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THE OLD AND THE NEW

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"The old order changeth, yielding place to new,
And God fulfills Himself in many ways,
Lest one good custom should corrupt the world."

The land in which we live is called "the New World," and our individual lot is cast in the newest part of it. The problems, educational as well as political, which our country has had to face, are many of them new. We have grown up, as far as we have grown at all, under the stimulus of conditions all our own. We have been bound by no distant past nor necessarily hampered by the traditions of the lands from which our fathers came. Most of our short national life has so far been an experiment. What the experiment will prove will be known when our young western world has grown to age. In the meantime all the civilized world is watching with eager eyes each new stage of our experimenting. In our present state we are generally accused of being a nation of mediocrity, except in bulk. One century has seen us suddenly transformed from three million subject colonists on the Atlantic sea-board into a nation of over sixty million sovereign citizens whose dominions reach from ocean to ocean. Similarly our culture is full grown but immature, like a boy of sixteen six feet tall. The like of our system (or want of system) of education was never seen nor ever dreamed of before. Our grammar school may find its counterpart in the old world; but our American high school is neither the English grammar school nor the German Gymnasium nor the French Lycée.
Our American college may be the outgrowth of the Oxford and Cambridge idea further developed, but the American university is not the English university nor the German university. It is a mixed product grown up under new conditions on new soil.

Europe makes merry over our four hundred and eighty-one colleges and universities and wonders how they all manage to exist. Never mind Europe; we do the same ourselves. But our colleges, which we count by hundreds, are a necessary link in the evolution of a coming educational system worthy of our western civilization; for, as they are, they represent and foster the spirit of our national life. Every nation must in her own way show that she has abiding in her the love of truth; and that love can best be cherished only in ways that conform to her own character and promise the fulfillment of her own purposes. In the development to which we look forward, who can say that we have too many colleges now? They will rather be found too few. There is scarcely a community in the length and breadth of our land that would not gladly make large sacrifices to secure in its midst the location of a promising college and so increase the present list. When the ideal of the American university is realized and the college of to-day falls into its natural place as a school of culture and of preparation for the higher university of to-morrow, we shall find that we have after all too few rather than too many colleges. Such a result would be but another of history's repetitions. For the first twelve years of higher education in Michigan, when universities did not mean much more in the way of education than high schools do now, that commonwealth had no less than nine state colleges. They all struggled along at starvation rates. But they were far from being a menace to society or a danger to education. For as one of the nine grew into a university, the other eight, as was right and best, fell into their natural place as preparatory schools of a high order — feeders for the one real
university. And to-day we regret only that there had not been more of those "starveling" colleges to follow the same course. Now that ideals have grown upward and expanded, the same development may take place to our well-being on the present higher plane. Our college curriculum has undergone wondrous changes in the last two hundred and fifty years; the garment that was placed upon the American college in its infancy has been long since outgrown, and the patterns after which it was cut are no longer in fashion. The oldest of our colleges is, in comparison with Paris and Oxford, as far as years are concerned, still in its childhood. And who knows but the spirit that planted these four hundred and eighty-one colleges will yet realize its fulfillment in the "true idea of a university"? What will that consummation be?

Our present system (if what we have may fairly be called a system) is a development, with the various additions and other changes that come with growth, out of the education of past ages. In order to determine what the next stage in its growth will be we must examine the history of its growth through the past and the conditions and tendencies of its present stage.

Our whole modern civilization in its existent forms, this age of steel and steam and electricity, with all its triumphs of applied science in the creation of great labor-saving machinery, in rapid transit and the annihilation of distance and time, is a wondrous growth, exceeding in this one century in these particulars the sum total of all that previous history has recorded. But follow this marvelous shoot downward to the stem and we shall find that it is after all a graft. "The same," to use Professor Smith's* figure, "was engrafted upon the sturdy stem of the olden culture, a stem that struck its roots deep into the sacred soil of Greece and Rome, through the rich accumulated alluvium of nearly thirty centuries. Into this graft, this new scion,

the generous sap of the ancient trunk has been poured abundantly, and a prodigious growth and wonderful fruitage have resulted."

The art of Greece has been the inspiration, the wonder, and the despair of all artists since the day when the lofty spirit of Hellenic greatness began to flag. The mythology of Greece has become the language of symbol among all civilized peoples of whatever name and tongue. The poetry, the philosophy, the ethics, and the science, as well as the arts of Greece, illumine every modern classic page. Says Alfred Baker,* professor of mathematics in Toronto: "If we should ever think of a people—a chosen people—who had a message and a revelation to the world, that people was the ancient Greeks. We owe them an incalculable debt for our knowledge of art, literature, and science, and of the three our debt is perhaps greatest for their legacy of science." Whether consciously or unconsciously, we build upon foundations laid, or at least after plans drawn, by the great thinkers—poets, artists, philosophers, scientists—of the days when man was, in both body and intellect, at his best. Even this present age of scientific education is but continuing the work where Greece left off, and without the pioneering work done by the science of those old days and without the literature of Greece, upon whose light some men of science now see fit to turn their backs, our own science would have been forced to go back to the most primitive conceptions of nature and waste centuries in traveling the roads which the classical thinkers built through unbroken wilds and trod for us. Others have labored and we have entered into their labors.

If, then, the impression left by the Hellenic spirit upon our world of art and letters has been so strong and so abiding, what of our inheritance of educational ideals from the same source? And if the disciple has not been greater than the master in those expressions of creative genius, has the master been surpassed in the business of educating men and training the powers in them for the creation of great ideas and great ideals?

