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A table of contents for *Bibliotheca Sacra* can be found here:

https://biblicalstudies.org.uk/articles_bib-sacra_01.php

THE BIBLIOTHECA SACRA.

ARTICLE I.

THE FUTURE IN COLLEGE WORK.

BY HON. JACOB D. COX, CINCINNATI, OHIO.

SOME of the richest colleges in the country have, in recent years, made almost revolutionary changes in the character and purpose of the college curriculum. These changes imply so great an enlargement of the college faculty and of the consequent annual expenditure of money, that competition with them in this respect is impossible. The old distinction between colleges was chiefly in the number of undergraduate students. The present one is, in the main, that of money, for each has seemed to make haste, according to the endowment and income it may command, to follow the example set by the richest. But nearly all American colleges are small in endowment and in the number of the faculty; and the question, how the principle of the survival of the fittest will work in this matter, is a practical and vital one in education.

This statement sufficiently shows that the distinction which I shall make between the larger and smaller colleges is based upon the size of the corps of professors and teachers, and not upon the number of undergraduate students. Indirectly, as I have intimated, it is based upon wealth, for all the institutions of learning which could afford it, have seemed eager to copy the pattern first set by Harvard, and to increase the number of elective studies or courses of study as fast and as far as their means will

permit. Perhaps not more than eight or ten colleges in the United States have the income necessary to go very far in this rivalry, and the rest of the three or four hundred must be ranked with the less wealthy institutions, which must inquire whether they will accept the rôle of inferior schools, and confess that they offer a less valuable education and a less useful fitting for the responsibilities of life and for the scholar's career than their richer rivals.

If the truth requires the confession to be made, it must be honestly and frankly done. There should be no concealment or subterfuge. We should say to a young man or woman, This or that rich college offers you a more perfect preparation for your future work than we can give you, and you ought to go there if it be possible for you. In short, the students of the country would and should congregate in a very few great colleges, so that the great should become greater and the small smaller, if it be true that the average undergraduate will be most greatly benefited by the advantages there offered. It is because I believe that this is not true, that I have chosen the topic for my article. I sincerely believe that in the balancing of advantages and disadvantages, the small colleges will be found to hold their own, and need have no fear of the results of a generous competition upon the lines now laid down.

I propose to give some of the reasons for this faith, and to point out what seem to me the conditions of success in the work of higher education. This will necessarily include some discussion of the new methods as well as of the improvements which are practicable in the curriculum of such institutions as I have included under the description of smaller colleges. The subject is worthy of a treatise, for it involves the very foundation of the science of pedagogy, and the most I can hope to do is to indicate in a very brief outline the principles which seem to me to be involved in the debate.

We should not forget that we are dealing with the

question of the systematic education of youth, and with collegiate education rather than with that of the university. The traditions and habits of school life in this country have made a sharp distinction between the preparing or fitting school, the college, and the professional school. If a congeries of professional schools is organized under the same academic government as the college, we give to the whole the name of University; but we still limit the term University education to that which is procured in the professional schools. It is true that many of our colleges have been incorporated under the name of University without offering that systematic post-graduate instruction which the higher name implies. This is sometimes done from a vain wish on the part of the corporation to seem larger than it is; but probably expresses, in most cases, the hope and expectation that the institution will gradually assume all the functions implied in the name.

I see no reason for changing or wishing to change our established American nomenclature in this matter. It accords well enough with the fact, and there is no such uniformity in Europe as to make it specially desirable to imitate a foreign example. If the leading nations of the Old World had a common and fixed classification of schools, with a definite value given to each stage of progress and the same or equivalent meaning to each degree conferred, we might well make any changes necessary to bring our method into harmony with theirs. But since each country has adhered to its own customs, we may as well do the same, trying only to build upon and improve what we now have, and looking to substance more than to form.

