound of sh in French, without the authority of the old documents through which the successive changes of pronunciation may be traced? This subjection to authority becomes habitual, destroys, in its degree, self-reliant individuality and, with that, self-control, and promotes solidarity of action. It is due, in no small degree, to the genius of their languages that the so-called Latin races go in herds and need the strong hand of authority to guide them.

Again, instead of adding to the number of syllables in the original Latin words, as Spanish is said frequently to do, and thereby gaining stately and sonorous pomp, and developing a taste for stately pomp in the people, French, both in forming its words from the Latin, and in pronouncing them when formed, drops terminations and intermediate syllables, and thus becomes adapted to rapid and sprightly expression, and develops a habit of vivacity, brilliance, antithetic contrast, and that superficiality which is connected with the love of brilliant antithesis.

French words, too, have a simple definiteness of meaning that renders them capable of that precision which mathematical and philosophical studies demand; and the paucity of inversions in the order of words and clauses contributes to clearness and distinctness of impression.

Have we not in the very structure of the language one, at least, of the causes which have developed the characteristics of the French nation ?

As poetry and the capacity for poetry mould the character of a people, it may not be uninteresting to see how the structure of a language affects poetic conceptions and expression. Some languages cannot be otherwise than poetical. Of such is the Hebrew. Instead of saying "holy ground," it speaks of "ground of holiness." It does not say a man is fifty years of age; it calls him a son of fifty years. It speaks not of "sparks," but of "sons of the burning coal." Birds of prey are "sons of lightning." (Job v. 7.) Arrows are "sons of the bow." I suppose that, on the same principle, if the Jew had known anything of a bullet, he would have called it "a son of a gun." A hirsute man is "a lord of hair." The dawn of day is beautifully called "the eyelids of the morning." Such a language could not convey a revelation in the terms of an exact science. It must be poetical, even in its prose; and the recollection of this fact should guard us against a preference for a very severe literalism in our interpretation of the forms of Hebrew thought, even when those who think in Hebrew write in Greek. Had the Hebrew been a philosophical language, any revelation of God conveyed by it would have been adapted only to the learned; but, embodying eternal and universal truths in forms poetic and dramatic, these truths, illustrated rather than defined, are encased within a form that preserves them for all classes of all times.

Apart from rhyme and rhythm, and that subtle perception of intrinsic and analogical beauty which is the essence of the poetic spirit, few things so contribute to the capacity of a language for poetry as the various phases of thought which single words present, and the inversions of which the order of words is capable. In comparing the capacities of German and French for poetry, I cannot do better than quote again from Madame de Staël :—

"One of the great advantages of the Germanic dialects in

poetry is the variety and beauty of their epithets. German, in this relation also, can be compared with Greek. In a single word are perceived several images, as in the fundamental note of a musical chord the other sounds of which it is composed are heard, or as certain colors renew in us the sensation of those that are allied to them. In French, what is meant is said, and that only; and around the words used, there float not those shadows of a thousand forms which surround the poetry of the northern languages, and which awaken a crowd of recollections."

French, then, may be suited to conversation, to mathematics, or to metaphysics, but not to poetry, at least so far as the beauty of varied images is poetic. For an opinion on its capacity for inversions, I take the liberty of quoting a whole chapter from Théodore de Banville on "French Poetry." The chapter is headed, "Of Inversion," and reads as follows:

"There must never be any."

This source of elevation in style, and of novel beauty in expression, then, is also, or should be, excluded from French poetry. It may, perhaps, be well to notice something which French poetry admits. The grandest poetry is in blank verse, because a greater dignity and freedom are possible where the artificial demands of rhyme are removed. What relation does French poetry bear to rhyme?

I quote again from De Banville. "The imagination of rhyme is, above all, the quality which constitutes the poet."

De Banville reminds us of an incident published in the *New York Times*.

"See here," said a citizen of a certain town to the proprietor of a bookstore, "you'll have to take the book back. I asked you to give me a volume of poetry to put on the parlor table; but every work in this book is straight prose."

"Why, man, that was written by Shakespeare."

"I don't care who writ it, it's prose. I've looked it all through. For instance, here's a specimen:

'How silver-sweet sound lovers' tongues by night,
Like softest music to attendin' ears!'

Do you call that poetry, rhymin' ears with night? You can take it back. I don't want it."

The unpoetic character of French verse has often been noticed. Its cause lies in the very structure of the language; and, however valuable that verse may be in some forms of composition, its lack of that subtle something which we feel but cannot define, and which we call poetry, must prevent the French character from being moulded by its charm.

While treating of the subject of poetry, it is necessary to allude to the prosodial capacities of language; for on them rest the possibilities of blank verse, the vehicle of the highest type of poetry, and, consequently, of that educating influence which only the best poetry can exert. Prosodial capabilities arise from the existence in a language, either of length and brevity in letters and syllables, or of a marked difference of accentuation on syllables. Latin and ancient Greek, with their long and short syllables, had no rhyme, and needed none; hence their poetry arose to the highest standard.

Modern Greek, which, in pronunciation, almost entirely ignores the distinction of long and short, and pronounces according to the accents, uses rhyme and is pleasant to the ear, but does not rise to the highest type of poetry. German has both length and brevity of syllables and a marked accentuation, and is, therefore, capable of a very high type of poetry. This height is sometimes reached by the very neglect of metres. De Wette says: "Goethe has, just in the most sublime odes, disdained strict and regular metres, and contented himself with a certain free euphony (compare Prometheus, Meine Göttin and other lyric poems)." Madame de Staël supposes that German poetry must fall short of that of the ancient classic authors, because accentuation depends upon grammatical distinctions, and awakens intellectual considerations rather than involuntary emotions. But, with all respect for the commanding genius of Madame de Staël, it must be acknowledged that, simply because accentuation fixes the mind upon the meaning of what is said, rather than on the harmony of sounds, German poetry adds to

the sweetness of indefinable emotions the charm of an elevated intelligence. The French language, on the contrary, has no distinction of long and short syllables; and, though it has a tonic accent on one of the last two syllables of a word, and an oratorical accent on phrases, its accentuation is too feeble for blank verse. Rhyme becomes a necessity, even with all its disadvantages; and, very often, such accentuation as French can admit is wholly neglected, so that what, in French, passes for poetry would, but for the jingle of rhyme, be nothing but prose, and a prose unelevated by any beauty of thought or expression. We can never forget that the French justly boast of Molière and Racine, of Boileau and Corneille, of Alfred de Musset and Victor Hugo, and the Canadians are, with equal justice, proud of more than Fréchette; but the capabilities of the French language do not admit of a Homer, a Goethe, or a Shakespeare.

Not by its genius only, but by its literature, also, does language mould the character and destinies of nations. The dispositions cultivated by the genius of the language create a demand for a literature corresponding to them; and the contents of that literature re-act upon national life. In estimating the comparative influence and value of languages, we must consider the scope and tone of the literature they furnish. Does it cover poetry chiefly, or does prose predominate? In its prose, does it convey instruction in science and philosophy, in history, in commerce and in law? Does it give prominence to fiction and the drama? What part do biography, devotion and theology play in it? Then, what is the tone of the literature? Is it moral or immoral? Is it patriotic or merely sectional? Is it sensuous or intellectual?

Such questions must be answered before we can determine the character which a nation's literature will produce.

But, deeper still, and of far more extended influence, must be the relation of a language to religion. Let its genius give birth to a rationalizing disposition, and let its literature foster this, and the fate of the nation will correspond. Let genius and literature lean to an authoritative form of religion, and the

nation's destiny will move in a wholly different direction. So will the results differ as the religion promotes intelligence, or favors illiteracy. But, let there be found a language which combines the qualities of both reason and authority, and the influence of that language must be superior to either of the others.

[NOTE.—The remaining portion of this article, which treats of the bearing of this subject upon Canadian national development, will appear in our next issue.—ED.]

THE PIONEERS OF CANADA.

A VALEDICTORY ORATION BY E. H. KOYL, B.A.

WHO he was who first set foot on this wide western world we know not. But with the light of the fifteenth century came in revived speculation and more intelligent thought concerning the as yet practically undiscovered country, the land of the setting sun. By the devotion and determination of Columbus, tradition was transformed into history, and a new world opened to the tramp of nations. The first colonists came hither from France. For a time they endured the rigors of a Canadian climate and the difficulties of life in a new country, but the hardships were too great. The prospects of a lone grave on a wilderness shore terrified their hearts, and they returned to the vine-clad hills. But westward the star of empire was taking its way, and no power could check the march of the wise men. The tide had already set in, which was to bear high up on this American shore the ships of a new civilization. The French came again, and though climate, forest and aborigine stoutly opposed them, they disclosed the great wealth of the country, declared the practicability of its settlement, and laid the foundations of some of our oldest and finest centres of trade.

