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ARTICLE I.

COLLEGIATE EDUCATION—MATHEMATICAL AND CLASSICAL
STUDY.

By B. B. Edwards, Professor at Andover.

THE subject of collegiate education in the United States is intimately related to the prosperity of Theological Seminaries and to the usefulness of the Christian Ministry. Hence we have opened our pages, not unfrequently, to classical criticism, and to topics of a more general nature, bearing on the studies, libraries, revenues, etc. of the colleges of our country. The seminaries are fed from the colleges. If the latter are flourishing, the former will not be likely to languish. If pursuits of a commercial, mechanical or business character, present irresistible attractions to the select youth of our land, then not only will the college hall be vacant, but the churches will mourn, and heathen lands continue to sit in darkness, because none will come to them with the messages of truth.

The basis of theological training, in all the departments, is an adequate knowledge of the Hebrew and Greek Scriptures. A system of divinity has value just in proportion as it is founded on the grammatical interpretation of biblical texts. Beautiful dogmatic systems have often been formed by the adoption of the current explanations of the proof passages, without subjecting them to a sifting examination, by detaching a verse from its context, by building on mere verbal resemblances, or by framing the materials independently of biblical truth, recourse being had to the written revelation in order to save appearances, or as a kind of buttress to the walls. A thorough, life-long,

grammatical study of the original Scriptures, pursued in the Seminary, is essential for all who would be able theologians, or who would magnify their office as expounders of Divine truth. But this study will not be prosecuted with energy unless a foundation is laid in the college. It is the accurate classical scholar who will become the able biblical interpreter. He only who is grounded in Demosthenes and Tacitus, will be likely to relish the words of Paul and Isaiah, as they are found in their original source. There is an universal grammar. The principles of all languages are to a great extent alike. He who has mastered any single language, has the best preparation to commence any other. He who has come to the classic page in college as a task, who does not find a kind of going out of the heart to those old masters of thought and speech, will be likely to sell his Hebrew Lexicon at the earliest opportunity, and content himself with king James's version. Hence, the systematic, patient, genial study of Latin and Greek in the colleges, is of unspeakable value in its bearings on theological study, and on the success of the Christian ministry. Hence the reason why so many clergymen fail to become skilful interpreters of Divine truth. Their preparation in Greek and Latin was superficial.

Again, the successful study of systematic theology requires a disciplined mind, the power of tracing effects to a cause, of making nice discriminations, of concentrating attention upon a single object, of combining truth into a system, of marking the relations of a vast system of truth, of detecting the most latent and specious sophisms. No one can make rapid or satisfactory progress in the studies of natural and revealed theology without a disciplined understanding. Truth is one and simple, but it is capable of logical analysis, of a development strictly scientific, and of an orderly and beautiful arrangement. But this stern discipline is ordinarily acquired in college. It is the fruit, in a great degree, of severe mathematical study. The pursuit of mathematics and of the related branches of natural philosophy fit the mind for patient attention, for severe and continuous thought, and give it that sharpness and delicacy of edge, which, in unison with the culture acquired by other studies, are an excellent preparation for the pursuits of theology. Hence it is of preëminent importance that the abstract and exact sciences should occupy a prominent place in the college course. Any diminution of interest in this class of studies will operate with prejudicial effect on the whole professional life, and on the entire course of the Christian ministry. Loose and vagrant habits, an inability to concentrate all the powers of the mind, the want

of clear statement and accurate analysis in sermons, are a legitimate effect of a superficial mathematical training.

The same remarks are applicable to taste, and to skill in written compositions. The ability to hold the pen of a ready writer is not acquired in a day. Habits of accurate composition are the slow growth of time. The power of wisely selecting a topic, of protracted meditation upon it, of a logical arrangement of its parts, of calling up from a well stored mind apposite illustrations, and of a tasteful and impressive exhibition of it in language, is rather an acquisition than a gift. It is the product of long months of hardy discipline. It is the result of many a painful process. Though a secure and a precious possession, it is hard-earned. The foundations of a correct taste and of a practised style are commonly laid in college. The theological student carries forward and perfects the discipline. The seed is sown in the early collegiate training which bears its precious fruits in the pulpit and the lecture-room. The elements of good writing, and sometimes its most beautiful and finished forms, are obvious in the commencement exercise of the graduate. In such cases, we may confidently predict a successful professional career.

Equally close and important are the moral relations of the college and the seminary. If the standard of moral excellence in the former be high, a healthful influence will pervade the latter. If the college course is marked by ennobling aims, by a lofty morality, by a sincere piety, then the professional school will be elevated into a serener atmosphere, the ethics which are there taught will find a more welcome home, the Christianity which is professed and preached within its walls, will shine out with more of its native splendor, and the churches in distant years will rejoice in the benigner influences. Thus in an important sense the theological course will be extended, not over three years merely, but over a decennium. While the student is acquiring the general principles of science, he is studying them with a truly theological spirit. The college becomes the nursery of an elevated morality, of a holy living, and of all generous aims, eminently qualifying for studies which are exclusively sacred.

Such being the intimate, reciprocal relationships of the college and the theological institution, we may well consider often, and at length, the condition and the wants of the colleges. It is well worth our while to watch closely their development, and the changes which are proposed in their organization and in their course of studies. We rejoice in their prosperity, as we do in that of the churches or of the country. The destiny of all is bound up together.

Peculiar weight is added to these considerations from the fact of the rapid, but not unfrequently injudicious, multiplication of these institutions. Our widening country is dotted with them. Their existence dates with that of each State, almost with that of the territorial government. Hence the subject is one of paramount importance, and its discussion in our pages needs no apology.

We propose to consider briefly in the following pages the nature of our collegiate system, what should be its aims, and how its highest efficiency may be secured. If we shall deal somewhat in the language of censure, or dwell somewhat on the deficiencies of the present system, it will not be in an unkindly spirit, or with any want of appreciation of the signal benefits which the collegiate institutions have conferred on the country for more than two hundred years. What then is needed to secure the highest usefulness of our colleges?