Education is necessarily adapted to the period of infancy, of adolescence, and of the maturity of man. From time immemorial our law, based upon still more ancient custom, has recognized the first three septennial periods of life as natural units which together make up the period of minority. The first is the period of complete irre-

sponsibility, in which the parents must think for the little one, must guide its steps, control its actions, and teach it some degree of self-control. Within that period the child cannot commit a crime. The second is the period of partial responsibility, in which intelligent consciousness of the consequences of actions is not assumed to exist, but may be proven in individual instances. Self-control is supposed to be rapidly developing, and amenability to the motives of right and wrong, and the subordination of desires to reason may to some extent be reckoned upon. At fourteen the boy enters upon the third period, and is said to have reached years of discretion. His responsibility for criminal actions is complete. His judgment is trusted with the decision of important matters pertaining to his own rights and those of others. He may choose his guardian, he may make a will, he may even marry with the consent of his parents, and his business contracts are not wholly void. But he is not yet permitted to assume fully the free man's position in the State, and must await the conclusion of the third septennial, when his body has reached its full stature, and his mind will have lost the timidity or uncertainty of boyhood. Both physical and mental powers may still be far from their maximum, but he must now shift for himself and assume the duties as well as the privileges of a citizen. He may leave the paternal home and become himself the head of a family, the natural unit in a modern State.

I have thought it worth while to remind the reader of this legal subdivision of the period of minority, because it seems to me to have interesting relations to the subject of education. It would be a mistake to suppose that such a division of the immature period of life is an arbitrary one, because all men do not grow with the same rapidity, and reach the same stage of development on the same day. The custom and law are evidently the result of a natural evolution based on wide experience, and the average

physical and mental progress of millions of youth. If we should assume another rule in the matter, we should almost certainly find it failing us and leading to unsatisfactory results. We may therefore safely take this legal division of life as a natural rule by which we may measure other relations, and by which, to a great extent, we must be controlled. At the age of majority the legal control of the parent ceases, and as the tutor stands by law as well as custom *in loco parentis*, the same period marks the necessary end of any form of education that implies such authority. The limited right of self-assertion which the law recognizes when the youth reaches "years of discretion" implies also an end of the unquestioning obedience and complete direction in education which may before that time be claimed, and the beginning of some personal choice in the fitting for a career in life which must then be seriously begun. That is the period at which the boy must choose whether he will learn a mechanical trade, fit himself for commercial pursuits, or aim at a liberal education and a probable professional career. The legal restraint is still over him, forbidding him to choose idleness or vice, and he is not yet thrown wholly upon his own judgment; but he begins to have an acknowledged share in the determination of his own conduct and course in life.

I take it that a more or less conscious recognition of the influence of immemorial law has determined the fact that the great majority of American youth who aim at a liberal education, have tried to bring both the preparatory and the undergraduate college course within the period extending from the fourteenth to the twenty-first year of their age. Those who are delayed longer in beginning look upon the delay as a misfortune, as it postpones their entry upon the full responsibilities of manhood beyond the period which seems the natural one. We must probably accept this as the permanent law applicable to the subject, and arrange the college courses of

study so that a boy who has followed the ordinary line of English education up to his fourteenth year may, with three years of additional preparatory work, be admitted to college, and take his bachelor's degree in four years more. After that will come his special professional work if he is to become a professional man, and for this the broadest university organization and the most liberal choice of lines of work are desirable. If the wealth of the greatest university enables it to offer instruction which shall draw the professional man back to it after years of practical work, so much the better. Here is no fixed limit of time. The matured man of learning may here perfect his knowledge or pursue his investigations, and no question can arise as to the desirability of every means of culture in all the various fields which busy brains are exploring.

Our discussion, then, is limited to the college course proper, and preparation for it; and the question is, whether the average undergraduate student either needs or can profitably make use of the multifarious abundance of great university courses of instruction. To put it in another way, Is there not a propriety and advantage in seeking a liberal education which shall be a solid preparation for all departments of intellectual labor as well as for broad and refined general culture? and may not this be found within the lines which are possible for the work of competent men no more numerous than the professors of even the smallest of our colleges?