Though ignorance may sometimes sneer and "self-complacent modernism" sometimes assail, yet one need not be a mere praiser of the times that are gone to assert that that age saw, in at least some strata of society, man at his highest and best since his creation, both mentally and physically. "The theories of the seers stood the test of application by the men of deeds."* And so it is our right and our duty as well to ask how that condition was realized, and why we, with the example of their successes and their failures and with the addition of the spirit that was introduced by way of Bethlehem and Calvary, can not attain to that and better than that by the addition of the moral and spiritual strength that is ours from on high.

The problems that the young Athenian of brains and power had to face were not so very different from those which confront the young American. Their polity was, as ours is called, a democracy—a government of the people by the people. Their youth must, therefore, be fitted (and so must ours) not only for good citizenship, but for the highest duties of citizens who are also rulers. Was their course of training for it different from ours? Have we learned from it all that we can apply with advantage to our own conditions?

The feature of Athenian education that has been most overlooked in the modern was the love of the beautiful. This was the dominating principle in education, and we would do well not to leave the aesthetic sense longer in neglect. Hellenic sanity—soundness of body and of intellect and of all that is produced by either—is proverbial. And through it all must run the golden thread of beauty. As they developed their language to its peerless beauty and expressiveness, as Callicrates and Ictinus reared their

* In a public lecture on the "History of Greek Science," delivered in Toronto Jan. 15, 1898.

wondrous temples, as Phidias and Praxiteles carved their statues and Polygnotus and Apelles spread their canvases with perfect beauty and symmetry, so they trained the intellect and the soul into beauty and strength, and so they trained the body with a view to the beautiful and strong; and everything that could tend in the opposite direction was strictly proscribed.

In general, our universities, high schools or gymnasia, and common schools have their prototypes in the similar institutions of classical Athens. The fundamental principles even of the kindergarten we find clearly set forth in the Republic of Plato and embodied in his infant-school. The aim of the public school was to awaken the minds of the youth and help them to find the place in the world that each could fill better than any other, and above all to furnish that aesthetic culture which all ages have considered important and which many people still reckon the paramount object of our higher education.

The theory that education, as distinguished from special training, should afford a broad general culture and that this is best secured by a study of "humanity," or the "humanities," is older than Socrates, new as to-day. That it has been a suitable foundation upon which to build our own educational systems is not too much to assert; for it is safe to say that through that method of education, rather than in spite of it, men were produced who were in real training of mind, in mastery of principles and knowledge of men, in capacity for every form of mental effort, from the most refined speculation to the conduct of every day affairs of state and of business, the most perfectly educated people the world has ever seen. *

That sort of training aimed at producing not professional athletes, nor musicians, nor mathematicians, but men, men of thought and of action, who should be capable of taking front rank in whatever special lines of activity their after

life might lead. Competition then was no less keen than it is now; only that man received first honors in his time and eternal fame in times to come, who in his day could do some one thing better than any other man in Athens. Xenophon, in his Education of Cyrus, brings out the necessity they felt for trained specialists when he says that "those who give up paying attention to many things and devote themselves to some one thing are sure to be the best in their particular line." But such specialization, as his words clearly imply, was reserved until after breadth of culture was secured.

After a preparation of this kind, the young man might devote himself with perfect freedom of choice all but exclusively to some one department of knowledge. To afford this special training was the business of the university. For from the day of Gorgias, Socrates, Plato, Athens had taken her place as the university city of the world; and she maintained it (even against the glitter of the Ptolemaic state university at Alexandria) until narrow-minded despotism closed her doors and smothered the fires of knowledge, which could not die but smouldered on beneath the ashes, to be fanned again into living flame with the revival of learning in the sixteenth century. That university had its departments of art, science, economics, philosophy, letters, and each great teacher was a special department unto himself; it was, thus constituted, a university in the truest sense of the word, although not organized with a board of trustees and a cast-iron charter, a university built not of bricks but of brains, not with mortar but with men; and it exerted an influence that not only filled the world then, but has made itself felt even until now and will continue to be a power as long as there are students to study.

From even this cursory sketch it may be seen from what beginnings all our modern systems of education have grown. For the Greeks have been the school-masters of the nations as to-day is the school-master of to-morrow. When Rome made the soil of Hellas a Roman province but bowed in
humble submission before the power of her captive's intellect and fell herself a captive to Grecian arts and letters, the Athenian education was bodily transplanted to Italian soil. As time progressed, the martial vigor of Rome became a part of the bone and tissue of the imported culture of the lower schools; but the university was still at Athens, though rivaled for a time by Alexandria and Rhodes.

Rome spread her power and her language over all western Europe, and the official Latin tongue became the first and the chief subject of study in the schools as the only means of social and political and afterwards ecclesiastical advancement. On one ground or another, if for nothing more than mere tradition, it has maintained its place as the first and most essential element in educational systems that still exist as models of all that should be.

Barbarism and Christianity joined hands to crush the old university centres and blot out Grecian culture from the world. Their success, while not absolute, was only too complete. The extinguishing of the light of letters left the world in darkness and gloom for centuries with only here and there a flickering rush-light of logical, mystical, or ecclesiastical subtleties. Such profound questions as how many spirits could stand together upon the point of a cambric needle, or whether a spirit could pass from one point to another without passing through the intervening space, however absurd and valueless they may appear, nevertheless did serve to sharpen men's wits and to make them hunger and thirst after real ideas. Whence should spring the fountain for satisfying such thirst? Had all possibility of real ideas vanished from the earth? There had been creators of ideals once; had their products all vanished with the departure of their culture and their power? Through the dark ages the capacity for ideas seems to have died out in men. For the world was asleep—asleep for a thousand years of rest and re-creation. In the twelfth century it began to awake, and with the Italian Renaissance the dead capacity for ideas was reborn. "There were many forces,"
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says Professor Shoup,* "that worked together to produce the Renaissance, but in Italy, at least, the main cause was the recovery and study of the Greek and Latin classics, aided by the ever-present object lessons of the grandeur of Roman architecture and the loveliness of Greek sculpture."