I. Every reasonable effort should be put forth to improve and perfect the academies and preparatory schools. Too much pains can hardly be expended in sustaining and protecting their growth. They lie at the foundation of our entire system of higher education. A defect here extends through all the following stages. Bad or good habits are here formed and strengthened. A direction is generally given which determines the destiny forever. Every considerate friend of collegiate and professional education can hardly fail to put forth a helping hand in sustaining and encouraging these schools.

There are indeed several academies and classical schools, scattered throughout New England, that are making laudable efforts to elevate the standard of preparatory discipline, and that send forth students excellently fitted for the higher institution. But they are few and far between. The majority of our college students are not trained within their walls. In one respect the effect of our present arrangements is injurious. Those members of a college class who have been well trained at the academy are brought into contact with twenty, or thirty, or forty, as the case may be, of those who have had no adequate preparation. The consequence is that the general standard of acquisition is depressed. The well trained minority must conform to the average scholarship. Without any powerful stimulus for further effort, they may come to rely on their previous acquisitions, and the youth of high promise sinks into a respectable mediocrity. We have in our eye a number of instances of this unhappy retrogradation.

A three years' course of study in the preparatory school ought to be insisted on in all ordinary cases. Every moment of this period may be filled up to the best advantage. The parent or guardian, who

strides it, in order to save expense, or because his son or ward is somewhat advanced in life, may commit an irreparable injury. Imperfect preparation for college often operates as a serious discouragement throughout the course, and occasions embarrassment and mortification in all subsequent life. The number of studies which are required for admission to college cannot be well mastered in less than three years. The principles and details of the two classical languages are to be fixed in the memory for life. The thorough study of the elements of these languages is necessarily a slow process. Repetition is the only road to success. Frequent and searching reviews are indispensable. Many points in topography and geography are to be ascertained. Maps and drawings are to be freely canvassed, and all the appliances of modern classical erudition are to be brought into requisition. The details of prosody and versification must now be investigated. In short, the forms, the syntactical laws, the outward history and the inward structure of these noble languages are to become familiar to the ingenuous youth as household words, so that when he enters upon his college course, he may enjoy the beauty of the landscape. The drudgery of the ascent should be ended. He should now be ready to take in the wide horizon, and grasp those forms of everlasting beauty which shine around him. In other words, he may now enjoy Tacitus and Demosthenes. He can feel something of the strengthening influence which comes from their immortal pages. He pierces beneath the forms to the principles. Through the language he imbibes the spirit. His mind enlarges; the chains of ignorance fall from around him; gradually he attains to a comprehensive knowledge of the great themes which he studies. He learns accurately to estimate the merits and defects of the systems of government; law, and polity with which his mind is conversant. All the while, his eye is trained to appreciate the graceful forms of Plato, and his ear to drink in the subtler melody which comes from the pages of that "old man eloquent." His taste is quickened and purified, till he attains the highest style of the scholar, a susceptibility for all truth and beauty, a power of kindly appreciation for all science and literature.

But it is sad to think how rarely this picture is realized in college! How slow and toilsome the professed scholar's steps! How seldom does he attain the high privileges of his birthright! He has never mastered the elements of the grammar. The analysis of the verb may be an impossible task. He reverts to the classical page only at the call of duty, or the dictate of authority. His preparatory training was desultory and interrupted. He reaps through all his subsequent

life, the harvest which his errors, or those of his early guardians, sowed.

In the preparatory course, too, the elements of the mathematics should be studied. The youth between the ages of fourteen and seventeen or eighteen is competent to master portions of algebra and geometry. Sufficient time for this purpose ought to be spared from the classics. The latter should be indeed the prominent and leading study in the preparatory school, as they are fitted beyond almost any other branch of knowledge to the lively susceptibilities of youth. Still, a good beginning may be made in the other great department of collegiate learning. The mental powers which are addressed by mathematics begin to be developed in the later stage of the preparatory school. This study, likewise, will furnish an agreeable relaxation from the classical routine.

The young scholar having thus laid the foundation in the classical school, by mastering the elements of abstract science, and by becoming familiar with the forms and principles of the two great languages of antiquity, will be prepared for the wider fields which await him. Exact knowledge in the earlier course, has fitted him to climb loftier heights, has given him a keen relish for the profounder truths and more beautiful forms to which his attention will be called. If the classical school has done its work well, if the three years have been wisely occupied, the education is in one sense complete. Just habits are formed; the great aims of a student's life are appreciated; real and perhaps the greatest difficulties are surmounted, and that course is begun which will lead to the loftiest attainment. In short, the preparatory school occupies in some respects the most important place in our system. It holds the keys of knowledge. It has in its hands almost unlimited means of good. It may easily shape the destiny both as scholars and moral beings of most who are committed to its keeping. It should be fostered with the most benevolent care. It should be elevated to its high and true rank. The few who are now toiling for its improvement should be cheered with all good omens, and with all substantial aid. It is said that the endowed classical schools of England exert a greater influence upon the higher education, than the universities themselves. The same can by no means be affirmed of the Latin schools of our country. A very few have attained, or are laudably endeavoring to attain, a high rank. But they are met with many depressing influences. Instead of being allowed a six or eight or ten years' course, as is the case with the English schools and the German gymnasia, it is with the utmost difficulty that they can

secure three unbroken years. The ill advised haste or economy of parents, or the relaxation of professed rules at the colleges, diminish the prescribed term to two years or eighteen months.

II. The standard of the prosperity of a Collegiate Institution ought not to be numbers, but the kind of education which is secured.

In the United States, with a population of twenty-three millions, one hundred and twenty or one hundred and thirty colleges are enumerated. In New England, with a population of less than three millions, there are thirteen incorporated colleges. One of the principal evils of this excessive multiplication is the practical lowering of the standard of admission in order that the college may show as large a list of names as may be. The competition between the different colleges has respect to numbers, not to the quality of the instruction, or the facilities for a thorough education. The terms of admission are about the same at all, but we fear that in some institutions these terms are a variable quantity, that in practice they are greatly lowered, and that, instead of a severe and conscientious examination, all the applicants are admitted with about equal facility. It is well if positive inducements to enter unprepared are not held out to young men who ought on every account to protract their preparatory course. The temptations to this ill-advised lenity are strong. The colleges are mainly supported by tuition fees. The larger the number of students, the greater the revenues. The standard, too, of the prosperity of a college which is sedulously cherished in the community, and which the public press encourages, is numbers. This college is preëminently flourishing, because it has two hundred undergraduates; its neighbor is in a depressed state, for it has only one half that number, though it may be pervaded by the spirit of genuine scholarship, its rich results being seen in the culture and ability of its alumni. Another baneful effect, to which we have already alluded, is the premium for imperfect preparation, which it holds out to those who are technically said to be fitting for college. Industry is called into exercise, strenuous exertion is put forth by the members of the preparatory schools in proportion to the severity of the examination to which they are looking forward. But as it now is, if the door is shut against them at one college, it is wide open at another. Accordingly, the stimulus to exertion is in a large measure removed.