I think the inclination to encourage undergraduate students to unlimited election of topics of study has already passed away, if it ever was as great as some supposed.¹

¹ We ought not to forget that European educators are beginning to question the advantage of German University methods in some of the very points which have been supposed to give them an attractive freedom and variety. In an article in *The Nation* for May 27, 1886 (p. 442), attention was called to the fact that Professor Von Schulte in Conrad's *Jahrbücher für National-ökonomie und -statistik* had discussed the disadvantages of migratory studies, when students made up their course by taking semesters at two,

The present tendency is to offer a great number of schemes or courses of study, requiring the student to adhere with reasonable constancy to that which he may select. Here is still room, however, for a very wide latitude, and a field for very earnest debate. The same arguments which support the doctrine of free election in the college course apply with nearly equal force to the preparatory course. The principle of natural selection has already been at work upon this, and the requirements for admission to many of our colleges are varied according to the intended course of study to be pursued by the undergraduate. The selection of the course will therefore be relegated to the beginning of the seven-years' period we are considering, and the student will not have the advantage of the advice of the college faculty in his choice; he comes prepared for one or another line of work, and he cannot depart from it without supplementing his preparatory course, and bringing up omitted parts of it, after his nominal entrance into college. More than this, the tendency will constantly be to neglect, on one pretence or another, the harder work in the preparatory school, and to make a pupil, whose immature judgment and undisciplined will shrink from severe labor, use persuasion and importunity with both parents and teachers to secure permission to drop into the easiest course which offers a degree at the end of it. The election is thus made under circumstances which are not favorable to a wise choice. Very few parents are competent to guide their children in making it, and when the college faculty meet three, or more universities. The Professor also noticed the growing licence in the matter of irregular attendance upon lectures, declaring that the least said about the actual attendance at the lectures the soonest mended; that it is a very good state of things if one-half or even one-third of the students go regularly to the lectures; and that the members of the "*corps*" and other societies do not even pretend to go to the lectures. It is significant that the changes suggested as a remedy are in the direction of our American college system, viz., (1) To make the professors the official examiners, which they are not; and (2) To make annual examinations a condition of going on in the next year.

the student, it is only to help him on in a predetermined way, or to undertake the painful and unsatisfactory work of mingling omitted preparatory study with the college course, to cure the mistakes of the earlier period. I believe that experienced teachers will bear me out in asserting that our preparatory schools, whether public or private, are in great danger of being demoralized by the abuse of the elective system; and that even to-day the elective courses in college do not fairly represent the judgment of pupils, of parents, or of teachers, but the lines into which students have been turned at the beginning of their preparation, by accident, by dread of labor, or by immature fancy or unintelligent whim.

Yet I do not believe it is possible to divorce the preparatory course from that of the college or to require the same entrance studies from all, if part of the class shall drop subjects which they have begun and take up new ones. Nothing is more dissipating to the mind than the habit of skipping from one subject to another, taking a mere taste of each, and pursuing nothing far enough to master its principles and its difficulties or to get from it the general discipline which its study may give. I shall return to this presently when trying to sum up the requirements of a liberal course of study in college; I am now using it only to emphasize my admission that the lines of divergence in elective courses will start in the preparatory course, and that the number of such courses (if really distinctive) will be approximately the same in both parts of the student's career. If it is mischievous at the beginning, its unhappy effects will be felt continuously, till the cure is found, if found at all, in doing the first works over again.

The most persuasive arguments used in support of wide range of election in undergraduate courses, are, first, specific preparation for an intended career or profession, and, second, adaptation to the tastes or idiosyncrasies of the student. As to the first of these, there is a subordinate

question on which I suppose there would be little difference. If there be exceptionally strong reasons why a student must confine his education to a definite period in time (as when he has resolved upon a professional career too late in life to permit the ordinary college course to precede his professional studies), we agree in putting such cases out of the common rule. So far as I know, no medical college, law school, or divinity school in this country has imperatively closed its doors against students who have not a college education. The wisdom of this is not now under consideration: it is a fact, and so far narrows the general discussion. Our attention is confined to those who are able (by whatever heroism of self-denial and persistence of purpose) to devote from nine to ten years of their adolescence and early maturity to a liberal cultivation of their mental powers in a continuous and systematic way, before entering upon the responsibilities of professional life.