But Canada was destined to a yet nobler government. The homes of the New World were to be freeholds, and not possessed by seigniorial tenure. Canadians were to be responsible

citizens, and not feudal vassals. The colors that floated from Canadian masts and were borne by Canadian troops were to be the Red Cross flag, and not the Golden Lilies. Canada was to be English, and not French. Englishmen were better colonists. The home-loving instincts of the Gallic race were not favorable to colonization. The French desire for community of interests, for a town with all its public buildings, was harder to realize in a forest than was the wish of the Englishman, who could go forth with his axe and prepare for himself "a lodge in some vast wilderness," and dwell there contented and prosperous, gradually changing the forest to a farm, the wilderness to a garden. Had there been transfused into its young life no English thrift, sturdiness, freedom, intelligence, or morality—no English devotion to duty and love of constitutional liberty, Canada would lag behind in the march of national prosperity. The forces of natural wildness, human oppression, and ecclesiastical authority—the influences of feudalism and monopoly—would hold in check the energies of a nation's youth.

Trade, dominion and religion were the moving forces that brought men across the wide, wild sea, to encounter danger and difficulty in a new country, and in each of these English colonists either had an external advantage or were themselves superior. They had wider ideas of commerce. That tact, push and principle which has thrown English merchandise upon every mart of the world, was infused into Canadian pioneer life, and, stimulated by the bracing influence of a northern air, has built up a new world commerce that reaches wherever the hands of earth's nations are joined in friendly grasp.

The French colonies were deprived of the monetary and military support they needed, because the home country was torn, and its resources wasted, by rival factions. Soon France was a defeated nation, and the enervating influences were felt in the colonial struggles. English arms were victorious everywhere, and the flag of St. George was soon carried nobly up the heights, across the plains of Abraham, and unfurled from the citadel of Québec.

English Protestantism is a nobler influence than French Catholicism. Many a Frenchman came here with the hope of impressing his faith upon every inhabitant of the land. Many an Englishman came hither seeking a place where every man might worship under his own vine and fig tree, with none to make him afraid.

When it came to the hardships of pioneer life, to the exhibition of those qualities which alone can be the foundations of true national greatness; when it came to being prudent in peace and valiant in war, honest in trade and charitable in religion, it was found that the man who would sacrifice home, comfort and country for conscience' sake was the better man. The English Protestant pioneer possessed the qualities that wear. To use the words of the great historian of Europe, those men brought into the wilderness "English perseverance in their character, English order in their habits, and English fearlessness in their hearts. With the axe in their hand, the Bible in their pocket, and the encyclopædia by their side," they made Canada the domicile of Christian freedom, intelligence, morality and comfort.

From whatever country they came, it was no holiday task these men undertook when they left precious heritages, sacred spots, thrilling associations, and became the pioneers of freedom, empire, civilization and Christianity in a new world. They came where the frost king built his castles high and strong; where the gray wolf and the black bear prowled around their door; where the painted savage lurked by their cabin home, thirsting for their blood, and where his terrible war-whoop, borne on the wings of the darkness, wakened many of them from dreamy sleep to nameless torture and to fameless death. They came where provisions were scanty and neighbors few, and where privileges were unknown. When to these forbidding circumstances are added the war of Christian nations and the envy of rival colonists, it must be admitted that the heart of a pioneer was the heart of a man.

These pioneers were loyal men—loyal to the land of their

birth, loyal to the Old Flag they had loved in youth. They sought to found here a New France, a New England, a New Amsterdam, a Nova Scotia. But life in any country will give the peculiarities of its people, and create a fondness for its soil and a love for its institutions.

The pioneers were loyal, not only to their country and its interests, but to their own honor and rights. When they had occasion to do so, they not only opposed invasion from a neighbor foe, but they rose in their manhood and resisted oppression from the Mother Country. In the halls of Parliament and on the field of fame they fought for those principles of justice, law and liberty which English blood had bequeathed to them, and upon which alone, they felt, could securely rest the fabric of a dignified and noble nation. The great boon they sought, the great privilege they fought for, the great heritage they left us, was the boon, the privilege, the heritage of freedom. They left to their descendants a spirit of and a love for freedom. They left them freedom enshrined in all the institutions and relationships of colonial civil life, and

“They left unstained what here they found—
Freedom to worship God.”

The pioneers were God-fearing men. Leaving the religious associations of their childhood, as they pitched their tents by the Canadian Mamre, many of them erected there the altar of worship. And in after years to many a wilderness home the herald of the cross, the minister of the New Testament, was a welcome visitor. Many a time the forest echoes were wakened by the hymn of praise and the voice of prayer, and the sylvan peace of the forest lent its restful influence to the simple service of those wooden sanctuaries. Many a log-shanty was a very Bethel, and many a forest home a Salem. And the men who threaded the wilderness and bore the bread of life to hungry souls were among the bravest, the grandest, the most devoted of Canadian pioneers. Never can history forget the earnestness, the unsurpassed consecration of the early Jesuits, who

lived, suffered, died that they might teach to a pagan race the tenets of the faith they held sacred.

The memory is as just of the later preachers of a simpler faith, for nobler men Canada will never see than the pioneer preachers of Protestant Christianity. Through all the ranks of Canadian life, from the trapper to the tradesman, from the soldier to the statesman, no men have had a better, a wider, a more ennobling influence upon the development of Canada—upon the triumphs of her past and the hopes of her future—than the Protestant preachers of that righteousness which “exalteth a nation.” Here belong the names of Dr. Ogilvie, not only the first English Church, but the first Protestant, clergyman in Canada; McDonell, one of the first Presbyterian; and Losee, the first Methodist preacher in the colony. Following these—connecting the past with the present—are such representative names as those of Rev. Wm. Case, Dr. Strachan, Dr. Ryerson, Dr. Carroll, and the last lingering representative of a worthy and rewarded past, our own respected Father Jones. In the woodland cathedrals, in the silent grandeur of nature’s temples, these men oft made their voices ring in favor of a vital religion and a stalwart Christian manhood. They looked “for appreciation and reward not to the types of time, or the perishable trumpet of fame.”

The most important of Canada’s pioneers were the early settlers of Ontario. They may be divided into three classes:—Emigrants from England; officers and men from the British army and navy; and that noble band of U.E. Loyalists who, rather than fight against the Old Flag, gave up their homes in the revolted territories, and amid privation and persecution crossed the border into the Canadian land, to begin, many of them in old age, the work of life, and to fight the battles of their Sovereign. The loyalty of these men is unsurpassed in the world’s history. They were patriots and soldiers to the heart’s core. In the days of their exile from the American border, and of their privation in the Canadian woods, they were true to

their principles, and again in 1812 the spirit and devotion of the U.E. Loyalists and of their sons was shown.

While the memory of Chrystler's Farm lives, while history bears a record of Canada's Waterloo at Lundy's Lane, or of her Thermopylae at Queenston Heights, shall the pioneers be called "good men and true." These men fought well, as they fought in a noble cause. To quote Dr. Ryerson's thrilling sentences—They fought in the glorious cause of the mother country, and in the defence of Canada. "The fire that burned in their hearts and animated them to deeds of death or freedom, was the sacred love of hearth and home, the patriotic love of liberty, and that hallowed principle of loyalty to truth, and law, and liberty combined, which have constituted the life, and development, and traditions, and strength, and unity, and glory of British institutions, and of the British nation from the resurrection morn of the Protestant Reformation to the present day."

The history of these loyal men is interwoven with the fabric of Canadian life. From where the noble St. Lawrence empties into the Gulf, all along the water stretch to where St. Clair rolls its sluggish stream, were scattered the U.E. Loyalists. But while two provinces cherish precious memories of them, there are some spots around which their history chiefly centres. Dr. Ryerson said, that the York Pioneers might well be called the Canadian Pioneers. The classic ground of Quinte is rich with the associations of these men. There the refugee loyalist took possession of the land. There lived and died many of the fathers of Canada. There were born and nurtured children who made the western wilderness

"Fair as a garden of the Lord."

Thence sprang many of Canada's earliest and grandest public men—men who have written their names indelibly on Canadian history.

From that settlement came lawyer and judge, preacher and premier. No cemetery in the world contains the remains of

nobler men than those who sleep in the U. E. burying ground on the shores of the beautiful bay.

Many of the brave soldiers who fought in her cause were not strictly pioneers of Canada, but she will never relinquish the right to do them honor. Canada has no mausoleum of her mighty dead, but some who lie beneath her sod, whose monuments rise on her green-clad hills; and some who sleep in England's grandest tomb, o'ershadowed by her shrine of heroes, have yet a nobler rest in the hearts of a grateful people. The names of many brave men are not inscribed on the columns of fame, but Wolfe, Brock, McDonnell, are names

“That were not born to die.”

Of many a true soldier it may be said that on Canadian soil, for the honor of England,

“He died where he fought, e'en as victory sought him,
'Mid the battle and strife gently calling his name,
And bearing a crown in her hand which she brought him,
A tribute to worth from the temple of fame.”

While Canada lives the memories of some victories and the names of some men must live too.

“Aye, while France shall remember, and England the story
Wing wide o'er the wave, of well-fought Waterloo,
The victorious wreaths which were won with such glory
Shall entwine with the folds of the Red, White and Blue.”

The later pioneers saw the incipency, the struggle, the crisis and the success of Provincial Union. Alike they fought the forces which in their day opposed prosperity. In Church and in State they fostered the principles of justice and purity, and boldly defended the right. By their honesty and their fearlessness, by their ability and their earnestness, they have made Canada the brightest gem in old England's crown, the fairest, freest land beneath the sun.