The evil in question, great as it is, is not irremediable. The current of popular opinion may be turned into the right direction. The attention of the organs which now control or guide this opinion, may be earnestly directed to it. The commendations which they bestow

on the public exercises of a college may be made discriminating and just. The public mind may be fixed on the rigid examination rather than on the large accession. The institutions which now adhere with commendable strictness to their published requisitions, may be encouraged to be still more exacting. And if it is impossible to induce the colleges to create a common law on this subject, or come to a mutual understanding, single institutions may well risk their prosperity for a season, and be content with smaller classes, and thus establish that high reputation for scholarship, which will surely be rewarded in the end. Indiscriminate admission to valuable privileges, or the relaxation of salutary rules, will prove at length to be short sighted policy.

III. The course of collegiate study must be necessarily limited. A selection only can be made from the vast fields of human knowledge.

This necessity obviously results from the almost infinite disparity between the time devoted to the college curriculum and the studies which might be pursued. The period is by courtesy four years, but by vacations it is reduced to three years, and in many instances, in consequence of absences, not more than thirty months or two years remain for effective study. This brief term is wholly inadequate for the attainment of the leading principles even of many important branches of science and literature. The time is fixed and short, the circle of knowledge is ever widening. Life is momentary, art is long. The age of man is hardly sufficient to master the sciences which have had their birth within the present century. The science of entomology, for example, taxes the life-long energies of such a man as Ehrenberg. The great geographer, Ritter, is likely to leave his work but half accomplished. The student, who would become possessed of the leading principles of a science like Chemistry, needs time and great industry.

Again, the average talent of a class must be taken into the account. The ablest men may accomplish tasks to which the majority are not equal. To adopt a circle of studies which the men of average ability could master only by the utmost exertion, would leave all below them in hopeless ignorance. It would in effect debar not a few respectable scholars from all the advantages of a college.

It is, furthermore, indispensable that a considerable portion of time should be taken up with reviews and reexaminations, in fixing the knowledge already acquired, in considering it from various points of view. It is not enough that the teacher is skilled and able in communicating the principles and outlines of knowledge. The student must have opportunities for personal investigation. He needs time

for calm reflection, for a patient survey, and for gathering up his scattered knowledge into a regular system. The judgment, we believe, of all experienced instructors, coincides with that of the veteran Wytttenbach, that frequent reviewing is the secret of success in study. A little land, well cultivated, enriches the owner. A country is not thoroughly subdued while a single fortress is standing.

The necessity in question arises, also, from the nature of our collegiate system. This system is peculiar to the United States. It differs in essential points from the university systems of England, Scotland and Germany. The schools at Westminster and Winchester secure a discipline and form a character for nice scholarship to which but few of our colleges can lay any claims. Many of the late Dr. Arnold's pupils had acquired fixed habits of scholarship, and settled moral principles long before they left his school. Some, who join the English universities have already gone through a course of discipline longer and more thorough, than is reached by our entire American system, preparatory, collegiate and professional. It would be more pertinent, therefore, to compare our colleges with the English classical schools. With these, however, there are more points of dissimilarity than of resemblance.

The Scottish universities are conducted on principles very unlike those which lie at the basis of the American colleges. They are in a great measure professional schools. The instruction is communicated by lectures. The attendance upon them is optional. They have often been the theatre where brilliant discoveries have been propounded, rather than schools where old and simple truths have been taught. Eminent metaphysicians, original investigators in science have illuminated these venerable halls with their researches. Institutions, like the High School in Edinburgh, are far more analogous to the American collegiate system. The attendance is compulsory; the members are arranged into classes; a complete circle of studies is pursued; and many pupils are trained immediately for practical life.

How divergent the German university system is from ours is well known. No two systems could easily be more unlike. Many of our colleges are far inferior to the German gymnasia. No college in the United States pretends to give so complete a classical training as is effected in a multitude of the German gymnasia. The German universities are admirably fitted to receive the students from the gymnasia and carry forward their studies in some special department, or perfect their training, with the aid of great libraries and eminent professors, so that they may fill the offices of school superintendents,

principals of gymnasia, assistant professors in the universities, and many others in the gift of the government. The object is not so much the discipline of the mind, as the acquisition of positive knowledge, or the investigation of some special topic to its farthest limits, or the publication of a book which shall secure an appointment. On the contrary, the great design of the American collegiate system is the discipline of the mental faculties, the educating and culture of all the mental powers, the sharpening of the instruments by which success in life is to be achieved. This has always been regarded, we believe, as the special aim of our collegiate system. The communication and reception of instruction, highly important as they are, have been viewed as of secondary consequence. Adequate discipline has not been acquired in the preparatory school. It must now, if ever, be secured. No one is prepared for the professional school, or for professional life, till he has undergone this hardy discipline. But the attainment of it is impracticable, if the course of study be extended too far. It is a trite remark that it is immaterial what science or branch of literature, one studies, provided he masters it. The robust discipline is attained if the principles of a single science are apprehended. Each branch of literature is a microcosm. It admits of infinite analysis. It involves topics for inquiry to which no limits can be set. The student, who has made himself familiar with the splendid theories and wonderful results of modern Chemistry, or who has studied the Greek language with all the light thrown upon it by comparative philology, and the researches of German scholars, has girded his mental system for almost any effort in any other field of knowledge. Still, the remark in question requires modification. That science or branch of literature is doubtless to be selected, which, while it invigorates the intellect, ensures the greatest amount of useful information. Regard is, also, to be had, in the selection of studies, to the mental defects of the scholar, and to the symmetrical and complete development of his understanding. The peculiarities of individuals may require a somewhat varying discipline. It remains, however, an unquestionable and fundamental truth that the great design of the college system is to secure mental discipline, and not to anticipate the professional studies, or to attempt to survey the vast fields of science and literature.