Given such an opportunity, how should it be used? Is there a general preparation for a life-work as well as a specific one? and what are the relative values of these? Again, What is the specific purpose for which the specific preparation is intended? Answering the last of these questions first, I would say that in this country few men really choose their permanent employment till they have reached their majority. Even of those who actually graduate from our professional schools, a small percentage, only, adhere to professional work through life. It is literally true that a large majority of those admitted to practice as physicians and as lawyers, ultimately turn to some other employment. If the social and economic conditions of America were like those of some densely populated countries, a considerable part of our young professional men would literally starve, till the survival of the fittest and natural selection had reduced the number to a living basis. Fortunately, the opportunity to correct mistakes is great in so young a nation and so broad a conti-

ment, and the trial of all things, in order to hold fast that which is good, continues long after a student has turned his back on college and university walls. The fact, however, is good evidence that in many such cases, the choice of a profession has been hastily and improvidently made. Considered in connection with the increased difficulty of deciding such a question rightly in still earlier youth, it may fairly lead us to the conclusion, that, so far from being desirable that a student should hasten the choice of his profession, it is better to postpone it as long as it can be safely done. As he approaches at once the end of his college life and the beginning of his majority, every practical question will be viewed with different eyes and with wholly other judgment from that he would have used four years (to say nothing of seven years) before. He will have broken some idols; he will have formed new ideals. His conscious manhood makes a new standpoint, and develops new courage, new desires, new aspirations. To bind him to his boyish will, and tie him to his childish dreams, now seems to him absurd, and he will "find or make a way" to a life which better suits his more developed nature. Remember that this is not the mere question of time. The change between fourteen and twenty-one is different *in kind* from that of any similar periods in later life. That is the difference between boy and man; this is only the change from a younger to a somewhat older man. It seems to me, therefore, that a liberal education should continue to be a common education for all studious youth as far as may be practicable, and that the divergence into specific lines leading to future employment should be postponed, not hurried.

But let us approach the question from another direction. A liberally educated man will never, and ought never to have only a single line of activity and of learning. A mere lawyer, a mere doctor, a mere chemist, a mere biologist, a mere physicist, is a miserably one-sided man, and his narrowness generally makes him weaker,

even in his own specialty, than he would be if he were more evenly cultivated. No one can put more strongly than I would concede the necessity of the subdivision of labor, and of concentration upon a small field, if knowledge in any department is to be advanced; but I am happy in believing that, when a good foundation of general culture is laid, the man of symmetric development will use his powers even upon a specialty with greater results, and that even in accomplishment upon a narrow field he will be surer and more fruitful than the other. Yet this is not all of it. He has his duties to himself, to his family, to society, to his country, which he may not ignore. He ought to be prepared to consider all these relations wisely, to judge practical affairs sensibly, to advise his friends and neighbors judiciously, to vote intelligently, to take any other part in public affairs without feeling incompetent to form an opinion or to act vigorously in case of need. He requires as much as another the softening influence of art, and the rest and refreshment found in the love and appreciation of music. It is a shame to him, as to any other, to be ignorant of literature and to lack cultivation of taste. A well-devised college education may at least open the eyes and ears of the mind to these fields of general cultivation, and so widen the student's vision that the effect will never be lost, and that the leisure moments of even the busiest life may continue the culture and broaden the man as long as he lives.

At the Harvard celebration of its two hundred and fiftieth anniversary James Russell Lowell in his admirable oration touched upon this topic with characteristic force and elegance. His position in American literature and in public affairs, his wide knowledge of the world, and his ripened judgment of the scholar's relations to society make him an authority whose weight will be universally acknowledged. Every word he uttered meets my cordial assent, and I cannot deny myself the satisfaction of borrowing the language in which he summed up his idea

of the education he would wish his *Alma Mater* to offer to American youth. "Let it continue," said he, "to give such a training as will fit the rich to be trusted with riches, and the poor to withstand the temptations of poverty. Give to history, give to political economy, the ample verge the times demand, but with no detriment to those liberal arts which have formed open-minded men and good citizens in the past, nor have lost the skill to form them. Let it be our hope to make a gentleman of every youth who is put under our charge, not a conventional gentleman, but a man of culture, a man of intellectual resource, a man of public spirit, a man of refinement, with that good taste which is the conscience of the mind, and that conscience which is the good taste of the soul."