Among many others, there shines out from the past the name of the patriotic and veracious Honorable Robert Baldwin, to whom it was given to “lead his country through a great constitutional crisis into an era of larger and more matured liberty;”

the name of Sir Charles Metcalfe, whose noble life, lonely departure from his last post of duty, peaceful though painful old age, and beautiful death, England and Canada may never forget; the name of Sir John Beverley Robinson, referred to by Chief Justice Wilson as "by far the foremost judicial mind who has been in this province up to the present day."

The peace and prosperity of a united Dominion, and the constitutional privileges enjoyed by its people, entwine the memory of the great men of the past.

Canada has a noble parentage, a long bead-roll of immortal memories to be fondly cherished, "to be to her sons an inspiration to patriotism, to piety and to duty forever."

Some actions stain their memories, and some names mildew on the parchment of the past, but as a class they were honest, industrious, kind, devoted, loyal, God-fearing, noble men.

Let their memories live! for they made Canada a nation.

Let their memories live! for they taught her sons to be first good, then great,—that

"Kind hearts are more than coronets,
And simple faith than Norman blood."

Let their memories live! for they dotted our land with schools and churches, and made its air resonant with the hum of advancement.

Let their memories live! for they left us a pathway open to usefulness and honor, to glory and to greatness. They left us a future aglow with promise and with potency, and with dying voices welcomed us to the inheritance.

Let their memories live! for the wish of their loyal hearts, whether expressed in prayer, in toast, or in song, was like unto this—

"God save the Queen."

THE true idea of an employer is, that he is a trustee who receives and distributes the wages of himself, his men, and his money.

THE RIGHTS OF LABOR.

BY THE REV. E. A. STAFFORD, B.A.

NOT long ago an American paper had the following item: "Slavery has been abolished in this country, yet in this city car drivers and conductors are required to work eighteen hours per day for two dollars. The conductor from whom we got the facts said they did not average four hours' sleep in twenty-four, yet that a hundred were waiting for any man's place at that." Not two months ago a conductor in Toronto gave the writer a narrative not more encouraging. Out of twenty-four hours, eighteen for work, and only six for food and sleep. Things were not much worse than that on the cotton fields of Louisiana before the slaveholders' great war. You have only to add the lash, and the slavery is perfect. The lash is added in the poor man's hungry family before him and the hundred men behind him waiting for his place.

This picture only thrusts into view one of the greatest problems before the civilized world. The adjustment of the mutual relations between labor and capital is only a new form under which the great struggle of the ages is being continued in our day. This conflict is as old as the first human slave. One of the earliest echoes which we are permitted to hear from this war is from the consecration of their *mons sacer* to the sacred cause of freedom, by the Plebs of old Rome. Though progress has been made, yet the strong do yet oppress the weak; only, when the effort is successful, it is not called slavery any more. It is called the resistance of labor to capital; but it is a continuation of the same war of emancipation whose clangor has rung in the ear of every past age. A few things have been learned with certainty in this long conflict.

We know that all will never share equally in the wealth, nor even in the comforts of this world. There is no just reason why they should. Men are far from being equal to each other. They do not contribute equally to the riches and comforts of mankind. Vices are not equally distributed. Then those who

are now rich are not all avaricious, nor are all the poor industrious, patient and honest.

Another thing certainly known is that the only source from which wages for the laborer can come is from working capital. The product of all the capital invested is all there is to divide among all who are engaged in keeping it in productive movement. It is always to the interest of the laborer to draw capital out into investment, and therefore to inspire confidence in manufactures and trade. Just in proportion as strikes and riots destroy the productiveness of capital, and cause its withdrawal from productive industries through want of confidence, must the sum which can be divided among laborers as wages be diminished. In the end, though the laborer gain his suit by blows and the destruction of property, the costs of the suit come out of his own hand.

But now, leaving all the diseased conditions of the social fabric, when we take it in its normal condition, we know that labor has some rights not yet adequately secured.

One of these is the right to *steady employment*. If mercantile pursuits and the ranks of all the professions are overcrowded, then the least that can reasonably be demanded on behalf of men who abstain from still further crowding these avenues is that they have constant occupation, or the privilege of earning the necessaries of life by the labor of their hands. In other words, a sufficient amount of the earnings of capital invested should be appropriated to the payment of wages to afford to all laborers steady employment at a minimum salary.

At first this may seem like an arbitrary demand, but actually the principle involved in it is already recognized in all truly enlightened nations, because if too great a portion of the profits of invested capital go to the capitalist, and in consequence there is not money left to keep all laborers employed, and destitution consequently ensues among the unemployed, the sufferers are provided for by private subscriptions, or by a tax levied upon the country at large, or on the municipalities interested, for the relief of the distressed among the unemployed. But all these

poor rates, or volunteer contributions for the relief of poverty, are simply a part of the excess of profits received by capitalists over their share, and these sums should have gone in wages to the laborer. This is true in a normal condition of society. Of course, destitution which results from sickness, or from positive idleness, or from habitual drunkenness, will form an exception to the action of this principle. But there are more gratuities than would cover all the destitution arising from these causes, and so long as gifts are necessary at all, the principle is admitted that the laborer has a right to constant employment at a minimum salary.

The question next thrusts itself up, what should the minimum salary be? This is something which we may safely say we know. Every laborer should have enough to provide food, clothing, house, and the first elements of education for his family. This may seem a very elastic definition. Even among laborers there are different ideas as to what is adequate food and clothing, etc. But this element is so indefinite as to be beyond discussion, and we may be sure it is something which would be regulated by public opinion among the laboring class themselves. At first sight an objection will be made to a minimum salary, because it will seem that the law of demand and supply must regulate the wages received. The tendency is no doubt in that direction, but in the past custom has done more than competition to regulate the wages of labor. When the laborer was a slave, or a serf, custom decided absolutely what his wages should be. It declared that he should have the plainest of food to eat, and the earth to lie down upon at night, and the sun to shine upon him by day, and in return for such munificence from nature and man, he should toil all the time until his wearied and worn frame tumbled over into the earth. That was in those days the world's idea of a just return for a man's labor. The world has groaned along for dreary hundreds of years under the education of just such ideas as these, and it will not rise above them at a bound. The custom of those days may yet be traced on those who seem to think that in the division

of profits the laborer is the last man to be thought of. However, there is a strong tendency away from such cramped and narrow views. The most prevalent ideas now are that competition alone should determine the laborer's reward for his toil. If there were no disturbing causes, probably the laborer might be trusted to competition, but, for the present, custom should prevent any man's pay from falling below a minimum figure. This is true of the pay received by professional men and certain classes of servants. Competition may decrease the amount of work done by any one lawyer or doctor, but it will not diminish the just claim he may make for remuneration for what he does do. Now let us suppose that the laborers had as much influence in legislation as lawyers and doctors, is it not certain that for their work also there would be a customary allowance? It is only right, for many reasons, that custom and not competition should regulate the pay of professional labor, but the interests of the commonest toiler should be protected in the same way, so far as to secure to him the necessaries of life in return for his work.

Among the factors which come into this calculation, and make the claim here set up seem a little unreasonable, are idleness and intemperance on the one side, and speculation and gambling on the other. Speculation, and especially that form of it which is of the same nature as gambling, interferes more with the rights of laborers than anything else, because it is the chief cause of panics, and seasons of depression, and disastrous failures, in all which the laborer is in the end the chief sufferer. Yet he is not in a position to share any of the risks, or to realize any of the doubtful advantages, that result from reckless speculation.

Further, the laborer has a right to be *made sure of his pay*. To this it may be said that the capitalist is never sure of his profit. That may be true of any particular year, but take the years together, and he generally comes out right if his factories are needed at all. He certainly is more sure than the laborer. If a mansion is built it does not belong to the laborer, but to

the capitalist. If any children are educated in the university, and travel abroad as a finishing touch, they are always the children of the capitalist. If life has any pomps and luxuries, they shun the laborer, and fly at once to the capitalist. There are, doubtless, years without any profits, yet even then, with the chances of the future before him, the toiler would gladly exchange with the capitalist; but no capitalist would, in the poorest years, exchange with the laborer, even with a minimum salary assured. His life of quiet contentment is a beautiful thing to talk about, but most men had rather preserve such humble happiness as a picture to look upon, than to make the actual experience of it their own.

No final settlement of this long drawn out struggle will ever be reached which does not at least provide for every toiler constant labor with a minimum salary guaranteed.

Of course in labors which can only be pursued a part of the year, the wages during the time of employment must be equal to the minimum through the whole year.

THE records of Yale College show conclusively, not only that graduates now stand a better chance of reaching old age than in the eighteenth century, but also that they live longer after graduation than when the average age at graduation was much lower. In the first half of the eighteenth century only 32 out of every 100 graduates lived beyond 70, while among the *alumni* whose deaths were reported during the last decade, the proportion had risen to 40 out of every 100. Of 500 graduates in the earlier period, only 154 lived 50 years or more after leaving college; while of 500 graduates in the present century, 190 lived 50 years or more after graduation. In other words, although the average man is older when he goes to college, he stands a better chance of a long period of active life after he graduates.

BE ashamed to die, until you have won some victory for humanity.—*Closing words of Horace Mann's Last Address.*

FIVE HUNDRED MILES IN A BIRCH BARK CANOE.

BY REV. HUGH PEDLEY, B.A.