IV. It hence becomes a question of the deepest interest, What studies lie at the basis of a college education? What branches of knowledge are best fitted to accomplish the end in view? We may confidently reply, Mathematics with the related branches of Natural Philosophy, and the two Classical Languages. There are, indeed,

other studies of great importance, and which ever ought to form a part of the collegiate course. They meet necessities which neither Greek nor Geometry can supply, and no reasonable man would banish them from the lecture-room if he could. Still, they might be better dispensed with than the two studies in question. They do not enter so deeply into the idea of collegiate discipline. Their value, relatively to mathematics and the classics, is indicated by the less time which is assigned to them in the schedule of studies.

As this topic is awakening special interest at the present time, we may be allowed to dwell upon it at some length. It will be readily inferred, that in naming these two departments of human knowledge as of primary and indispensable value, we have respect to the domain of the intellect. It is taken for granted that in Christian institutions as all our American colleges profess to be, the training of the moral faculties is of permanent and indispensable importance, and that all necessary provisions will be adopted to secure their development. Indeed, the classics and the sciences are not to be taught with an exclusive aim to their intellectual effects. The wise, Christian teacher will draw valuable moral lessons from the satires of Horace and the histories of Thucydides. Ethics may be taught and exemplified without the aid of Paley or Brown. The laws of the Divine government are as palpable in the melancholy lines of Tacitus, as in the reasonings of Butler.

The fundamental position of the classics and mathematics in the collegiate system may be shown from a variety of considerations. Let us first look at their nature, or their inherent fitness and tendencies in disciplining the faculties. And first as to the classics.

One of the most obvious and important results of classical study is the habit of discriminating thought which it ensures. It involves from beginning to end a nice analysis, a delicate perception, a constant collocation of words, a sharp definition of synonymous terms, a patient process of comparison till the words which hit the case are determined, a weighing of evidence, a balancing of shades of thought, almost imperceptible. In these processes, the mind acquires the power of recognizing the slightest varieties in thought and speech, something like a quick and unerring instinct; the judgment becomes like the scale capable of weighing the smallest particles, of detecting the slightest variations. Language is no longer an uncertain instrument. Many apparent synonymes are shown not to be such in reality. Forms of speech long acquiesced in as of a general or indefinite character, are divested of the haze which has settled around them. The

ancient writers stand forth vindicated as masters of the subtlest elements of thought, as possessing weapons of the most perfect temper and of the keenest edge — a system of symbols for communicating the fine mental conceptions such as the world has never seen. This power of discrimination has respect, be it remembered, both to words and thoughts. One, trained under this discipline, has acquired, at the same time, the elements of the most effective style, and the ability to form the most careful moral judgments. He can detect the plausible sophism, disentangle the web of error, and exhibit truth in its just proportions. He will not be so likely, as other men, to adopt an erroneous theory, to defend a system whose plausibility consists in the ambiguity of its terms, or to make war, in the temper of a bigot, upon his brethren, who differ from him only or mainly in the language which they employ.

Again, the study of the classics ensures a copious vocabulary. The careful student of Cicero and Plato has enriched himself with many spoils. He has laid in a large stock of invaluable materials, gathered from the choicest fields of literature. In all the exigencies of life, in the thousand calls of duty, at moments when no preparation can be made, he can draw upon resources which are admirably classified and whose value has often been tested. The copious stores of the English tongue have been necessarily digested, compared, arranged, as emergencies required. Successive terms, one phrase after another, have been carefully weighed, and while one has been chosen, the entire series have been sedulously deposited in the records of the memory, ready to trip as “nimble servitors” at the bidding of him who needs them. That the acquisition of a copious stock of select language is one of the effects of classical study, might be proved from the experience of distinguished men in all the learned professions. We have in our eye an eminent American senator, now deceased, who could clothe his beautiful and effective thoughts in the most varied as well as pertinent forms, who was listened to with delight by all his auditors, and who was an earnest classical scholar when he was an octogenarian.

We may advert, in the third place, to the effects of the study on the taste, imagination and general culture. The sculptor, who is aspiring to the highest excellence, repairs to Rome to study the Belvidere Apollo and the wondrous group of the Laocoön, or to Florence to gaze upon the Venus or the Dancing Fawn. The young painter idealizes his conceptions before the great masters of his art at Munich, Venice and Rome. The landscape painter plunges into the

recesses of the Alps, or lingers under the "purple" light and amid the eternal spring of Southern Italy, that he may copy his model in her most awful or fairest attitudes. The forms of mediæval architecture, which shoot up so gracefully and in such inimitable proportions in the Netherlands, are patiently studied by him who would produce works worthy to live. So he, who would be drawn to the beauty of written symbols, who would gaze at the "winged words" of the masters of language, who would worthily educate his own instinctive love for beautiful sounds and forms, who would place himself under the full influences of compositions which combine the freshness and simplicity of nature with the last polish of an art that conceals itself, will repair to the pages of the classics. He will carefully study their finished sentences. He will mark the perfect truth of expressions which can never grow old. He will dwell upon some word or phrase exquisitely chosen which is a picture in itself. To these cherished passages, he will revert so fondly, that they will be forever singing in his ears, or be vitalized as it were, and incorporated into his own being. We need not refer any true scholar to the passages which can be excelled by no specimens of sculptured or pictured beauty. The Odes of Horace, the Georgics of Virgil, the Poems of Homer, the Dialogues of Plato will at once recur to the mind. They furnish models which combine all the excellences of which the subject is capable — perfect truth to nature, sweet simplicity, most felicitous selection of epithets, a collocation of words which is music itself, the repose of conscious power. It may be said, indeed, that this is in part a deception. The antiquity of the poems casts a deceptful halo around them. The rich clustering associations of two thousand years are with them. So much the better, we reply. If to their unapproached intrinsic excellences, we add the mellowing and exalting influences of time, then they will be only the more worthy of study.