Thus with the restoration of the Athenian spirit among men came also the resurrection of the university idea. The mediæval universities had hitherto provided for law, theology, and medicine. The new movement, which saved the arts and sciences of Greece and Rome, now brought in the "humanities" as the education of culture—the philosophical faculty—and the way was opened wide for the easy development of the modern university. "The culture of the classics had to be re-appropriated before the movement of the modern mind could begin" (Symonds). It was through them that came again the spiritual freedom, the intellectual culture, the powers of criticism, of comparison, and of scientific research that make an ideal education possible in our own day. And with all the advances of the "new education" the humanities are still the humanities, enriched by many a wholesome increment. Amid all the other agencies for culture they still form the essential element to that aesthetic culture which all consider important and which some consider paramount, though we all recognize that the world has many things to learn besides Greek and Latin.

Out of this new shoot springing up from the old olive stump of intellectual Attica have branched forth the various scions which are our modern universities. The evolution of the university has been, like evolution in the natural world, a spiral now rising, again descending upon itself, but gaining with each new circle. And as in the organic world old forms die and new ones come in, not created out of nothing, but simply transformations of the old, so our modern higher education is but the old university ideal transformed or transforming, but not yet glorified. Nothing really new

has been added to the sap in the veins of the tree of knowledge, for all the grafts that have been set upon it. The kindergarten, the grammar school, the college and the university, with its science and letters, its co-education, its elective system and its majors and minors — but no degrees — are as old as Plato. Indeed, so little has the university ideal grown since the unrivaled intellectual genius of Athens at the climax of her intellectual power evolved it, that it may be (and since this paragraph was penned, has been) seriously questioned whether there is any such thing as the "new education."* “There is nothing new under the sun” is nowhere more true or false than in the intellectual world. Sir Henry Maine goes so far as to say that “except the blind forces of Nature, nothing moves in this world which is not Greek in its origin.” There have been many revivals of knowledge besides the Italian Renaissance; within a few years zoology, chemistry, and geology have all been born again. How hard we toil to advance knowledge by introducing some "new" institution, discovering some new truth. But truth is eternal; and when our discovery is made we find the real meaning of the poet’s words:

“Wer kann . . . was Kluges denken
Das nicht die Vorwelt schon gedacht?”†

Through all the growth and development of both the old and the new the purpose of the university has been always the same: not for learning things, but for learning how to learn things; not for cramming the memory with facts and dates, but for teaching how to observe facts and to cultivate a sense of their relativity and the spirit of criticism; not merely for enriching the understanding, but for the creation of a new life, the awakening of a higher, nobler, truly scientific spirit, the culture and development of the thinking mind. Education is the leading of the young up

† Goethe, "Faust," II.
into the intellectual and spiritual kingdom that is theirs by right of inheritance.

Sometimes it has been forgotten that this can not be gained through force or by following mechanical forms and rules; nor can it be secured in any other atmosphere than one of freedom, with all of its privileges and all of its responsibilities. The "winds of freedom" also were let loose from the Æolian cave, and only too often have they been lashed and locked in again.

Now perfect intellectual freedom is ours once more. The attainment of the true ideal of education, from the kindergarten to the academy of scholars, is almost within our grasp. Shall we in our day realize the ideal? If so, there are a few faults in our American education which must be eradicated, and the whole system must be brought into line with the general upward trend.

In the first place, in order to make the true ideal of American education a reality and to secure breadth of culture combined with power in some special field, the work of the lower schools must be made more thorough and more effective. Those of our secondary schools whose avowed purpose is to fit its pupils for college, and that, too, for some particular college, are by far the most satisfactory in their results. But in general our children come out of the common school with little interest in the higher life, little feeling and less power of expressing the feeling they have. They have no more yearning after culture and symmetrical training and healthy growth than has the rosebush in the garden. The same reform that will put a new spirit into our secondary schools to render them more effective will necessarily bring with it a most desirable saving of time for securing in college the breadth of culture needed for the most effective specializing in some one field of knowledge afterward.

Then, in the second place, we need some real system of organic connection between our various schools. There should be no leaps in the mental development any more than there are in natural growth; as it is, however, our
pupils must successfully make several before they reach the blissful goal of an academic degree. The secondary school has no rational connection with the primary department on the one hand; and on the other, while it does not pretend itself to be the apex of any educational system, it still has as an institution no vital connection with the higher seminaries of learning. It has begun, to the no small detriment of the youth, to ape university methods—encouraging children in knickerbockers and short skirts to pursue all their knowledge, scientific, literary, and historical, back to its ultimate sources! And that, before they, or even nine tenths of their teachers, know what an ultimate source is, or how to judge one critically if they should happen to stumble upon it! Nothing could be further from the real purpose of the high school than the production of scholarship.

And as the secondary education has not yet settled down into its own proper sphere, so the university has not been able to draw its own differentiating line just where it ought to be, and seems compelled to teach high school subjects in high school ways. There is as little propriety in the university's whipping bad English into shape and drilling on the elements of Latin or French or German as there is in the high school's attempting to teach Roman history from "the sources."