OUR party was composed of four individuals, a guide and the three heroes of my story, whom I shall alliteratively style the Poet, the Pedagogue and the Parson. A few words about each may not be amiss. The poet was of medium stature, dark-eyed and raven-locked. He was endowed with a good share of muscle, developed mainly on the football campus of Victoria College, and also with a propensity for punning, acquired, no doubt, at the same venerable Institution. He was armed to the teeth with a ferocious knife, a breech-loading shotgun, and an enormous self-cocking revolver. He was by all odds the most literary man of the party, going so far as to carry with him the latest Boston book on the exact locality of the Garden of Eden. Our guide was not literary. He seemed to be engaged in a perpetual effort to appear ignorant of the fact that he could not read. This may be said, however, that if every preacher were as competent at guiding his flock as Albert Russell was at guiding a camping party through the wilds of Canada, there would be no talk of a waning ministry. He was not above medium height, but had the shoulders and limbs of an Ajax. He was clean in his habits, clean in his speech, and hadn't a lazy bone in his body. He could shoulder as heavy a load, handle as skilful a paddle, and eat as hearty a meal as any man in all the country round. As for the pedagogue, he was tall, brown-eyed, athletic, good-looking on the whole. His perceptive faculties were exceedingly sharp. He had a keen eye for the slightest movement of game in the bushes, and as keen a nostril for the first curl of incense that arose from that hunter's altar, the frying-pan. In disposition, he was willing and good-tempered. About the only thing that would make him angry was the attack of a swarm of black flies when both hands were engaged in either paddling or portaging, and that would make a saint angry, to say nothing

of a pedagogue. Shall I describe the parson? Modesty, as well as prudence, forbids. In his case, the less said the better.

We made our start where most tourists find their goal—one of the easternmost lakes of the Muskoka series, and bearing a name appropriate to its configuration, the Lake of Bays. Early one morning in July, we left our camp in two birch bark canoes, and directed our course towards the point where the east branch of the Muskoka enters the lake. This we reached after several hours' steady work. An hour's paddle along the windings of the river brought us to Marsh's saw-mill, where we took our dinner. Portaging over the dam after dinner, we put into the river again, and in a short time arrived at a famous three-mile portage. Our baggage was as limited as it could possibly be, and as snugly packed, but with the two canoes, there were two separate loads for each person, and that meant three times three miles of walking. Our plan was to carry one load till we got tired, and then go back for the other, which we carried a little farther than the first one. This doubling process had to be repeated a good many times. It was the first trip of the kind for the poet. When he started with his first load his face was brimful of energy; when I encountered him again there was a look of surprise in his countenance; still farther on I met him again, and there was a look of indignant remonstrance on his brow. The last time I saw him, despair grim and terrible had settled down upon the clenched jaws and haggard eyes. No wonder! It was a hard job, and not one but was glad when it was over.

That night we camped on Ox Tongue Lake. There were two or three small clearances on the shore, the last we were to see for over a hundred miles. The next day we entered the river again. Two picturesque waterfalls had to be portaged by, and at the end of the second portage we camped. The river here narrows into a space a few feet wide, and then with concentrated energy makes a sudden plunge of some thirty or forty feet between great perpendicular walls of granite. Above this there are no serious obstructions to travel for a good many

miles. At Tea Lake Falls we caught our first meal of speckled trout. On the lake itself we saw our first deer. Above Tea Lake, and connected with it by a narrows, is Canoe Lake, so called because long ago one of Sir Wm. Logan's surveying parties was detained here long enough to build a canoe. Leaving Canoe Lake, we found the Muskoka a very small stream indeed, widening at intervals into lakes or ponds of considerable size. At last we came to Island Lake, a most beautiful sheet of water, and the fountain-head of that branch of the Muskoka.

Into one of its deep bays I made a solitary excursion. I kept skirting around the shore, watching the manœuvres of a wild duck with her brood of ducklings, and hoping by quiet going to come in sight of a deer. At the east end of the bay a little creek came flowing in, and beyond the bushes through which it wound was an open space, evidently a marsh. I pushed the canoe quietly up the little stream until I reached the last clump of alders between me and the marsh. Another push with the paddle would have sent me through, when my attention was arrested. Something was moving. The first thing I noticed was the swaying of what looked like the tall branches of a dead pine. Then I saw a great brown body, and I knew that I was in the presence of the lordliest game that walks the Canadian forest. Those swaying branches were the antlers of a gigantic moose. What was the issue of this sudden encounter? Nothing very romantic. I did not shoot the moose, and for several reasons. First, it was contrary to the law of the land; secondly, it would have been a wanton thing to leave 800 or 1,000 lbs. of meat to rot in the wilderness, and lastly, and in case the aforesaid considerations were not sufficiently urgent, I had nothing to shoot with,—rifle, revolvers, and shot-guns were all at the camp. But I had seen a moose, and for that day at least the parson was the hero of the camp.

At the east end of Island Lake we found a portage of nearly a mile. We lifted our canoes out of water that flows into the Georgian Bay; we set them down in water that flows into the mighty Ottawa. Otterslide Lake, a lonely and beautiful body

of water, is the source of the Petewawa, one of the large tributaries of the Ottawa. As far as White Trout Lake this is a small shallow stream broken by rapids, and in many places almost choked up by logs, boulders, and beaver-dams. We had hard, unpleasant work on the way, and were glad when, late in the evening, we swept out upon the bosom of White Trout.

At the foot of this lake were a couple of rapids in whose swirling eddies we expected to make a good catch of speckled trout. On a former occasion, a friend of mine fishing at this spot had three flies on his line, and in the first four casts he made, brought in no less than eleven fine trout. The twelfth was on, but slipped from the hook. I have a vivid remembrance still of my own excitement when, on throwing my line for the first time into the self-same pool, I saw the lightning flash with which a dozen red fins shot towards it. The fishing this year was not quite up to the mark for *that* place, but those who were there for the first time thought it very fine. Our fishing over, we paddled on through Red Pine Lake and several other stretches of water until we reached Burnt Lake, upon one of whose many islands we pitched our tent. Of all the spots on which we camped during our trip, this was the most delightful. The place was so clean and sweet, while the rich carpet of moss was sufficient of itself to give us a luxurious bed. The lake was the largest we had seen since leaving the Lake of Bays, and was dotted with a multitude of islands. The whole scene lay before us as fresh and pure as Eden itself on that primeval day when Adam's eyes were opened to its beauty.

A day of steady paddling and heavy portaging brought us to Big Cedar Lake. Here we began to touch the outposts of civilization on the Ottawa side, in the shape of a lumber farm with its cluster of rude buildings. Here, too, the Petewawa makes a sudden turn, and, issuing from the south-eastern extremity of the lake, goes rushing on its further career of sixty miles. Our course led us to the opposite side of the lake, where we entered a series of small lakes, connected either by portage or small stretches of river. Reaching the head of this chain,

we portaged into the head waters of the Amable du Fond, or Mal-du-Fo as the vernacular has it. Following down Mink Lake, and on through Mink Creek, we came to the noble expanse of Lake Kioshkoqui. From here there were ten miles of river much broken by rapids and falls. This will appear when I say that it was about mile for mile of paddling and portaging.

We camped over Sunday near the end of this stretch. The bank of the river was a huge sandhill, covered with a young growth of trees, and a lot of fallen pines. Behind us at some distance was a clearance, known as McKay's Farm. On the opposite side of the stream was a settler who had just come in that spring, and who informed the awe-stricken poet and pedagogue that he had already slain no less than seven bears. That Saturday night we were disturbed. By a bear? No, but by that other member of the Stock Exchange, a bull. He came over from Mackay's, and the sight of our tent seemed to arouse his ire. We could hear his angry bellowings away in the bushes as he prepared for a final charge. This was about ten o'clock. We had lain down when the ominous sounds broke upon our ears. The poet arose in his might. His nocturnal garment of gray flannel enveloped him like the robe of a Druid priest. Upon his head he wore a spherical arrangement, about the size of a large football. It was called a gauze helmet, and was designed as a protection against the flies. A strange, portentous figure he seemed as he passed from the tent into the starlight. There was a moment's pause, a whizz of some missile through the air, an affrighted bellow, a sudden rush, and then silence. The bull had disappeared not to return. He had seen a vision. Renan says that in Arabia there is already a fabulous legend of Napoleon fully developed. If among bovine herds there is aught of traditionary lore, then I venture to say that in all that region round about, for years to come, will linger the story of the wonderful being, that appeared to one of the fathers of the community that Saturday night.

On Monday morning we carried all our goods over a long portage, and embarked on a sheet of water known as Smith's Lake. Civilization now began to thicken upon us. At the foot

of the lake was the little village of Renton, with its store, saw-mill, two or three houses, and, *mirabile dictu!* its railway station. Here, indeed, was a name for politicians to conjure with, the Canadian Pacific Railway. Leaving the village, we paddled on through Crooked Chôte Lake, then down the river, passing under a C. P. R. bridge, and crossing at last to Moore's Lake. From here the stream goes with a swift rush for a mile to the Mattawan. But, alas for us! What would have been a few moments of swift and glorious transit by water was turned into an hour's laborious journey by land. The lower part of the lake was covered with logs; and several score of jolly fellows were sending them on their way down the stream. We dined at the junction of the Amable du Fond with the Mattawan. Then we had a ten miles' paddle between lofty pine-crested hills, and before sunset were on the waters of the Ottawa.