What I have urged by no means implies that the college course would be a four-years' lengthening of the educational period which would otherwise be chosen. Nobody is so unreasoning as to claim that a college course shall be *all* devoted to specific studies. The extremest advocate of election and subdivision would probably concede that half the undergraduate studies of an expectant chemist and an expectant lawyer might profitably be common to both. The question then would only be of the expenditure of two additional years in general preparation for a learned life, even if we assume (a perilous assumption) that the specific career were sure to be wisely chosen from the beginning. Considering fairly the dangers of mistake, the probably frequent mistakes really made in this choice, it seems to me very clear that from this point of view also, the general and common course of study, if it be wisely chosen, is a true economy of time and effort, in the long run, besides being a thing of greater value in itself.

The most specious of the objections to the view I am presenting may be stated thus: The demands of professional and of business life are so engrossing that few men continue the studies of their youth unless they are con-

stantly used in the career they adopt; consequently they forget what they have learned, and might as well never have learned it.

Premises and conclusion, both, are open to criticism. It may be granted that Americans are, more than other people, absorbed in the ordinary business of life. We take fewer holidays, we allow the grown man fewer diversions of body or of mind. Instead of diversifying our existence by giving some time, from day to day, to cultivation, to mental and moral growth, and to national enjoyments, it is our fashion to regard it a manly virtue to grind in the mill as many hours of the twenty-four as nature will bear. Instead of making life happy in the passage of it, giving it zest by variety of thought and occupation, we assume that there is a great prize called "success" which is somewhere in the future, and is only to be gained by slavish devotion to narrow and narrowing labor. In the business professions, as in commerce and trade, men look forward to a time when they will "retire," and flatter their souls that they will then revive their interest in literature and in art, in social problems and in public interests. We know very well that most of us do no such thing. The success comes to but few, and most of the few are as incompetent to change their habits and find zest in the occupations they once dreamed of, as a paralytic would be to leap and dance. This is the acknowledged vice of our democratic race for wealth,—shall we make it the criterion and the law for our intellectual life? No; we should rather try to make all who call themselves liberally educated feel the sin and the shame of it. To continue and to build upon our early education should be at once a duty and a joy, and I find great satisfaction in the belief that, in the best and highest sense, success in all truly intellectual pursuits is more surely within the grasp of him who continues this general cultivation than of him who neglects it.

But we must not deny that memory is far from infalli-

ble, and that our intellectual life must, at best, be a course of gaining and losing, of growth and waste, of assimilation and excretion. No devotion to a single line will altogether help this. The greatest specialist will be conscious of forgetfulness as well as another, though not every one will make it the occasion of so good a retort as that well-known one of old Sergeant Maynard of the English bar to the notorious Judge Jeffries, when twitted with having forgotten his law through age,—“True, Sir George, I have forgotten more law than you ever knew.” The fact that a long disuse of knowledge dims and diminishes it, does not in itself prove that no good was got in acquiring it. A rule which would exclude from our education all that we do not keep bright with use, would tie us to a ridiculously narrow line. How many men in ordinary occupations have had occasion to extract a cube root to two or three places of figures by the arithmetical rule? How many lawyers or physicians have solved a quadratic equation or made practical use of any but the simplest theorems of plane geometry after leaving college? How many working engineers have occasion to demonstrate the binomial theorem or the construction of logarithmic tables? Their tables of logarithmic sines and tangents and the formulæ found in their “Trautwine” will carry them through a world of practical work in professional bread-winning, with rare occasion for thinking of the theoretical knowledge, unless a pure love of science makes them freshen it for its own sake. Is it only Greek or Latin that is forgotten when college days are over? Far enough from it! And is the knowledge useless because it is not in present use? What I have already said, will, I trust, save me from any misunderstanding on this point. No one can more earnestly wish that every tool in our mental workshop should be kept bright, but I still think that rightly acquired knowledge, both scientific and literary, has a double value, independent of its constant use and full retention. It is valuable, first, as the mental gym-