When lines are properly drawn and the desired organic connection made, we may see a straight and steady growth from infancy to scholarship with an appreciable saving of precious years now wasted through lack of definite purpose. Our secondary schools will be an immediate continuation of the primary; the high school and the college will cease to overlap each other; and the college or university will in its turn be a continuation of the high school as the high school of the grammar school, but necessarily something more; not even this institution, however, may be regarded as a factory for turning out scholars; the undergraduate college will be a place where, with the help of
great teachers, great libraries and laboratories, any student may find the training that will give him culture and strength. In the case of those who have not already set their intellectual ambitions upon some definite line of life-work the culture must be particularly broad, that it may find their peculiar talents out and awaken their love for that work which they are best adapted to do. The university, as it is, is not for the purpose of making scholars, but for developing the men and women out of whom scholars, investigators, teachers, statesmen, may be made. It is not necessary, nor even desirable, that all our masses should be scholars; the best "out-living" is not likely to be given by one whose time is wholly spent over ancient manuscripts or over a microscope. To live a life of righteousness, to do no wrong to any man, to master one's own self, to serve God and one's fellow-men—all that needs no scholarly erudition. But no one's culture—the upbuilding and strengthening of all that is good in him, wide range of intellect and knowledge—can be too deep or too broad. That may be called the fundamental idea of our American colleges and universities, and herein may be found the highest boast of our education, as it has been: that without definite regard for a learned profession, it affords the possibility of an all-round training, a broadening and elevating culture for the common man, widening his horizon and enabling him to see truth and to live truth.

But even with this it is evident that our system is not, and never has been, complete. We feel that most when we follow up the different stages of the instructing body as we have outlined the different degrees of schools. Our teaching can nowhere be better than the teachers. Where are these trained? Whence comes the great army of teachers for our primary schools? In general, from the secondary schools. Whence the teachers of the secondary schools? Nearly all of them from the colleges and universities. And where are the teachers in the colleges and universities trained? With few exceptions, like most of our children's
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dolls and hobby-horses, and for the same reason, they bear the familiar stamp, "Made in Germany." The explanation is in either case the same: Germany has the appliances for their production. Our own want in this particular has been felt ever since the days of Washington. The graduate departments appended to almost every ambitious university in the land are incontrovertible testimony to the fact that in America we do need and do want universities like or superior to the German universities. Academies of science, in a feeble way, we already have. The whole lower school is a great mental gymnasium; everything is aimed at training, developing; between the master and the pupil there is intellectually a great gulf; for every exercise the master puts the pupil through is to the latter difficult, but to the former simple. In the university this distance between teacher and taught is lessened. The student comes with powers trained and his capacity approximates more nearly that of the instructor, while the latter is for the same reason ready to meet him more than half way. While our college professors are performing the double function of investigators and teachers they are indeed doing their most telling personal work, the work that will impress their personality most imperishably upon the after world and make themselves immortal; but if their first and highest aim is the advancement of their particular science through their own personal investigation, then every hour of elementary instruction is a brake upon the wheels of their power, every hour's lecture that is made to fit the needs of learners represents so much time and energy diverted from their proper channel. We often hear of young men in search of college positions who are "brilliant scholars" but dismal failures as teachers. Their place is not in the instructor's chair, where their efforts at teaching will be, both to themselves and to the students, worse than wasted. If they are investigators, our country should have a place for them, with libraries, laboratories, and observatories, as well as for the teachers who are scholars only less devoted
to the prosecution of research because they have the spirit of teaching. The real investigator's best will be attained only by giving himself up absolutely to learning, to pushing forward the outposts of investigation and widening the circuit of thought and knowledge and never relaxing from the exertion of his highest power. These are the men who can afford to specialize in one small field of science to the exclusion of everything else that is of interest to humanity. Their work also is essential to the advancement of the race and to the growth of education; and the perfect educational system must have a place for them and for their work. One such university our country already has and will soon, we trust, have another—the National University—to foster investigation and train scholars, and so raise up the whole standard of our national education. Thus, through the common feature of instruction, the college has its organic connection with the high school; while it joins hands with the higher universities through the seminaries and laboratories where the scholar that is to be is trained in methods of independent research and discovery of truth. And when this ideal is consummated in our land, when those of the colleges that can do so become universities and those that can not become universities fall naturally into their places as training schools for the real universities, then we shall have a genuine system of education, and the National University or Academy will be the pinnacle of that system, rising as high above our colleges as they above the common schools.

The last defect to mention is the most serious and will be the most difficult to correct, for it is the most insidious and the most deeply rooted. The curse of our educational spirit is "the tendency to look upon education as a mere tool for money-getting."* Those who look upon knowledge only from the standpoint of "practical" utility are likely to see in the university only a bureau for the delivery of

special information, a mere warehouse for literary, medical, or legal merchandise, instead of a temple of knowledge and truth. The enrichment of knowledge and power is not considered and therefore not desired. Too general is the conception in our land that nothing is practical, nothing is useful, even in matters of pure intellect, unless it can be translated into dollars and cents. Are we, brain and brawn, so wholly enslaved to Mammon? Nay, can it be denied that the same master is enslaving, or has already enslaved, even the intellectual professions—the bar, the bench, the clinic, the chair, the studio, and even the pulpit? "Even where science, art, and literature, the things of the mind, are pursued after a fashion, it is too often not as an end, but as a means, not for love, but to get rich or at least to make a living."* And for that very reason it is usually "only after a fashion" that they are pursued. To him who studies literature, philosophy, or mathematics only as a means to such an end, even these pursuits of pure intellect are as much a "bread and butter education" as law or medicine to him who has no higher interest in his science than financial advantage to himself.

It is a matter for regret that higher education has not more frequently as its object disinterested culture—the enriching and beautifying of the soul—but only the practical, financial advantage of the student. How few study Greek and Latin and higher mathematics any more just for the sake of knowing them or as a means of calling forth power, of cultivating taste and character, right ambition, and interest in great and high themes! Is not the incentive to such studies in these days rather a desire to pass the examinations and get into college, or, sometimes, to make a living by teaching them, which is, after all, only another way of serving a selfish purpose? If they could not be turned to immediate, practical advantage, they would be studied much less than they are. In precisely the same way, most students study physics or chemistry not

*Smith, i. c., p. 19.
for the philosophic delight of finding out the secrets of nature, but solely to find through them a means of livelihood, and, haply, a certain advantage in the struggle for wealth.