We pitched our tent about half a mile from the little town of Mattawa. As soon as possible two of us went over to the post office, and as two weeks had elapsed since we had either seen letter or paper, you may be sure that the browned hands were eagerly stretched out to receive the accumulated budget of that time. A strange little place we found Mattawa. Here were fine brick stores, and curious old French shanties, and not far away a cluster of Indian tents. On the street were to be seen the spruce shop-clerk and the rough shanty-man, the telegraph operator and the Hudson Bay voyageur, the fashionably dressed Miss and the wild-looking squaw. On a hill stood the Catholic Church, a fine brick edifice, and not far away a convent. The first sound we heard the next morning, as we lay in our tent, was the deep tone of the church bell, followed by the silvery chimes from the convent. A queer, quaint spot it was. To me it seemed the most Canadian place I had met with in Canada. Three elements were woven into the fabric of its life—the wild past of dusky savage tribes, the mediævalism of French Catholicism, and the mighty progressive spirit of the Anglo-Saxon.

(To be continued.)

THE RELATION OF THE CANADIAN CONSTITUTION TO THE
CONSTITUTIONS OF GREAT BRITAIN AND THE
UNITED STATES.*

BY WILLIAM HOUSTON, M.A.

PROF. DICEY, of Oxford, in his recently published and most valuable work, "Lectures Introductory to the Study of the Law of the Constitution," (p. 152) makes the following remarks :

Turn for a moment to the Canadian Dominion. The preamble to the British North America Act, 1867, asserts with official mendacity that the Provinces of the present Dominion have expressed their desire to be united into one Dominion, "with a Constitution similar in principle to that of the United Kingdom." If preambles were intended to express the truth, for the word "Kingdom" ought to have been substituted "States"; since it is clear that the Constitution of the Dominion is modelled on that of the Union.

As a matter of historical fact, it is well known that the framers of the Canadian Constitution took the Constitution of the United States as their model in dealing with some very important aspects of their work, such as the distribution of legislative powers between the Federal and the Provincial Parliaments. This can be easily established by citations from the published debates on the question of Confederation in the old Canadian Parliament, and from a comparison between the two documents themselves. The distribution of powers is not identical in the two instruments, but a glance will show that it is similar, and we learn from the "Debates," that where there are differences these were introduced with a view to avoiding defects which the Canadian statesmen thought they were able to discern in the United States Constitution. The Quebec Conference, at which the Canadian Constitution in its main features was elaborated, was held during the American secession war, and as that war seemed to be due, to some extent at least, to

* This paper is a summary of an address on the same subject, given by the writer at a recent meeting of the Historical and Political Science Association of University College, Toronto.

the weakness of the national authority, the delegates to the Conference agreed to a scheme of distribution of a more centralized character. In the United States the powers of the central Legislature are strictly defined, the residuum of legislative autonomy being left to the State Legislatures. In Canada the powers of the Provincial Legislatures are strictly defined, the alleged intention being that the residuum of legislative autonomy shall vest in the Dominion Parliament.

In another respect Mr. Dicey's remark holds good. The Constitution of the United States needs to be interpreted like all other written constitutions, and the duty of interpreting it falls, in the last resort, on the Supreme Court of the United States, which can declare void any State law or National law which contravenes it. This power may be exercised by the courts generally, subject, of course, to a final appeal to the Supreme Court, and a long line of decisions attests the difficulty of formulating a written instrument the meaning of which will be so clear as to preclude diverse interpretations. Fortunately for the United States, the task of interpreting the Constitution at an early period in the history of the country devolved mainly on John Marshall, who became Chief Justice of the Supreme Court in 1801, and filled the office till his death in 1835. Marshall was the personal friend of Madison, who had more to do with framing the Constitution than any other one man, and had with him as colleague Joseph Story, the greatest of American writers on jurisprudence. During his long term of office he gave a large number of able judgments, which virtually settled for all time those disputed points which were sure, sooner or later, to emerge. He was succeeded by Chief Justice Tancy, who held the office from 1836 till his death in 1864, and whose views of the Constitution coincided in the main with those of his illustrious predecessor. In this way, for a period of nearly sixty years—two generations—there was given to the work of interpretation an amount of continuity of which no other written constitution can boast, and which has done much to settle the legislative practice under it. In Canada any court can

declare any Act of either the Dominion or a Provincial Parliament *ultra vires* of the enacting legislature, subject to appeal to the Supreme Court of the Dominion or the Judicial Committee of the Privy Council. But however it may be in the future, the practice of interpretation has been anything but uniform in the past. This is due in part to changes in the *personnel* of the courts, but in part also to vagueness in the British North America Act itself, which is a contrast to the United States Constitution in this respect.

The chief point of similarity between the Constitution of Canada and that of the United States is, of course, the federal form of each, and it is to this that Mr. Dicey, in the above remarks, refers. It is difficult to state briefly the essentials of federalism, but Mr. Freeman, in his "History of Federal Government," (p. 2) has given a very fair description of a typical political federation :

The name of Federal Government may, in this wide sense, be applied to any union of component members, where the degree of union between the members surpasses that of mere alliance, however intimate, and where the degree of independence possessed by each member surpasses anything which can fairly come under the head of merely municipal freedom. . . . Two requisites seem necessary to constitute a Federal Government in this its most perfect form. On the one hand, each of the members of the union must be wholly independent in those matters which concern each member only. On the other hand, all must be subject to a common form in those matters which concern the whole body of members collectively. . . . Each member is perfectly independent within its own sphere ; but there is another sphere in which its independence, or rather its separate resistance, vanishes. It is invested with every right of sovereignty on one class of subjects, but there is another class of subjects on which it is as incapable of separate political action as any province or city of a monarchy or of an indivisible republic. . . . A Federal Union, in short, will form one state in relation to other powers, but many states as regards its internal administration. This complete division of sovereignty we may look upon as essential to the absolute perfection of the federal ideal.

The Constitution of Canada conforms as perfectly to this

ideal as the Constitution of the United States does, the *locus* of the line of cleavage of sovereignty being a matter of no importance in this connection. But if Mr. Dicey's remark is correct from this point of view, so also is the preamble of the British North America Act from another. If in outward form the Constitution of Canada closely resembles that of the United States in one important feature, in its inner nature it closely resembles the Constitution of England in a feature no less important. If we have borrowed from one country the principle of federalism we have borrowed from the other the equally important principle of responsible government. In the United States the administration, of which the President is the head, is organized for a fixed term of years; in Canada, as in England, the administration may change with each great fluctuation of public opinion. In the United States the heads of departments of the public service are chosen by the President in fact as well as in theory; in Canada, as in England, they are chosen with a view to securing the approval of Parliament and retaining its confidence. In the United States the Secretaries are not and cannot be members of either House of Congress; in Canada, as in England, Ministers not only may but must be members of one or the other of the Legislative Chambers. In the United States the Cabinet is subject in matters of policy to the will of the President, and Congress cannot dictate to him in the premises except by passing statutes; in Canada, as in England, the Cabinet is practically a Select Standing Committee of Parliament, which remains in existence only so long as it can control the votes and influence of a majority of its members. In the United States the President, the Senate, and the House of Representatives are a check on each other in legislation; in Canada, as in England, one House of Parliament is a check on the other, but the royal prerogative of veto in legislation has fallen into absolute disuse. The President of the United States can veto any statute on his own responsibility to the people who elected him; the Canadian Governor, like the English Monarch, can do that or any other public act only on

the responsibility of ministerial advisers. The members of the President's Cabinet may differ from him and from each other in matters of policy; the advisers of the Queen or any of the Vicegerents must stand or fall together on all matters of public policy.

The United States Government is reproduced in miniature in each State of the Union; the English Government is reproduced in miniature in each self-governing Province of the Empire. In Canada the struggle for responsible government was carried on long and acrimoniously before the principle was fully conceded, on the accession of Lord Elgin to the Viceroyalty, and of Robert Baldwin to the leadership of the Government; but the principle was recognized in Lord Durham's report on the state of the country after the rebellion of 1837. The question is often raised, whether the United States system or the English system is the better of the two, but such discussions are not merely foreign to the purpose of this paper, but are unprofitable in themselves. My purpose is to show that the Canadian system has drawn from both the others, and that it combines some of the best features of each. The principle of federalism is apparently the only possible means of solving the problem of government where the people are scattered over large areas, or have very diverse interests, or vary greatly in ethnical character. The principle of responsible government coupled with that of cabinet solidarity is a happy device for bringing public opinion to bear rapidly, effectively, and yet safely, on not merely the process of legislation, but also the whole work of administration. If we are badly governed under the Canadian system we must lay the blame, not on the system, but on the people.