The distinct benefits which the classics confer on the taste and imagination are such as these: The mind learns to delight in order, proportion, fitness, congruity. It instinctively shuns extravagance, finical terms, unseemly plays of words, all straining after effect, all ostentatious parade, all dainty expressions, all cant phrases, all tautology and wearisome diffuseness. It would be an unpardonable offence against his old teachers, if the scholar should deck out his compositions with tawdry ornament, or deform them with unseemly adjuncts. He feels as the student of Raphael or Michael Angelo does, that they will frown on aught which interferes with the severe simplici-

ty or the heavenly beauty, which speak in every lineament of their works.

These excellences are strikingly contrasted with the defects of many of those writers who do not make the classics their model. They may possess great force of thought and language, and in certain directions great power of execution. But in an unexpected moment, a sad prejudice will be revealed, an extravagant opinion will be broached; the mind will be developed in a one-sided and disjointed manner. The charm and usefulness of symmetrical culture never meets our eyes. They are able but not finished thinkers and writers. We never repose upon them with entire affection and confidence. We always suspect some lurking weakness, or dread some unlicensed outbreak. We do not look to this class of men for finished writers, for men of the purest taste or comprehensive views, or perfectly sound opinions.

There is another class of these influences, to which we have already alluded, and which must be felt rather than described. We refer to those reminiscences which forever linger in the memory, which people the fancy, which excite the imagination, which attract the affections, like strains of the sweetest music. There are passages in Cicero's works which seem like the dear faces of departed friends yet remembered. They are full of an elevating, genial influence. They crowd the mind with solemn and affecting impressions. They suggest thoughts which, for the time being, expel every low desire and frivolous fancy. They have not indeed a religious efficacy, yet they are powerfully auxiliary to all virtuous tendencies. The music of their words does not sound harshly along with the holier strains that come from the hill of Zion. Passages in nearly all the greatest writers of Greece and Rome embody the beautiful yet fragmentary notes which natural theology utters through all her domains. It is this melancholy association in part, in company with words of the most exquisite fitness and grace, which gives to the passages in question their deathless power. Some of them are the words of men who saw the ancient glories of their country fading away never to return. Hosts of barbarians, or the sands of the deserts were mutilating or burying works which their authors fondly thought they were fashioning for eternity. But, whatever may be the causes of this peculiar influence, it certainly exists, and is like a perennial spring in the hearts of all genuine scholars, and it is an influence which no literature but the classical supplies, except in a very limited measure. We look in vain for it to the student of Johnson, or Burke or Addison. We find it in a degree in the

pages of great poets like Milton and Wordsworth, for they were imbued with the spirit of classic song.

We will now refer, in the fourth place, to another great benefit of classical study. By means of it we can trace no inconsiderable part of our own language to its source, and we lay an excellent foundation for the study of the languages of all Southern Europe. The part of the English language derived from the Latin, or variously affected by it, through the Norman conquest of England, the juxta-position of England with countries that use languages derived from the Latin, and the influence on the English, of the studies of learned men, conversant with Latin, is quite important. It is only the classical scholar who enjoys the signal advantage of being able to trace these various forms to their roots on the Roman soil, and of having spread out before his mind, without investigation, their thousand modifications and associations, at once enriching his style and enlarging his knowledge. The same is true, to a less extent, of words derived from the Greek language. An acquaintance with the derivation and history of these expressive terms, many of them so useful in modern science, is an acquisition of no mean value. Again, the classical student is possessed of the elements of all the South European dialects, with a few insignificant exceptions. The traveller in Italy, without a particle of acquaintance with the Italian language, soon feels at home. The sounds, and in many cases, the identical words of a familiar speech greet his ear. The student who sits down to French or Spanish literature, finds that half his labor is accomplished, if he has mastered the Latin. Many of his old friends, indeed, appear under a somewhat different costume. They have enlarged or diminished their attire, not always, as it seems to him, in the best taste, but no transformations can hide from him their original parentage under Roman skies.

We may refer to a recent but eminent benefit which results from classical study. It introduces us to a vast body of varied and profound criticism. It unlocks treasures of inestimable value. Some of the greatest minds of the present day have traversed the fields of classical literature, and have illuminated with the light of a happy erudition, the most secret nooks, and the remotest corners. Great classical scholars, like Niebuhr, Müller, Savigny, Hermann, have brought stores of learning to bear upon the illustration of the classics, no more admirable in amount than in selection, pertinence and sterling value. Multitudes of very able men have labored, not in verbal criticism merely, not in the lighter matters of metre and prosody, but on

the great questions of law and government and revenue, and on the still greater questions of moral philosophy and theology. The profound problems relating to man's eternal destiny as stated by the Greek and Roman moralists, the degenerating process of heathenism as it wandered farther and farther from a primeval revelation, the true significance of pagan mythology, etc., have been handled with a depth and fulness of learning, with a clearness of method, and with a satisfactoriness of results, which should seem to leave little for the future inquirer. The laws of the two classical languages, the principles of syntax, the relations of these languages to others, opening the rich fields of comparative philology, have been investigated with eminent success. These investigations impart to the subject a truly scientific worth, and command the attention of all who feel any interest in the origin and fortunes of our race. Now this vast body of classical criticism, and historical literature, for which we are indebted to hundreds of able scholars in Germany and elsewhere, can be adequately appreciated only by the classical scholar. In illustration, we may refer to works on the philosophy of Plato and Aristotle; to those comparing at large the origin, structure and relations of the Latin and Greek languages; to the profound, acute, and, in one sense, creative labors of Niebuhr, and of the very able scholars who have followed in his steps, in investigating the ante-Latin languages of Italy, and the general antiquities of that country; to profound treatises on Roman law; to acute researches in ancient and modern history; and to studies of a more general nature, sweeping over the vast regions from India to the Atlantic, and deducing by a rigorous inquiry the mutual laws of the most important languages of past and present times, and showing the identity, in origin and locality, of the races that spoke them. In short, a vast field has been traversed, and is now thoroughly exploring, by hundreds of eminent scholars in Germany, France, England and other countries. The rich fruits of these explorations can be enjoyed only by those that have mastered the two classical languages. These, in some respects, constitute the central points — embrace the germinating principles of the inquiry. They possess a literature perfect in form and adequate in amount. Being understood by large numbers of scholars, they can be appealed to as common umpires in a dispute. Through them, as a mirror, we can see the culture and development to which all the sister dialects might have attained, or did actually reach.