With all these faults and virtues in view I come to-day to plead not alone for the old education of proper morals, polished manners, elegant speech, nor yet for the new education of exclusive science, but for a proper balance between the old and the new—the culture of the humanities and of nature as a basis for later specialization; and for the concentration of all one's ability afterward on some one portion of the vast field of science and knowledge. The principle upon which the whole plea is based is that true education must have three dimensions: length, breadth, and depth. Of these, breadth must be provided for in the undergraduate college course; the opportunity will never come again, and can never come again. Depth can be added only in the special training of the graduate university and after-study. Length is a relative dimension depending upon the length and intensity of life. But all three must begin together.

The danger against which this warning signal is raised is that specialization before breadth is attained will prove to be not power and culture, but weakness and narrowness, cramped and warped. It will be the same, whatever the line of premature specialization. Exclusive devotion from the beginning to the arts and letters is ruinous to our best development, even though that has been the proved and approved higher education of the last four hundred years. So thoroughly approved it still is that a man of science like Clarence King* may say that: "So far as classical culture has brought generation after generation of youths into the presence, and kept them in the daily company of the greatest Roman and Greek poets, conquerors, artists, or philosophers, its effect has been, as no one disputes, to

develop the very best modern minds. No less an expert in wisdom than Solomon has said, 'He that walketh with wise men shall be wise.' Classical education at its best has caused its followers to walk in youth with wise men and men of every form of artistic excellence, every phase of literary and philosophic accomplishment. It has revealed not only the strongest and boldest brain-work of giants, but unveiled all that is most chaste and elegant, most lucid and splendid, in the manner of human expression. From fountains of deepest feeling and springs of sparkling wit, it led streams of perennial flow into the territory of the student's mind and made thereof a garden. It gave a harmonious grace to the intellectual carriage, mellowed the timbre of literary voices, and induced a composed control of mind with an artist's sense of form. Incidentally, necessity for continued application and rigid philological study forced the habit of work, cultivated memory, and bred a respect for precision and accuracy. It therefore afforded discipline. The crowning reward for experiencing this mode of culture is, however, an enlightened state of mind. The brightest jewel in its crown is ideality." And Professor Butler* confidently predicts that "No culture will ever be considered broad and deep unless it rests upon an understanding of the civilizations of Greece and Rome. . . . To enter into the spirit of Homer, Sophocles, Demosthenes, and Plato, of Cicero, Vergil, Horace, and Tacitus, and to understand the civilizations and the points of view that they represent, are, from one point of view, almost enough alone to give the one so fortunate a claim to culture."

And yet by confining ourselves to such a course we come to live so much in the realm of the ideal that we ignore or forget the real things around us. The great literatures of the world are not our only source of truth, nor the only scene of beauty, nor the only means of culture. The whole business of any man is to know and to live the truth. He

must have eyes that will see truth wherever it may be found; and there are even clearer, surer revelations of truth in God's world around us than in the world of letters. "The rocks and shells, the frogs and lilies always tell the absolute truth." * The rain-worm or the toad may have truths to tell us in its homely way — verities that may be just as true and sublime as is the ideal beauty of the splendid sculpture of a Phidias or the simple grace of an Homeric epic or the awful grandeur of an Aeschylean tragedy. And the truths the worm has to reveal of the physical world (which may also prove to be the spiritual world) need not all be sacrificed to the truths the Greek poets and philosophers and sculptors have to tell of the world of the soul. And still less are those glorious revelations of the great souls of the days when man was at his best, that splendid company of the choicest minds and hearts in the world's history, that cultivation of pure sentiment, that feeling for the ideally beautiful in literature and art, to be sacrificed to the search for truths of the merely physical world. Too one-sided application to the study of the physical sciences will prove even more ruinous to the making of perfect men than too one-sided devotion to the humanities. The appreciation and love of the beautiful, religion, sentiment — these nobler faculties of the human spirit, without whose cultivation no one can be a complete man — are not naturally fostered in such an environment. To have the power of using what is gained by science study, a man must first have been moralized; and for moralizing him it will not be found easy, as Matthew Arnold says, to dispense with those old agents — letters, poetry, religion. All education that is true education must build the mind and heart both up and out — out of narrow self into the breadth of divine humanity. Premature narrowing on that side is a danger the more insidious because of the attractiveness of the so-called "practical" in this age of ultra-

utilitarianism. But the purely scientific education will not
cultivate sentiment nor (it is asserted) will it develop a sense
of the relativity of facts; for that reason the purely scien-
tific student can not be expected to possess a critical spirit.
In the Forum for March, 1892, Clarence King, at one time
director of the United States Geological Survey, says :
"With all its novel powers and practical sense, I am forced
to admit that the purely scientific brain is miserably me-
chanical; it seems to have become a splendid sort of self-
directed machine, an incredible automaton, grinding on
with its analyses and constructions. But for pure senti-
ment, for all that spontaneous, joyous Greek waywardness of
fancy, for the temperature of passion and the subtler thrill
of ideality, you might as well look to a wrought-iron derr-
rick." Both sides of education have proved their right to a
place, but not to an exclusive place, in any plan of liberal
education. Either one, if pursued to the exclusion of the
other, will train and develop but one half of our human na-
ture, and bring forth only half a man or woman. Classi-
cultural, when it has done for the capable student the
best it can unaided, has given him culture, refinement, char-
acter, ideality, and all those loftier sentiments of the soul,
but has left him behind the times in the development of the
race, and utterly helpless in the presence of all that makes
for the physical and material progress of the world in which
he lives. Until a generation ago education went calmly
along cultivating only that one half of our human nature,
unconscious that it had another side. The last thirty or
forty years have seen the pendulum swing clear to the other
extreme, and now we often hear radicals on the other wing
advocate maiming our human nature by leaving the ideal
half to die of neglect and disuse. This newest education has
"substituted a new sort of half-man for the old one. What
would be thought of a world-wide school of athletics," says
Mr. King, "which would bind up the right leg until it with-
ered and became forever impotent, and make its graduates
hop through life on the left? And what student of
education could believe it possible that a new great culture would arise” to correct that evil and gravely proceed “to bind up the left leg and make its men hop on the right?”