Those who desire to make a more minute investigation of the question will find ample material for the purpose in Bagehot's "English Constitution," in Wilson's "Congressional Government," and in Gladstone's "Kin beyond Sea." I may be permitted to conclude this brief paper by a quotation from the last named essay, which is devoted to an exposition of the

English system of responsible government, and an incidental comparison of that system with the one which is in operation in the United States :

“ It is to the honor of the British monarchy that, upon the whole, it frankly recognized the facts, and did not pedantically endeavor to constrain by artificial and alien limitations the growth of the infant states. It is a thing to be remembered, that the accusations of the Colonies in 1776 were entirely levelled at the King actually on the throne, and that a general acquittal was thus given by them to every preceding reign. Their infancy had been upon the whole what their manhood was to be—self-governed and republican. Their revolution, as we call it, was like ours in the main, a vindication of liberties inherited and possessed. It was a conservative revolution; and the happy result was that notwithstanding the sharpness of the collision with the mother-country, and with domestic loyalism, the Thirteen Colonies made provision for their future in conformity as to all that determined life and manners with the recollections of the past. The two Constitutions of the two countries express, indeed, rather the differences than the resemblances of the nations. The one is a thing grown, the other a thing made; the one a *praxis*, the other a *poiesis*; the one the offspring of tendency and indeterminate time, the other of choice and of an epoch. But, as the British Constitution is the most subtle organism which has proceeded from the womb and the long gestation of progressive history, so the American Constitution is, so far as I can see, the most wonderful work ever struck off at a given time by the brain and purpose of man. It has had a century of trial, under the pressure of exigencies caused by an expansion unexampled in point of rapidity and range; and its exemption from formal change, though not entire, has certainly proved the sagacity of the constructors, and the stubborn strength of the fabric.”

THE loftiest wooden bridge in the world is over Stony Creek on the C. P. R., in British Columbia. It carries the trains 295 feet above the water. The length is 750 feet, and the cost \$250,000. The iron bridge at Kinzua, Penn., is the only railroad bridge in the world which exceeds this in height.

THE TWO REVELATIONS.

THERE are two records of God's creative energy. One is the record of the unfolding of *man* and of the race under the inspiration of God's nature; this is a mere sketch; of the ancient periods of man there is almost nothing known. The other of these records or revelations—if you choose to call them so—pertains to the physical globe, and reveals the divine thought through the unfolding history of *matter*; and this is the older.

So we have two revelations: God's thought in the evolution of matter, and God's thought in the evolution of mind; and these are the Old Testament and the New—not in the usual sense of those terms, but in an appropriate scientific use of them.

In that great book of the Old there is a record of progress, order, and result of God's thought in regard to the globe as a habitation of man. Though not every stage, yet the chief stages of preparation of this dwelling for man have been discovered, and are now being deciphered and read. The crude, primitive material of the world of matter, the igneous condition, the aqueous stages, the dynamic and chemical periods, the gradual formation of the soil, the mountain-building, the dawn of life, vegetable and animal, the stages of their progress—are not all these things written in the scientific revelation of God's history of creation? When I reflect upon the range of the invisible and silent God, with the vast and well-nigh incomprehensible stretch of time, and of His compassionate waiting and working through illimitable ages and periods, compared with which a million years as marked by the clock are not seconds; when I reflect that the silent stones and buried strata contain the record of God's working, and that the globe itself is a sublime history of God as an engineer, and architect, and as master-builder, I cannot but marvel at the indifference with which good men have regarded this stupendous revelation of ages past, and especially at the assaults made by Christian men upon scientific men, who are bringing to light the long-hidden record of God's revelation in the material world.

With what eagerness has the world heard of the discovery in Egypt of the tomb that contained the buried kings of the Pharaohnic dynasty! But what are all these mighty kings, wrapped for three thousand years in the shroud of silence, compared with the discovery of God's method and the results of creation millions of centuries ago, retained in the rocks? 'Were the two tables of stone, written by the finger of God, a memorial to be revered, and their contents to be written in letters of gold in all men's churches, and yet His ministers and priests turn with indifference or with denunciation, even with scorn, sometimes, from the literature of the rocks written by the hand of God all over the earth? What are the Ten Commandments but a paragraph out of the book of the divine revelation of nature? Ages before Sinai itself was unheaved in the progress of divine world-building; ages before the human race was enough advanced to have made the Ten Commandments possible, God was slowly moulding the world that was to contain within itself its own history. Science is but the deciphering of God's thought as revealed in the structure of this world; it is a mere translation of God's primitive revelation. If to reject God's revelation of the Book is infidelity, what is it to reject God's revelation of Himself in the structure of the whole globe? There is as much infidelity in regard to the great history that science unfolds to-day as there is in regard to the record of the Book—and more! The primitive prefatory revelation of the structural thought of God in preparing a dwelling for the human race—is that nothing? Man had a cradle represented to antiquity as the poetical Eden; but the globe itself had a different Eden, one of fire, convulsions, clouds and storms, of grinding ice and biting chemistry preparing the soil.

To be sure, the history of man in the Bible is more important than the history of the globe. The globe was created for man, as a house is created to serve the family. But both are God's revelations; both are to be received with intelligent reverence; both are to be united and harmonized; both are to be employed in throwing light, the one upon the other. That noble body of

investigators who are deciphering the hieroglyphics of God inscribed upon this temple of the earth are to be honored and encouraged. As it is now, vaguely bigoted theologians, ignorant pietists, jealous churchmen, unintelligent men, whose very existence seems like a sarcasm upon creative wisdom, with leaden wit and stinging irony swarm about the adventurous surveyors who are searching God's handiwork, and who have added to the realm of knowledge of God the grandest treasures; men pretending to be ministers of God, with all manner of grimace, and shallow ridicule, and witless criticism, and unproductive wisdom, enact the very feats of the monkey in the attempts to prove that the monkey was their ancestor.

It is objected to all assertions of the validity of God's great record in the matter, that science is uncertain and unripe; that men are continually changing the lines of science, that it will not do to rest upon the results of scientific investigation. It will be time to consider science when it has ripened into certainty, say men, but not now. Well, as the case stands, how is the record of the Book any more stable and intelligible than the record of the rock? The whole Christian world for two thousand years, since the completion of the canons, has been divided up like the end of a broom into infinite splinters, quarrelling with each other as to what the Book did say, and what it did mean. Why, then, should man turn and say that scientific men are unsettled in their notions? At the Congress of Christian Churches in Hartford recently, the Rev. Dr. Hopkins, a prominent High Churchman, said: "No less than nineteen different varieties of Christianity are at present trying to convert the Japanese. The nineteen do not agree as to what the ministry is, nor as to the Word, some including the Apocrypha, and others discarding it altogether; and many differing as to the meaning of the Scriptures. Nor are they agreed as to the Sacraments. So, too, on doctrine, discipline, and worship. There are all sorts of contradictions of belief. Now, if Christians, with eighteen centuries of accumulated tradition, cannot agree, how can we expect the heathen to solve the great riddle?" This is

not mine, but I give a hearty Amen to it, and only find fault with it because it is not strong enough. When men, therefore, attempt to pour ridicule upon the legitimate deductions of scientific investigation, that have passed through the periods of trial, discussion, and proof, as if they were less praiseworthy than the declarations of the written revelations, I say to them, "No ground can be less tenable than such a ground as yours if we will look at the way in which the written revelation is misunderstood, and into the infinite splittings and divisions which men have made in attempting to interpret what is said to be the more stable revelation of truth. It is said, or thought, that a layman should not meddle with that which can be judged by only scientific experts; that science demands a special training before one can discern correctly its facts, or judge wisely of the force of its conclusions. This is true; it is true both of those who accept, and those who deny its results. But, when time and investigation have brought the scientific world to an agreement, and its discoveries pass into the hands of all men, there comes an important duty, which moral teachers, parents, and especially clergymen, are perhaps as well, or better, fitted to fulfil than mere scientists, viz., to determine what effect the discoveries of science will have upon questions of morality and religion. It is to this aspect that the best minds of the Christian ministry are now addressing themselves.

H. W. BEECHER.

I WOULD rather be a sick philosopher than a healthy fool.
 I would rather be a dissatisfied fool than a satisfied bigot.
 I would rather be a dissatisfied Socrates than a satisfied fool.
 —*John Stuart Mill.*

THE only thing which is really good is that Living Love that wills the blessedness of others.—*Lotze.*

NO MAN, no church, is strong that is fed on guesses.—*Joseph Cook.*

RESTING BETWEEN HEART-BEATS.

BY REV. CLAY TRUMBULL.

IF there be one symbol above another of tireless activity in living service, it is the throbbing human heart. By day and by night, whether sleeping or waking, in all the years from birth to death, the heart keeps on in its life-supporting toil. The heart-throb is the first token of a new existence; it is the last sign of remaining life, when even the very breath has ceased to come and go.

Modern physiologists have shown that after every heart-beat there is a distinct and well-defined pause of the heart as if for rest, and that the aggregate of these brief heart-naps is about eight hours, or more, out of every twenty-four,—a reasonable amount of sleep for a busy worker. If the human heart can keep at its important mission as steadily and as continuously as it does, and yet gain one-third of all the passing time for absolute and refreshing rest, who can say that his toil is so unceasingly exacting that he has no opportunity for needful rest without a complete break from the responsibilities of his position, and a prolonged intermission of their activities? Who would claim, indeed, that the heart itself would wear better, and do its work longer, if it were to take its resting times in a continuous eight hours of every day, or a continuous four months of every year? What ground is there, in fact, for supposing that the rest that comes to the heart between heart-beats is not the best and the truest rest which the best and the truest hearts could ask for?