nastic, and, second, in that subordinate use when it, though only partially and imperfectly remembered, helps the judgment in all questions pertaining to the relativity of knowledge; where to know by experience the outlines of a department of learning, its general character, the effect and influence of its study, is no unimportant condition of intelligent reasoning. In this last sense it remains part of the mental furnishing of the man, influencing his habits of thought, supplying standards of taste or of accuracy, so that, besides the mental power he acquired in their study, they give a store of remembered experiences which are part of his capital in all intellectual work, and prevent any of his mental operations from being exactly what they would have been without their aid.

But the discussion of the subject is pretty sure to force us to renew our investigation of the value of different studies as mental gymnastic. Are all studies alike useful as training for the maturing mind? If not, how shall we strike the balance of profit and loss, and tell whether that which is gained in specific professional knowledge has cost more than it is worth, by the loss of permanent power and breadth? This takes us to the very basis of pedagogics, and I have space to do little more than express the fear that there is too strong a present tendency to prefer quantity of knowledge to trained vigor of intellect. Since the people have become sovereigns they are disposed to demand the "royal road" not only to geometry but to all departments of learning. The smoothing of difficulties is carried so far that mere memory is not unlikely to take the place of the other mental faculties, or at least be the only one greatly cultivated. What is the difference between the many-tongued readiness of a European *courier*, and the properly fitted master of modern languages? Mainly in the character of their knowledge. The one has learned to speak by mere effort of memory and mechanical habit; the other has scientifically investigated the structure of languages, their history, relations, and spirit. Yet no

small part of the fashionable teaching of modern tongues is carefully modelled upon the *courier* method. If the design be simply to furnish the traveller with the means of communicating with other peoples, this is well enough, but to call it linguistic education in any sense of the term that applies to higher education is a misnomer.

The principle of Pestalozzi that education must proceed from the concrete to the abstract, properly means not only that we must begin with the concrete, but that we must not fail to reach the abstract. From the standpoint of the educator the free and strong handling of the abstract is the true aim and goal of mental training. It begins with the child's first use of the abacus by which he passes from the physical handling of the balls upon the wires to the abstract notion of numbers, and gains some power to deal with them without the concrete things before him. It ends with the profoundest reaches of human thought when the astronomer rises to the conception of solar systems obeying a code of harmonious law in all their complex phenomena, or when the philosopher grasps all the powers and motives of the soul, and builds his system upon all conceivable relations of man to the universe.

My apology for saying even a word upon matter so elementary is that, in the fashionable demand for great variety of studies from which the pupil may choose, there seems often to be a forgetfulness of the fundamental principle, and a substitution of mere accumulation of varied facts for the severe discipline which is the essence of higher education. If we hold firmly to the true idea of educational work, and remember that we are dealing with the period in life when general training is more important than preparation for special work, we shall find that our question simplifies itself. Quality will be found not only to be more important than quantity, but to be almost supremely important. In the brief and definite period of maturing powers during which the development and training of those powers is committed to us, how shall

teachers so conduct the student's progress that at the end of it he may best be able to go alone? how fit him both to choose wisely the career in which he may accomplish most, and (if need be) to attack unaided the mass of special learning pertaining to that career? In accumulating knowledge he may use his whole lifetime; in strengthening his powers by systematic training he must work rapidly, for his time is limited.