Is there any reason, except the irrational excuse of our American weakness of eternal hurry, why either side of our human nature should be so diligently cultivated as to exclude the other? why one half of the mind should be carefully cultivated and the other just as carefully destroyed? The greatest naturalist of this century, or perhaps of any century, draws the picture of such a sacrifice of culture to specialization in its darkest possible colors. “Up to the age of thirty or beyond it,” writes Darwin in his autobiography,* "poetry of many kinds, such as the works of Milton, Gray, Byron, Wordsworth, Coleridge, Shelley, gave me great pleasure, and even as a school-boy I took intense delight in Shakespeare, especially in the historical plays. Pictures formerly gave me considerable, and music very great delight. But now for many years I can not endure to read a line of poetry: I have tried lately to read Shakespeare, and found it so intolerably dull that it nauseated me. I have also lost my taste for pictures and music. Music generally sets me thinking too energetically on what I have been at work on, instead of giving me pleasure. . . . My mind seems to have become a kind of machine for grinding general laws out of a large collection of facts, but why this should have caused the atrophy of that part of the brain alone on which the higher tastes depend, I can not conceive. . . . The loss of these tastes is a loss of happiness, and may possibly be injurious to the intellect, and more probably to the moral character, by enfeebling the emotional part of our nature.”†

† Perhaps Mr. Darwin failed to diagnose his own case correctly. Scientific specialists like Tyndall and Huxley, men of strong and robust physical constitutions, did not suffer so. In Mr. Darwin’s case, the cause of all his trouble may have been his shattered bodily health, which from his thirtieth year on permitted the expenditure
Every man who has made himself good for anything will have limitations to his tastes and sympathies; all men are naturally more or less one-sided, but breadth of mind depends precisely upon such breadth of tastes and sympathies.

If we grant that the product of extreme scientific specialization of the best type will be a brain "miserably mechanical," an "incredible automaton" for grinding out general laws, and involve the loss of all the higher aesthetic tastes and the broader sympathies, we may very pertinently ask: Is the gain worth the cost? The nobler self-love unhesitatingly answers, No. The sounder reason of society begs the question and answers: "Nothing to excess." In order to advance any department of science there must be a division of labor into well defined specialties; perhaps the specializing can not be carried too far for the rapid advancement of the cause, but it can easily be carried too far for the highest good of the specialist. Specialization should not mean exercise of one side of man's intellectual being so constant, so intense, and so exhaustive that the other side will be utterly paralyzed and atrophied. There is no need of any one's compelling himself to hop through life on one leg, when he has two legs with which to walk or run. And no one ever could appreciate this better than Mr. Darwin himself. Reflecting* on the "lamentable loss of the higher aesthetic tastes," he added: "A man with a mind more highly organized or better constituted than mine would not, I suppose, have thus suffered; and if I had to live my life again, I would have made a rule to read some poetry and listen to some music at least once every week; for perhaps the parts of my brain now atrophied would thus have been kept active through use."

How much more lamentable must the paralysis of intellectual power be, when this exclusive devotion to the culture of each day of only a limited amount of nervous energy. And when that was exhausted, he could find relief and pleasure in nothing but rest or, at most, in some light novel. Even fine scenery gave him no delight.

* Ibid.
vation of one side of our intellectual nature begins before
the mind has fully developed. But utilitarianism, with its
promises of material wealth, is ready with her reply "Seek
ye first money; culture after wealth"; and technical educa-
tion, without the basis of broad culture, has grown and
spread to an incredible extent. "Its essential narrowness
and Philistinism increase with its success in establishing
itself," * and it promises for a long time to come "to assert
its overwhelming ascendancy until a race of men shall come
upon the stage with about as much religion as a threshing-
machine, and hardly more social charm than a storage
battery." †

The desired symmetrical training would cost only a little
more time, and would it not be worth the additional outlay?

We should not look upon the under-graduate course as
the complete preparation for one's life work. The special
preparation for a definite line of work should come after the
baccalaureate degree. Only then should the lines of train-
ing begin rapidly to converge. "The source of all power is
concentration"; but if that concentration upon a narrow line
of thought and work begins in childhood, or before the mind
and soul have been expanded to their utmost breadth and
furnish something to be concentrated, the result of "concen-
tration" (the act of bringing together) will be a point—non-
dimensional, having neither length nor breadth nor depth;
if it has any dimension, it will be thickness! No one pre-
tends that our classical course will make a philologist of the
student who for the period of four years devotes nearly all
of his time and attention to classical study; neither does any
one pretend that the student who has secured one hundred
and twenty hours of credit in physiology and chemistry is
a physician. It is not and should not be the object of our
American under-graduate college to turn out ready-made
philologists, or doctors, or lawyers, or historians, or poets,
but to produce men and women who shall be able to think

* Nicholas Murray Butler, l. c., p. 140.
† Clarence King, l. c., p. 30.
and judge, and to start them fairly on the highway to complete their education for themselves; not to teach them a lot of ready-made thoughts that may or may not be useful some day, but to stir the thought forces of their souls and give them the power of making thoughts—whole thoughts—of their own; not to build up specialists on a foundation of sand furnished by the high school course, but to give a broad, well-rounded liberal culture, as a foundation on which the superb structure of special knowledge, absolute mastery of some one field of knowledge in its relation to all the rest, may be erected through real study afterward. In that sense breadth and thoroughness in education are not incompatible with the eternal fitness of things. The "men who stand four-square to every wind that blows" are not yet complete men, any more than a granite foundation laid broad and deep is a marble palace; but such men furnish the only material out of which complete men are made by the addition of a superstructure of special training, as marble palaces are not erected upon mud-sills. Men and women of trained, well-disciplined minds, broad culture first and special training afterward, are the ones who, when they get into their narrow life-work, will be able to do that one thing better than others; for they have mastered not only their own science, but that science in its relation to other sciences, and to the growth of the world's wisdom.