Rest is essential to efficient service in any and every sphere; but continuous and prolonged rest is not the order of repose from action in the higher spheres of nature's working. It is the earth-clinging reptile, and not the sun-seeking king of birds, that will sleep for months together in a state that is little better than death itself. It is a sign of cold blood, rather than of hot, when a mammal must hibernate for half a year. In a land where the night is six months long, after a six months' day, there is no high achievement of genius possible, in the season

of sleeping or of waking. It is the senseless clod of the field which must lie fallow for an entire year at a time, in order that it may be capable of its best productiveness at other times. No such necessity is laid on the throbbing heart or the busy brain. And that man keeps himself at his lowest plane of possible efficiency who seeks his needful rest after the pattern of the corn-field, or of the tortoise, or of the Arctic bear, instead of after the pattern of the tireless symbol and centre of personal human life. He has risen highest in the scale of being, who is able to rest efficiently between his heart-beats.

There is always a loss of power to those persons who can obtain rest only by a prolonged season of intermission from their ordinary activities of body or of mind. There is always a gain of power to those persons who can snatch rest in the quickly passing seconds which intervene between their successive duties of action. A mother who can never sleep refreshingly unless she can have an unbroken night of rest, bears no comparison, in the power of a mother's ministry, with one who can catch little naps in the momentary intervals of her sick baby's wakeful worrying. On a night march, the soldier who would drop himself on the ground and catch a few minutes' sleep whenever the column was halted because of some obstruction to its advance, would find himself fresh and strong when the morning came; while the soldier at his side, who would make no attempt at sleep until he could have several continuous hours for sleeping, would be unfitted for his new day's duties, and would even gain less from his unduly postponed sleep when at last it came to him in its order.

It was said of Napoleon, that he had the power of dropping asleep at any time and at any place without a moment's delay, and of gaining rest in a few seconds of snatched sleep when he was unable to get more. This was in itself one element of Napoleon's pre-eminence, and the man who more nearly approaches the high plane of Napoleon's possibility of intellectual achievement is almost always the man who can thus, as it were, gain his rest between heart-beats.

Prolonged work, without the constant relief of due rest between heart-beats, may, indeed, bring the necessity of prolonged rest—like a long summer vacation—with a corresponding intermission of normal heart action. But, if the proper rest were taken between heart-beats, there would be no need of any such abnormal suspension of life-supplying and life-diffusing heart-activities. If a man needs a vacation of months at a time, it is because he has not rightly improved his privilege of resting between heart-beats. He has failed to pause after one heart-beat before attempting another. He has not fully let go of one absorbing thought or duty when, in a moment, he must lay hold of a different one. He has not slept in the hours of nightly sleep, or recreated in the hours of daily recreation. He has overtaxed his heart by refusing it due rest in its intervals of pulsation, until now that overstrained heart can regain its vigor only through a season of enforced and unnatural inaction; the uncalled-for excess on the one hand being a cause of the called-for excess on the other. Prolonged vacations are a natural consequence of an unnatural use of one's vital powers—where, indeed, a prolonged vacation is in any sense a necessity to an able-bodied man or woman.

Those persons who obtain their due rest between heart-beats can use their hearts at their ordinary occupation, waking and sleeping, twelve months in every year. *They* need no annual vacation. Those persons, on the other hand, who really must have a vacation, are persons who have, for some reason, failed to obtain a fair amount of rest between heart-beats; accordingly, they are necessitated to live on, with their invalid lives, estivating in mental inaction, as the tortoise and the bear hibernate in physical torpidity. But such persons, one and all, ought to know that in their two-fold excess they can never hope to accomplish as much good work, or to do their best work as well, as if they were to keep their hearts steadily in action all the year through, and were to take their rest between heart-beats.—*S. S. Times.*

EDITORIAL.

RACE AND LANGUAGE.—Dr. Roy in this number discusses the effect of language upon national character, and gives one view of the subject, but there are other questions to be asked than those Dr. Roy proposes. Why is it natural for Frenchmen, Germans, etc., to talk in a particular way? Language undoubtedly exerts an influence toward the conservation and propagation of certain mental traits in the people who use it, when once the genius of the language has taken "set" in a distinct form, as is ably shown in the article to which reference is now made; but this language-structure is an effect, the offspring of the mental characteristics of the nation. The final question then comes to be, What is the origin of these mental traits, and what are the laws of their unfolding into language?

These are the questions discussed in a recent work entitled, "General Principles of the Structure of Language," by James Byrne, Dean of Clonfert. According to a review of the work in *Science* for April, Mr. Byrne considers the quality most influential in determining the form of a language is the greater or less excitability of the people who speak it and that where there is a bountiful soil and genial climate to make subsistence easy, there will be quickness of thought, impulsiveness and thoughtlessness of character, giving rise to a language consisting of brief fragmentary words and disjointed phrases, as is the case with the African tribes. In contrast with these the learned dean cites the American tribes with their languages (polysynthetic), which tend to combine many qualifications in a single long and many-jointed word—the natural expression of their slow and considerate temperament begotten of a life everywhere one of anxiety and hardship, whether they live as hunters, fishermen or agriculturists. This method is applied to languages in all parts of the globe. The reviewer vigorously criticises the author on two points. Mr. Byrne considers that the inflected idioms are indicative of the highest grade of intellect, overlooking the fact that the Delaware and the Sahaptin of Oregon are languages as highly inflected as the most highly

inflected European and Semitic tongues. Are inflections then a sign of mental ability or were the ancestral Delawares and Sahaptins equal in mental power to the fathers of Aryan speech? Again, in endeavoring to account for the position of the adjective, Mr. Byrne lays down the hypothesis, that those nations which think much of the nature of things put the adjective before the substantive. Do the Iroquois, the more considerate race, who place the adjective last, think less of the nature of things than the Algoquins who place it first; or the Italians than the Magyars? The reviewer cites the English language to prove that it is the imagination that tends to throw the adjective last. In prose it generally precedes, in poetry and poetic description it tends to follow. The more active the play of the imagination the stronger is this tendency, *e.g.*—

“ Adieu, adieu ! my native shore

Fades o'er the waters *blue*.—BYRON.

“ Announced by prophet *sooth* and *old*,

Doomed, doubtless, for achievement *bold*.—SCOTT.

“ Meadows *trim* and daises *pie'd*,

Shallow brooks and rivers *wide*.—MILTON.

Both Iroquois and Italians are imaginative, and emphatically in this respect the children of Nature as it is spread before them. Their cases support the latter hypothesis. The Japanese, on the other hand, a highly imaginative race, always place the adjective and the adjectival phrase first.

A further interesting course of investigation would be the study of these results, in the light of the principles enunciated in Herbert Spencer's Philosophy of Style.

WASTE IN WHEAT CROPS.—Dr. Paley asserts in the *Contemporary Review* that experiments show that one simple grain of wheat will normally produce seven ear-bearing stalks. The single blade spears into three, then into five or more side shoots, every one of which, transplanted, will form a new plant. Each ear, under average conditions, will contain from sixty to seventy grains. Therefore, as the yield from one grain there is a possibility of four hundred grains, or a fair average of three hundred. That means that one bushel should produce three hundred. But

only twelve or fifteen comes into the farmer's granary; a yield of thirty fold is exceptional. How shall we account for the lost margin? Birds, mice, insects, mildew, loss in harvesting and threshing, account for a great deal. The "volunteer" growths after harvesting prove how much is lost in this operation, much greater probably than is commonly supposed.

Dr. Paley to ascertain with accuracy the actual produce of the plant under ordinarily favorable conditions, sowed a piece of ground of moderate quality with three sets of grains, fifty average grains in each set. The first was sown broadcast, the second in two rows after the manner of drilled wheat, and the third in single grains six inches apart. These gave results very similar. The first set yielded one hundred and forty-eight ear-bearing stalks, an average of seven for every one which came up; the second, one hundred and fifty, giving an average of five; the third, one hundred and thirty-eight, giving an average of four. Then, if we reckon the produce of each grain sown to be three ear-bearing stalks, and the complement of each ear to be fifty grains, we have a possible yield under ordinary circumstances of one hundred and fifty fold.

The causes of the loss are what science is now seeking. Scientific wheat farming may in time accomplish the beneficent task of realizing the possible yield of one hundred and fifty bushels from one.

INDIA AND REPRESENTATIVE GOVERNMENT.—Last winter a national congress of Hindoos, composed of delegates from every important political society in the country—from Madras to Lahore, from Bombay to Calcutta—asssembled to discuss the question of political privileges. Twenty-nine great districts sent spokesmen. It is a noteworthy fact that in this native congress, with the exception of the Mohammedans, who absolutely refuse to act in common with their fellow-subjects, all India, with all its diversity of races and of castes, found a means for the expression of their national aspirations after a larger share in the government of their own land. The meetings were pervaded by a tone of gratitude and loyalty toward the English rulers, who have given them education, good

government, order and national prosperity. The delegates, representing the intelligence of native India, were mostly lawyers, teachers and editors. Their leaders have shown a good organizing power, and the sense of national unity and aspiring patriotism is a new departure among the Hindoo races. The problem which the British administration in Calcutta and Westminster will have to face will be to give, not too tardily, scope and employment to this growing intelligence and aspiration, that the sense of loyalty to Great Britain and of national unity may be fused into one strong patriotism, that the law may lose its "foreign aspect" and so forestall the transformation of India into a monster Ireland, without an Ulster.