We may now refer to the other great department of collegiate study, the mathematics and the relative branches of natural philoso-

phy. In the language of Dr. Whewell, "No education can be considered as liberal, which does not cultivate both the faculty of reason and the faculty of language: one of which is cultivated by the study of mathematics, and the other by the study of the classics. To allow the student to omit one of these, is to leave him half educated. If a person cannot receive such culture, he remains in the one case irrational, in the other, illiterate."

The great and indispensable value of mathematical study may be illustrated by a reference to the practice of composition. The ability to write in an impressive manner, is an acquisition of importance for all educated men, for multitudes indispensable. Stores of knowledge are valuable in proportion as they can be used. An effective and accomplished writer does not owe his skill to chance. Neither is he indebted only or mainly to a ready memory, to a nervous excitability, to strong passions, or to the gift of imagination. In addition to these he needs the exact training which mathematics will furnish.

What are the principal hindrances in the way of the youthful writer? On what points is he liable to be discouraged? Why are many unable to make a deep and continuous impression by their written performances? One cause of it is, the inability to fix the attention. The mind is under the dominion of vagrant habits. When brought, forcibly as it were, to reflect upon a particular subject, it starts back instantly. It rebels against all efforts to confine it. The individual who has not disciplined himself to habits of close attention, may write effectively, on particular occasions; but his success is owing to some extraordinary impulse, or to some external cause powerfully exciting his feelings. The effects of his exertions will be likely to be evanescent. They have not the enduring element of connected thought, or of just and comprehensive views. He has not investigated the subject on all sides, but has been seduced by some attractive features, or by some temporary interest involved in it.

Another hindrance is, the inability to abstract the mind from all intruding cares, all foreign and all related objects, and keep it inexorably fixed on the one point before it. One may have the power of fastening the attention in a measure, of drawing it within the general range of the topic to be investigated, but he fails to separate the particular quality, the identical point, to bid all related questions depart, and to keep the thoughts resolutely and for a long time, on the hinge of a discussion, or on the needle's point, as it were of a theme. Napoleon on the field of battle, or in his tent at night, could abstract his mind from every consideration and fasten it on the one necessary to gain his ob-

ject. With writers, it is often the reverse. Foreign or but partially related thoughts come thronging before the field of vision. Hence, they never attain to a logical consistency. One thing does not flow legitimately from another. Their compositions are as far as possible from being well reasoned. They are not the evolutions of a principle, but the stringing together of beads. A thought is impressive only by its independent force. It has no vital connection with its predecessor, nor with that which follows. The fortress is carried, if at all, by the impetuosity of a single unplanned or ill-planned charge, not by well-concerted or closely connected assaults. Defeat or want of success is the rule. Victory is accidental. In other words, the mind of the writer has not been trained mathematically. He has not been disciplined by a rigid geometry. He has not familiarized himself with the unerring and absolute truth of lines and numbers. His positions want the precision which they might acquire from the axioms of pure science. His inferences might flow legitimately from a hundred other doctrines. His reason has not been cultivated. A leading department of his intellect has run to waste. Mathematical discipline would have introduced order into this confusion. A patient study of abstract science would have added immeasurably to his power as a thinker and writer.

The topic under discussion may be strikingly illustrated from experience. Several hundred years bear testimony to the value of mathematical and classical study in the collegiate discipline. The whole civilized world, since the revival of letters, have coincided in the general arrangement of the university course. This general acquiescence, however, has not been effected without discussion. The ground, at several periods and in all the leading countries of Christendom, has been sharply contested. The relative value of the classics has often been tried in a fiery crucible. Mathematical study has encountered fierce assailants. The practical utility, especially of its higher departments, has been confidently denied, as if the great object of the college course were not mental discipline, but the formation of a corps of original investigators in mathematics and natural philosophy. Still, the verdict in favor of these studies, has been all but unanimous. In our own country, opposition to the prominent place which these studies hold in the system, has at various times appeared. But it has always given way to fair and open argument. Besides, the conviction of the value of these studies is not confined to those who have pursued them. Business men, intelligent mechanics and merchants, who have not received a collegiate education, have often given

the most gratifying testimony in behalf of the classics. The high opinion of their value entertained by the late Dr. Bowditch, who was what is called "a self-taught" man, is well known. One of the most eminent and wealthy living merchants of Boston, not himself educated at College, has repeatedly affirmed that a business clerk with a classical education was generally far superior to one not so educated, doubtless because it secures a training of the faculties, a balance of mind, and a quickness of apprehension that is reached by no other method of discipline. An eminent author in the natural sciences, a distinguished scholar of Ritter, remarks, that, as a general rule, those individuals in the classes of natural science, who were skilled in the classics, had a marked preëminence over those who had not thus been favored.

It may, however, be more instructive to adduce, in proof of our general position, the experience of the English Universities, some of the results of the liberal studies which have been pursued in our parent country for several centuries.

The classics and mathematics have been from the beginning at the foundation of liberal studies in England. It is true that classical studies at Oxford have had far too great a preponderance over the mathematical, while at Cambridge, especially before the present century, mathematics were the favorite and far too exclusive study. Yet, on the whole, taking the two Universities and the Classical Schools together, the fundamental studies in the liberal education of Englishmen have been the two in question. The classical deficiency in Cambridge was partly at least supplied by the thorough classical preparation in the Schools, and by the efforts of particular Colleges. The mathematical want at Oxford has been in part atoned for by the rigid discipline of the Aristotelian logic, well known as the favorite study from the foundation of the University.