When our schools recognize that the Bachelor's degree, or any other degree, is not a label of the perfected scholar or specialist, and that not even any one subject can be completed in a college course, perhaps they will be more ready to fall in with the growing desire to shorten this period of discipline and of broadening culture, from the traditional four years to three. The real university comes after. When this comes, as come it will, will not our colleges become what they pretend to be, and should be, places of culture—occupying in our country the place in a system of education only partially occupied by the Gymnasium in Germany, while the training of specialists in every department of
science will receive an impetus past all present reckoning? Then, too, students who play the principal part on occasions like this and who have held out before them the vocation of scholarship, will realize that Commencement day is indeed only the beginning. Of what? Of real study toward a definite, special end.

I do not mean to advocate any system of education that will make of men's minds great "rag-bags of useless information," or that will sacrifice thoroughness to extensive attainments. But I do mean that no one can make a reasonable claim to true culture who has neglected either "the great vistas of the works of God," or "the everlasting consolations" of the Greek and Latin classics, or the realms of ideal beauty created by the divine souls of God-inspired men of other times and places. By culture I do not mean a smattering of every thing and depth in nothing, but I mean such breadth of sympathy and understanding as I have described, with "one increasing purpose running through it all," intensifying as it goes. "Culture," as our president has defined it,* "Culture does not consist in knowledge of any particular subject or set of subjects, nor is it the result of any order or method by which such studies are taken. Its essential feature is in the attitude which its possessor holds toward the world and toward the best that has been or can be thought or done in it. Its central quality is growth." Or, as Matthew Arnold has defined it,† "The acquainting ourselves with the best which has been known and said in the world, and thus with the history of the human spirit." We are human nature. Neither humanity, therefore—that is, the humanities—nor nature may be left out of the cultivation of the human nature that is to grow. Thoroughness is not incompatible with breadth of culture, if one plans for culture early enough in one's career. "True breadth of culture comes from breadth of life; four

* "Care and Culture of Men," p. 38.
† "Literature and Dogma," p. xi.
years in college can not give it.”* But life after the college course is over generally runs in necessarily narrower channels than before; and if the lines are not laid in widening rays, then how narrow will be the narrowness of after life. Any number of examples might be found, but what I mean will have more point if the illustration is personal. A member of my class in college, charmed, as we advanced in the classics, with the simple beauty of Homer, carried away by the sublime grandeur of the Attic tragedy, captivated by the grace of the bard of Venusia, turned his back upon his earlier ambitions, and proceeded to specialize in classical philology—philology in its classical sense. He came out of college with a little Greek, less Latin, and a smattering of French and German. He had absolutely no scientific knowledge of nature’s world; he had not even a notion of what Professor Huxley calls physiography—elementary instruction in the facts and laws of nature—which he should have had the opportunity of studying even in the grammar school. He had not had a glimpse down those “great vistas of the works of God” save such as his life in the country might have furnished to his observation. The years he spent in graduate work in classics might well have compensated for the time that could have been taken from his under-graduate classical study for a few excursions into the regions of natural science. He would not have been sacrificing any thoroughness in his specialty for any superficial versatility; he would have only read a little less Greek at a time when he could have afforded to read less, and he would have broadened his horizon by having a new world opened to him. That, he thought, can be added by and by. But the inexorable goad of busy professional life allows no turning from the straight road. So out of rich experience that same student stands before you to-day to plead with the coming student and those who will shape his career to aim at a broader culture in the under-graduate years before the narrower specializa-

tion that begins after the baccalaureate course, be it three years or four.

Of course, we must not fail to recognize that there are some intellectual constitutions which utterly refuse to assimilate culture from scientific study. So much the worse for them. In like manner there are many minds wholly unsusceptible to the charms of classical poetry. The more the pity for that. People thus constituted will have to make the best they can of a one-sided culture; if they will only secure that and do the best they can with it, their culture, for which the university makes provision, will not have been secured in vain.

"There can be no scholarship," says President Jordan,* "worthy of the name without some form of special knowledge or special training as its central axis." But if any one's scholarship runs all to "central axis," it will be about as serviceable to himself and to humanity as a vehicle whose four wheels are concentrated in one great hub. "The broadest education is none too broad for him who aspires to lead in any part of the world of thought. But the forces of the mind, to continue the figure, should not be scattered in guerrilla bands, but marshalled toward leadership."† Scattering is not breadth.

We are all in sympathy with Professor Virchow's definition: that the aim of university study is general scientific and moral culture together with the mastery of one special department of study. We have here at this university a practical plan which has in itself all the requisite qualities for realizing the ideal condition of things. No fixed curriculum or system of required studies leading up to a degree can furnish to any number of different minds the culture which each one needs. Here the student must have his own central purpose, and it must be an earnest purpose; toward that, as a central axis of his life, all other radiating lines must point. Whether these radiating lines of light

* "Care and Culture of Men," p. 44.
† Ibid., p. 45.
The Old and the New.

shall be focused in all their intensity on one single point, or illumine all his path through life and brighten and help all who cross it anywhere, depends mainly on the individual student's aims, but partly also on him to whom that student looks for special counsel.