Several subordinate inquiries are thus opened to us. First, Has experience indicated the classes of studies peculiarly valuable to discipline? The answer seems so plainly affirmative that there seems little room for debate. A half-dozen subjects cover all that any respectable authority has proposed. Mathematics, languages, natural sciences, mental sciences, history, economics, include nearly or quite everything which is offered as a means of intellectual discipline properly considered. I omit those subjects which do not belong to the gymnastic, however valuable or necessary they may be. Moral and religious training, cultivation of taste, etc., may happily be carried along with little sense of additional strain upon the pupil's physical and mental endurance. The real *work* has been practically found to be within even narrower range than I have indicated. But each topic is, of course, susceptible of an infinite subdivision, and each could easily absorb the energies of a life instead of a few years. The number of principal subjects, then, is not in itself greater than the number of chairs in even the smallest of our colleges.

Second, In the subdivision of subjects, are any particular parts or divisions found more useful for our purpose than others? For example, we may have as many chairs of languages and their literatures as the number of tongues themselves from Hebrew and Sanscrit down to modern times. So we may embrace in the catalogue of natural sciences and their subdivisions an array of fascinating departments of knowledge for the prosecution and teaching of which twenty chairs might be endowed. In

the post-graduate courses of the university we may rejoice that the scope of such instruction is as wide as possible, and that the endowment of research itself has not been forgotten among noble gifts for the increase of knowledge. When, however, we confine ourselves to the condition and wants of the undergraduate student, as a general training for life and one that may be common to as many as possible that seek a liberal education, we see that no such variety is either possible or desirable. We have but a hundred and sixty weeks in four college years. To use them with any profit we must attempt but few topics for serious work, and to each of these time and labor enough must be given to gain from them the benefits we seek. Election, then, is a necessity, and it will naturally consist in giving the greater portion of the student's time to the approved vehicles of training and growth, and a less part to those things of which a rapid or partial view may be possible and at the same time useful, in aiding the choice of special work to be done after the college course is ended. The advocates of the widest options in college study will agree with us in this. The smaller colleges will test the advantages to be found in having this election made by a faculty of experienced teachers in view of the history of education in past centuries, rather than by the youthful student himself, aided but little, if at all, by the casual advice of friends. It does not follow that each college should pursue the same course, or model its instruction upon the same pattern. If every college faculty would give all the earnest labor necessary to a satisfactory determination of the question, What is, on the whole, the best education which we can devise, and which we are competent or especially adapted to give? the resulting variations in the curriculum would be interesting and valuable experiments in the relative worth both of subjects and of teaching.

Third, How far do the idiosyncrasies of students forbid their profiting by a common curriculum? One ans-

wer to this I have already indicated, namely, that it may well be doubted whether a much greater proportion have not suffered from ill-judged and hastily made elections, than from a too rigid adhesion to a common curriculum. Certainly we are bound to see to it that the plea of peculiar lack of adaptation to particular studies is based upon fact, and not upon neglected preparation or the temptations of indolence. As it is by overcoming the difficult that strength is best gained, difficulty is not a sufficient reason for rejecting a study; and a wise teacher will stimulate the ambition of the pupil to conquer difficulties rather than avoid them. Looking back to my own classmates and college friends, I am forced to testify that I can think of no example of the idiosyncrasy we are speaking of. Those who stood high in one department of work uniformly stood well in all. I have often heard men say they were more attached to one thing than another, but very rarely that they found a radical difficulty in understanding the problems or following the reasoning peculiar to any subject of study. I have known a superior teacher so to stimulate the interest of the student that other recitations were more or less neglected, and suffered from lack of preparation. If, however, I found a young man who, with good preparatory instruction in arithmetic, was still unable to see the logical connection and force of simple geometric demonstrations, I should be disposed to drop him from the category of those who could profitably seek a collegiate education. If, in like manner, I found one alleging total inability to comprehend the theory and uses of the inflections of words, and the laws of syntactical construction of language, I should certainly inform him that no scientist of the present day can go far without the command of three or four modern languages, of which one, at least, is supposed to require as severe application in its mastery as the ancient Latin.