We may here repeat the remark which we made in an earlier Number, that we do not by any means regard the English course of study as incapable of amendment. Some of these amendments are of grave importance. The natural sciences, political economy, etc., were jealously excluded at Oxford up to the present year. The habits and systems of that university, the absorbing attention to the scholastic logic, the exclusion of some of the more liberal classical writers, have doubtless had much to do with the peculiar theological and Papal tendencies which have given an unfortunate celebrity to that venerable seat of learning. A wider and more general course of studies would have liberalized the views of its members. The study of the clas-

sics at public schools and at the universities has been too much of the letter, without the spirit. It has consisted too exclusively of niceties, of imitation, of attention to forms. The pupils have kept too much aloof from the substance, from the great questions of morals, law, politics, general grammar, comparative philology, etc., which have characterized the German method.

Still, notwithstanding all its defects, we look upon the English system with reverence. We believe it has wrought out immeasurable good for the people of that country, and through them on those of other lands. The subversion of the institutions, the substitution of any other branches of knowledge in place of the classics and mathematics, would be justly regarded as an irreparable calamity. The English university system was the parent of our own; and our own system, if not the cause of unmixed good, has been one of the main sources, and one of the mightiest bulwarks of all which is precious in our land.

As a general proof of the practical benefits which have resulted from the English university system, we may point to the English character, to the world-wide reputation of Englishmen for virtue, knowledge, steadiness of principle, practical benevolence and usefulness. It would be folly, indeed, to attribute all this result to this or any other single cause. Many causes have coöperated; chief and paramount among them has been Protestant Christianity. Dissenters, too, who have never been graduated at the universities, have borne a noble part in extending the influence of the British name, though they have shared largely in the indirect benefits which have flowed from the great national schools. Still, we are entitled to name the universities as one of the principal instrumentalities that have created what we mean by British character and influence. A large proportion of her naval and military officers, governors of provinces, consuls and ambassadors, travellers, the men of the three learned professions, statesmen, and multitudes of the gentry, bankers, merchants, etc., received their training in the classical schools and universities. The most susceptible and important period of their lives, from the age of ten to that of twenty-one, was passed in the venerable halls and shades of Eton, or Winchester, or Christ Church, or Trinity, or some other of those foundations, whose very stones and door ways seem to be freighted with instruction. We are authorized, therefore, to attribute to these seats of learning no small share of that which has made England what she is. She is distinguished for sterling integrity. This may be owing in a measure to the fixed and regular

discipline of her schools. She has a name among the nations for the love of liberty in union with law. This may proceed in a degree from the restraints of a prescribed course of abstract study, united with the generous influences of the classical page. England is eminent for wisdom in action — for practical good sense. May not this be ascribed in part to the effects of mathematical and classical study in imparting symmetry to the views, in preserving the mind from bias and one-sided tendencies, and in fitting it to meet the real exigencies of life?

But this point is so important that we may be allowed to specify some particulars. The English people of the upper and middle classes are characterized for sobriety of judgment, by a native common sense, by a steady and not unworthy opposition to change, by a reverential and loving reliance on the past, sometimes, indeed, excessive, but generally in beautiful contrast with the course of their restless continental neighbors. As a leading cause of this characteristic, we may refer to the influence of the universities. There stand those old seats of learning, the very embodiment of past generations. In the whirl of the present, how soothing to look on their time-worn pinnacles, to walk beneath their moss-covered arches, to wander along the aisles which were once trodden by Bacon and Newton! Amid the buoyancy of youth and the excitements of the times, nothing could be more wholesome than to live under these awful shadows of the past. Entirely coincident is the effect of the studies themselves. The scholar lives among the great minds of antiquity, shedding upon him a serene and never-setting light. His daily tasks conduct him to the profound reflections of Thucydides, and the unchanging truths which shine forth from many of the pages of Aristotle. Or he is contemplating the beautiful truths that lie couched in lines and numbers, those immutable "ordinances of heaven." He is refining his sensibilities and his taste among the wondrous creations of ancient literature, or disciplining his reason in the fields of absolute truth.

Again, the English upper class, taken as a body, and many in the middle, are distinguished for an admirable culture, for manners so simple and graceful, that they seem to be inherited, not acquired, attractive, because they are the expression of a native courtesy and real friendliness. It is not the growth of a day; it is not the patronising courtesy or intolerable assumptions of a class that have just risen from obscurity. It is the product of ages of refinement. It is the growth of a civilization more perfect than the world has elsewhere seen. We cannot but attribute it in part to the university system, to the

proprieties and decencies of the life that is led there, to the intercourse of the young with their accomplished seniors, to the refining and tasteful local associations, and to the congenial influences which come from the studies of the historians and poets of Greece and Rome. These influences may be indirect and imperceptible; but thoughts so beautiful, clothed in forms of such exquisite grace, as are found for example in the Greek tragedians, must form no small element in the culture to which we refer. Through a thousand avenues they enter and pervade the susceptible hearts of the young.

Furthermore, the university system counteracts and neutralizes in a measure the great tendency of the English mind to that which is immediately practical and useful. Oxford and Cambridge have cast up mighty barriers against an intensely avaricious spirit. They are public, standing monuments of the worth of mind. They are constantly uttering their silent yet intelligible protest against that exclusive spirit which would test all things by their weight and measure. England is absorbingly commercial and manufacturing. The acquisition of riches, the eager pursuit of material advantages are her besetting sin. But a liberal education affords some counterweight. The truths of geometry have a close relationship with the loftiest conceptions which can fill the human soul. In the language of Playfair, "the reason of Newton and Galileo took a sublimer flight than the fancy of Milton and Ariosto." Classical studies, too, are eminently humane. Well were they styled the "humanities," from their enlarging, unselfish influences. They have no special affinities with what are called "the material interests." They lead to the cultivation of tastes, which throw a charm over the dealings of trade, lighten the heart of the banker, and lead the mechanic and the land-owner to cherish enlightened views and perform philanthropic deeds. "It is delightful," says Mr. Talfourd, "to see the influences of classical learning not fading upwards, but penetrating downwards, and masses of people rejoicing to recognize even from afar the skirts of its glory." In further illustration of the utility of the university system, it may be mentioned, that a large number of those who leave the universities, enter upon the study of the law, or into political life in Parliament. Now, what both these classes preëminently need, is mental discipline, not knowledge, not the facts of science, not the details of statistics, but the power of working with the mind, of fixing the attention often on the most arid subjects, of grasping the great points of a question, of disentangling a net-work of inconsistencies, of laying bare sophistical plausibilities, and of bringing at once the whole force of

the intellect on the citadel that is to be carried. The late Mr. Buxton owed his usefulness, under God, to his exact and finished training at Trinity College, Dublin. He triumphed in parliament, not simply on account of the justice of his cause, or the strength of his feelings, or the accuracy and thoroughness of his information, but because he could grasp, and digest in a masterly manner, and luminously expound whatever he undertook. While gaining the prizes in college, he was fitting himself to be the champion of Africa.