A SCIENCE OF COLONIZATION.—The English have acquired the art of colonizing. Now comes the science of colonization, which is largely one of acclimatization. If we adopt the monogenetic theory with regard to the human race, then the different characteristics of the different races of men are the result of the influence of environment upon colonies of men. The effects of a new climate upon the emigrant are well-known, being greater the more the climate differs from that of his home. The life of the individual is radically affected, and for a time it is in danger. The point on which evidence is necessary is, how far that which is accidental in the individual becomes permanent in his descendants. There should be thorough-going scientific research along these lines, for this is one factor determining the final government of the world. There are great differences noticeable in the powers of adaptation to new conditions displayed by the different races. To this day relics of the early Phœnician colonies are to be found along the coast of the Mediterranean. This Semitic element is found to be the best for founding permanent colonies, being in this respect much superior to the Aryan. The southern nations have a greater adaptability than the northerners. In the Antilles the English and French have been failures as colonists, while the Spaniards have been successful. Races of less power of adaptation need only go to such favorable regions as Australia, United States

and Canada. It is a waste of race-material for such races to attempt to colonize countries which are unfavorable. Prof. Virchow makes out the order of adaptability to be, first, the Jews, then Spaniards and Portuguese, etc., then the southern and the northern French, and lastly, the Germans. How far choice of food, habits, occupation, etc., explains the remarkable immunity of the Jews is an interesting problem.

“THE MICROSCOPE OF THE FUTURE.”—Dr. Carl Zeiss, of Jena, about three years ago discovered a new glass, which gives more perfect objectives than were possible with crown or flint glass, and now that, through the liberality of the German Government, the experiments are completed and the lenses are being manufactured, there has arisen a chorus of praise from the scientific men who have seen them. The new glass consists of borates and phosphates and contains fourteen elements, whereas the crown and flint glass previously used contains only six. The new lenses seem to surpass all expectations. “The images are of wonderful clearness,” and in the study of disease germs, which of late years has assumed such great importance, it is hoped that the new objectives will supply a great need in revealing details of structure by which germs closely resembling each other, may be distinguished.

MAPS AND FACES BY TELEGRAPH.—The *London Illustrated News* for March gives an account of a very ingenious method of reproducing outline drawings at distant parts by means of the electric telegraph or any signalling apparatus, which has been invented by Mr. Alex. Glen, of England. Upon a piece of paper, ruled in five squares, the design to be transmitted is drawn. The horizontal lines are numbered or marked a, b, c, d, etc., and likewise the vertical. By means of these letters the sender can indicate to the receiver any point upon a similarly ruled paper. Point after point may thus be indicated and connected by lines until a drawing is completed. Different degrees of shading can be denoted by letters, so that in a portrait the hair, eyes, eyebrows and mustache can be

copied with a good deal of fidelity. It is supposed that this invention will prove of great service upon the field of battle in signalling the plan of any battle-field or the map of any locality.

GAMBETTA'S BRAIN.—The brain of the great French statesman was one of unusually small size. Its weight was 38.4 oz., but the third frontal convolution had extreme development, with many highly complicated fissures. In persons of weak mentality this convolution is poorly developed. Broca considered it to be the organ of speech, and Gambetta's brain would seem to confirm this, it being well understood that depth and multiplicity of convolution, by giving a greater amount of gray matter, always accompanies mental power. The quadrilateral lobe was also found to be greatly convoluted, especially below, while the occipital lobe was very small.

CORRESPONDENCE.

PRACTICAL WORK IN SCIENCE.

THE students attending Victoria University, and having a natural taste for chemistry, mineralogy, botany, and geology, have great advantages, but perhaps are not as fully aware of this fact as men who have more experience of a practical kind. Experienced and zealous professors are their teachers. Men of culture, research, and of extensive travel know how to guide the earnest, willing, and humble student mind into avenues of wealth, and eventual manly and independent individuality.

With teachers full of fire and devotion to scientific pursuits, students should make great progress of a practical nature. And they *do*, and will more so in the future.

More of our young men should turn their attention to *assaying* and *analyzing*.

An *assayist* of minerals, or a chemical analyst, has a broad and lucrative field of labor before him. At present there is plenty of room in this department of study. We have but few—few indeed—good and trustworthy analysts in Canada, just be-

ginning to open itself. Capitalists are already rushing into the country and exploring our mineral regions. Further, they are buying up thousands of acres of mineral lands. Largely the work of assaying is done in the States. This will soon change. Canadians will not lag long. They will soon claim and have the lion's share.

But where will Victoria graduates find themselves? Do they intend to sleep and fold their arms in classic, or metaphysic, or Gallic silence? We hope to hear of several of the undergraduates taking up the advanced work of practical chemistry and mineralogy. Qualitative and quantitative analysis of both organic and inorganic matter should be pushed forward with ever-increasing vigor. Cannot the College Board do something to facilitate this matter and aid the work of the professors?

X.

STEEL PENS.

FIRST the steel is rolled into big sheets. This is cut into strips about three inches wide. These strips are annealed; that is, they are heated to a red heat and permitted to cool very gradually, so that the brittleness is all removed and the steel is soft enough to be easily worked. Then the strips are again rolled to the required thickness, or, rather, thinness, for, the average steel pen is not thicker than a sheet of thin letter paper. Next the blank pen is cut out of the flat strip. On this the name of the maker or of the brand is stamped. This last is a very important factor. There are numbers that have come to be a valuable property to manufacturers. Many clerks say they cannot work to advantage unless they have particular styles of pens. The result is that by passing the word from one writer to another a market is soon created for a favorite style. Each steel pen has therefore to be stamped with sufficient reading matter to identify it thoroughly. The stamping is done with very nicely cut sharp dies that cut deep and clean, so that the reading matter will not be obliterated by the finishing process. Next the pen is moulded in a form that combines gracefulness

with strength. The rounding enables the pen to hold the requisite ink, and to distribute it more gradually than could be done with a flat blade.

The little hole which is cut at the end of the slit serves to regulate the elasticity, and also facilitate the running of the ink. Then comes the process of hardening and tempering. The steel is heated to a cherry-red, and then plunged suddenly into some cool substance. This at once changes the quality of the metal from that of a soft, lead-like substance to a brittle, springy one. Then the temper of the steel must be drawn, for without this process it would be too brittle. The drawing consists of heating the pen until it reaches a certain color. The quality of the temper varies according to the color to which the steel is permitted to run. It is the quick eye for color and the quick hand to fasten it that constitutes the skill of the temperer of steel. When the steel is heated for tempering, it is bright. The first color that appears is a straw color. This changes rapidly to a blue. The elasticity of the metal varies with the color, and is fastened at any point by instant plunging in cold water.

The process of slitting, polishing, pointing and finishing the pens are operations requiring dexterity, but by long practice the workmen and workwomen become very expert. There have been few changes of late years, and the process of manufacture is much the same that it was twenty years ago, and the prices are rather uniform, ranging from 75 cents to \$4 a gross, according to the quality of the finish. The boxes sold almost universally contain a gross.

Fancies come and go in the styles of pens as in other fashions. One American maker alone turns out about 350 different patterns. Some of them are very odd, such as the stub pen; the draughtsman's pen, which makes two parallel lines at once; the mammoth pen, suited to use on rough paper; and the pen with the turned-up point, which writes a thick mark, yet runs smoothly over the paper. Then there are delicate pens for ladies, pens that make a fine hair line and yet can spring out to a heavy shading. Already the American steel pens have become famous abroad, and many are exported. Many pens are

made of other metals besides steel. One is the German silver non-corrosive pen for red ink. Another is an imitation gold pen made of non-corrosive metal. There are pens of all colors and sizes for all trades and professions.—*New York Sun*.

BOOK NOTICES.

“HISTORICAL SKETCH OF THE DISTRIBUTION OF LAND IN ENGLAND.” By Prof. Wm. Lloyd Birkbeck, Cambridge University. Price 15 cents, post free. J. Fitzgerald, Publisher, 393 Pearl St., New York. “The question of land distribution is attracting attention all over the world, and in England its discussion threatens to produce, at no distant day, a profound and far-reaching social and political revolution. Hence a treatise on the principles of land distribution is most timely, and must be welcomed by every studious observer of the events of current history.”

“CHARLES DARWIN: HIS LIFE AND WORK.” By Grant Allen. Published by J. Fitzgerald, 393 Pearl Street, New York. Price 30 cents. The brilliant Canadian writer has in this work accomplished a task *con amore*, and in tracing the evolution of the idea of evolution in modern times from the form ‘little as a human hand’ in the minds of Buffon, Geoffrey St. Hilaire, and Goethe, down to the present, when ‘it hangs o’er all the thirsty land’ he has shown his power. Darwin’s ancestry are described, his education, his travels and his work. One cannot help catching some of the enthusiasm with which the writer describes the course of Darwin’s investigations, and of the loving admiration in which he holds the great naturalist. The eloquence, vivid description and humor displayed everywhere make the book as fascinating as a novel, while the philosophical appreciation of the results—the yeast of modern thought—has enabled Mr. Allen to produce a volume which may well take the place of Darwin’s own works for those who have not time to read the great originals.