So of the processes in any other department of human thought. With thoroughly wise and sympathetic teach-

ing, I believe the assumed peculiarities of mental constitution in students will be found to diminish so rapidly as to bring the remedy within the reach of the ordinary college faculty, without requiring such radical changes in the courses of study as to demand any considerable additions to the usual professorships. This might be shown from another standpoint, by analyzing the operations of mind which are involved in the study of different classes of subjects, and showing that the principles of reasoning, whether deductive or inductive, must be the same in all, and that the other mental processes must in like manner be analogous, the main difference lying in the classes of facts which memory is to hold and upon which the other mental faculties must work.

To sum up the latter part of what I have tried to present, it seems to me we may fairly conclude that profitable training for an undergraduate student demands that the leading topics of his study should be few, carefully chosen for their value as means of training, and pursued with constancy during the greater part of the undergraduate course. Next, that it is not proven that idiosyncrasies which forbid a student from following a course common to many others are frequent enough to make an appreciable element in the problem. If we meet with them, the smaller colleges may safely turn them over to the great institutions. Lastly, that such common methods and general preparation for life, supplemented by the widest and fullest special professional training that the student can afford, promises to produce the best equipped, best rounded, and most solidly successful class of learned men, those best entitled to the name of liberally educated gentlemen.

These conditions are fully within the reach of the smaller colleges, and they have the right to enter upon the generous competition in furnishing the world with its leaders of thought, with reasonable assurance that the results of their work will demonstrate the validity of the

claim to be peers of the best and the greatest.

I hope no one will understand me as ignoring or overlooking the importance of what may justly be called "improved methods of teaching." The small number of professors makes it the more needful that each should be in the highest degree trained for his work. He should be more than a specialist; he should have a philosophical grasp of his subject in its broadest and largest shape, and of its relations to other learning and to education in general.

I have purposely omitted all discussion of the details of undergraduate courses of study, for, even if space did not forbid my attempting so large a subject, to do so would be contrary to the spirit of my argument. My ideal of a college faculty is that of a close fraternal association of able men who shall be so possessed of the consciousness of the unity and symmetry of their work, that they will bring their most earnest thought and most vigorous coöperation to bear upon the problem of furnishing to their pupils the best education they can, having regard to their own characteristics and strength. Working in this way, each college faculty would have a character belonging to it as a whole, and though it would seek to make its work substantially equivalent to that of other institutions of like kind, it would preserve its individuality, and be a great unit of force in the educational world.

We can hardly overestimate the advantages the smaller colleges have in the freer and more constant contact of professor and student. One of the brightest sayings of the lamented Garfield was that Mark Hopkins sitting upon one end of a log, and he on the other, would be college enough for him. His wide experience of life and his keen observation had taught him that great numbers of teachers presenting the details of the sciences and literatures are not so necessary for the student as close contact with a broad, sympathetic, powerful mind from whom the pupil not only gets the strong grasp of principles, but

catches enthusiasm of learning, and is stimulated to double endeavor by the magnetic power of calm and true wisdom. In great institutions there are merely physical obstacles which make any real intimacy between teacher and student almost impossible. In the smaller ones the contact may be as close as you choose to make it, and I may be permitted to say that the duty of making the most of this as a powerful educational force should be matter of earnest thought to every professional teacher. It would not be far wrong to say that in the great colleges of our time, the strong tendency is for the teacher to be sunk in the investigator and the writer, and that teaching as an art and in its highest walks is more and more left to the faculties of the smaller colleges. It is one thing to walk the groves with Plato, it is quite another to follow, as one of some hundreds, the dictation of the ablest lecture of which student ever made notes.

From whatever point of view we examine the subject, therefore, we find no occasion to admit that our smaller colleges are at any real disadvantage in the work of completing that part of systematic education which precedes the application of the student's matured powers to his special profession or chosen line of original research. We find many reasons, on the other hand, for estimating highly the value of what they may do, and for wishing that they may thoroughly and systematically test the possibilities of their natural methods in their circumstances of both limitation and strength. It may take a generation to prove all that the experiment may teach, and I would wish to stimulate all who are connected with such institutions to do all that lies in human power to show what their means and their methods are capable of, so that the successive classes of their pupils as they go into the active business of life, may be such that they will be content to point to them as the decisive evidence of what the small colleges can accomplish.