The preceding considerations might be abundantly confirmed by the detail of particular cases. It has been constantly asserted and reiterated, that the most eminent public men in England, in every art and science, have not been educated at the public schools, and that the universities contribute but a little to the science and intellectual progress of England. Let us test this remark by a few decisive instances. Francis Bacon entered the university of Cambridge in his thirteenth year, "where he made astonishing progress in all the sciences taught there." Isaac Barrow, whom the king called "the best scholar in England," spent nearly one half of his life in the universities of Oxford and Cambridge. Just after, "within the walls of Cambridge," in the language of Professor Huber, of Marburg, "were found the two men, Newton and Bentley, who, in the promotion of science and of classical criticism, became the leaders, not of England only, but, in the first instance at least, of all Europe." Newton would probably have lived and died as the overseer of his mother's farm, if his attention had not been accidentally, or rather providentially, directed to Cambridge. Locke's philosophy, pervading the college lectures at Cambridge, paved the way for Newton's agency, and prepared the academic soil and atmosphere for it. Locke himself was educated at Westminster School, whence he was elected, in 1751, to Christ Church College, Oxford. "Here he distinguished himself much by his application and proficiency." John Milton was removed from St. Paul's school, London, to Christ's College, Cambridge, where he "distinguished himself by the purity and elegance of his Latin versification." Joseph Addison spent six years in Oxford, and gained distinction by writing Latin verses. Lord Mansfield was educated at Westminster. Blackstone went from a public school to Oxford, and was fellow of a college when he wrote his Commentaries. "William Pitt's stay at college was unusually long, nor did he leave it until his mind was as perfectly formed as it could be by theory." His knowledge was not confined to the classics, though with these he was conversant. The more severe pursuits of Cambridge

had imparted some acquaintance with the stricter sciences. Mr. Fox was highly distinguished at Eton by his Latin and Greek poetry. "Like Mr. Canning, Lord Carlisle and Lord Grenville," says Mr. Brougham, "Lord Holland laid both at school and college a broad foundation of classical learning, which through his after life he never ceased successfully to cultivate." The Marquis Wellesley was pronounced by the master of Eton to be superior as a classical scholar to Porson. He continued these studies with great success at Oxford. Mr. Wilberforce's "natural talents were cultivated and his taste refined by all the resources of a complete Cambridge education." At Eton, Mr. Canning became distinguished for the elegance of his English and Latin poetry, as well as for the easy flow and propriety of diction which distinguished his pure compositions. At Christ Church, Oxford, he increased his high literary reputation and gained several prizes.

It were easy greatly to enlarge this list from the most illustrious names in England, both from among the dead and the living. The bishop of London, who has been said to be the best living Greek scholar in England, was greatly distinguished at Cambridge, and obtained several prizes. The same is true of a large number of the most eminent mathematicians, natural philosophers, orators, statesmen, classical scholars, etc., now living in England, e. g. Mr. Airy, astronomer royal; Dr. Peacock, author of the algebra, etc.; Mr. Melvill, the eloquent preacher; Prof. Sedgwick and Dr. Buckland, the geologists; Judges Coleridge and Talfourd; Archbishop Whateley; Sir John F. W. Herschell, in the highest rank in college; Bishop Thirlwall, the historian; Mr. Macaulay, who carried off a number of prizes; Prof. Challis, the astronomer; Mr. Adams, who is fellow of St. John's College, Cambridge, several members of which college have established an Adams prize "in testimony of their sense of the honor he had conferred on his college and the university, by having been the first among the mathematicians of Europe to determine from perturbations the unknown place of a disturbing planet exterior to Saturn." This list, however, we need not extend. A very large proportion of the ablest men in almost every department of public life, who honor the British name, were educated at the public schools and universities. But, as it has been well said, a chief advantage and excellence of the public schools and universities consists in forming the *secondary* men, who carry a cultivated taste, a liberal and manly understanding and a mild intelligence into all the retired walks of life. We will close these observations by referring to the testi-

mony of the late Dr. Arnold, which is particularly valuable from the fact of the independence of his character, and the favor with which he regarded reforms: "My own belief is, that our colleges of Oxford and Cambridge are, with all their faults, the best institutions of the kind in the world, at least for Englishmen."

We may recur, on a future occasion, to some other points connected with this subject.

ARTICLE II.

REVIEW OF DR. WOODS'S WORKS.

By Heman Humphrey, D. D., Pittsfield, Mass.

The Works of Leonard Woods, D. D., late Professor of Christian Theology, Andover; in five volumes. Andover: Printed by J. D. Flagg & W. H. Wardwell. 1850.

DR. WOODS is a theologian of the old, or Edwardean school, owning but "one Master, even Christ;" and few if any of his contemporaries, on either side of the Atlantic, have contended more earnestly or ably "for the faith, once delivered to the saints." Amid the fluctuations of the age, he has never swerved from the primitive New England orthodoxy—the exponent of which, is the Assembly's Shorter Catechism.

The structure of Dr. Woods's mind is eminently conservative. It has no elective affinity for new and startling theories, of any kind. He chooses to walk in the beaten path "of the Apostles and Prophets," heedless of beckonings, however plausible and captivating, on the right hand or the left. Some have thought him quite too slow and cautious, for an age of progress, which outstrips everything but the lightning. But, if he has not "kept fully up with the times," he has adhered closely to the Bible, and his manifest aim has been, to "prove all things, and hold fast that which is good." Old men should be allowed to abide by the old landmarks, and leave it to those, who with better critical and exegetical helps are coming after, to extend the boundaries of theological science, if they can, within the "charter." We are just now under such rapid head way, that it needs some strong