At any rate, narrow specializing should not begin until the student's mind is thoroughly disciplined. Whether that discipline is best secured in the old-fashioned way with Latin, Greek, and mathematics is a question which has two good sides for debate. "There is," to quote again from our President, "much to be said in favor of the college in which discipline pure and simple is made the chief end of all the work. In such a school those subjects—languages, sciences, and philosophy—which serve the ends of training best, should be taught, and such subjects only." *

When we consider the two great new principles of our age—the conservation of energy with all the wonders it has made possible in the material world, and biological evolution with all the marvels it will produce in not only the physical, but also the intellectual and spiritual well-being of the race—the irresistible attractiveness of the new education, the triumph of the scientific education over all competition, and the preponderating tendency of students of "practical" minds to confine themselves to the scientific education, are easily comprehended. The educational pendulum has been steadily swinging backward and forward ever since modern education in the fifteenth century began, first to one extreme, and then to the other, as if no middle ground were possible. Universities were no new thing when the Renaissance came. They had been founded for "practical" purposes; and to the devotees of the "practical" courses the introduction of the classics was an innovation and the new learning was frowned upon. The humanists of the Reformation period had a battle to fight against tremendous odds. In order to maintain any place at all, they had to prove that literature was delightful for its own sake,

*Ibid., p. 46.*
The Old and the New.

and that Greece and Rome had something worth while to teach to modern men. The struggle was soon over; the pendulum began to swing the other way; the new learning triumphed throughout all Europe; and from the revival of learning down almost to within the memory of men still living, any education without a good strong backbone of Greek and Latin classics was no education. Education meant classical education. But human nature rebels against extremes, and as surely as extremes prevail, so surely will come reaction against them. Thus again after the middle of the last century, when new life caught up the souls of men, and lifted them out of the social and political corruption of the times, when the Encyclopedists, as the precursors of the great Revolution, began the revolution in the realms of science, then again came the flight to antiquity as the only source from which to gain afresh the elements of intellectual and artistic life. To those great crises in civilization, to those accomplishments of a race of intellectual giants, humanity returns again and again as to a fountain of spiritual youth eternally fresh and strong.

It is as strange now to reflect that to the foolish conservatives of four hundred years ago the classics were an intolerable innovation, as it is to think that Huxley and his compeers had to contend so long and so hard for the claims of science to recognition as a force for culture in a modern education. And now that the educational sceptre has passed from classics to science, and the scientific spirit dominates every sphere, its more radical advocates would crowd entirely out of the field its most formidable rival, the time-honored humanistic culture, as having no place whatever in an up-to-date education. The pendulum has once more swung as far as it can go. That spirit of science which is intolerant, whether it is philological science that inveighs against natural science or natural science that will allow no place to philological science, is the primal cause of the violent reactions that come in the lines of education; that readiness for revulsion is one of the things that argue most
potently for the final triumph of breadth. Intolerance is the child of narrowness of spirit; and when we all dwell together in harmony, each recognizing the value of all lines of culture, breadth is assured. And if Mr. King is right in his estimate of the purely scientific mind unbalanced by those mental pursuits that feed the fancy, ennoble the sentiments, enable us to enjoy beauty and harmony—and the ardent advocate of the humanities is easily persuaded to believe him—then there is sure to come against the technical scientific education so fashionable in our day a reaction strong enough to bring about a tremendous revival of the humanities, in the most comprehensive sense of the word; or, if a compromise can be effected, it may at last stop the swinging pendulum in the middle and produce the harmonious blending of the two cultures that will give us the full liberal education for which this plea is made.

With a well-balanced education, that antiquated narrow contempt of the new education for the old will be entirely forgotten. Then in the eyes of the scientist the humanist will no longer be a man who can not "see beyond the horizon of his own shallow experience, and who from his self-constructed throne judges the rest of mankind with the complacent assurance born of a fancied superiority."* Nor will the humanist find in this promised land so many Philistines, "full of narrowness, full of prejudices, with a defective type of religion, a narrow range of intellect and knowledge, a stunted sense of beauty, a low standard of manners, and averse, moreover, to whatever may disturb it in its vulgarity."† With this breadth of intellectual culture, and the physical culture that our human nature demands and deserves, our youth may with joy enter into their six-fold inheritance,‡ physical, scientific, literary, aesthetic, political, and religious, which is their indisputable birth-right; and

†Matthew Arnold, "Irish Essays."
thus equipped they may transmit it preserved and, in some chosen field, enriched, to generations yet to come. Lame, at least, is the institution of learning that withholds from its students any one of the six.

The world’s call is for the man of learning who knows better than any one else how to do some one thing; but he can not meet the requirements if he knows nothing but that one thing; he must know it in its relation to other things; he must see things in their proper proportion. “What science and practical life alike need,” says Professor Butler,* “is not narrow men, but broad men sharpened to a point.”

Let our new education be not a vertical line, but a pyramid, of which our present under-graduate courses shall furnish the base large and broad and solid; and let the university of the future, and, until it is realized, the graduate departments of the present, supply the apex. It may cost many a reluctant sacrifice of intellectual pleasures as the narrowing process begins and many more as it continues. It may be painful, but it is necessary. For in this day of specialization only the specialist can work out the best that is in him and render back to society what it has done for him. The first law of the fullest perfection says: Be perfect; that is, cultivate all your powers completely and uniformly, as far as possible. And the second law is like unto it: Forward in some respect the perfection of the race, which has made your culture possible. And both may be included in the law of all study: Learn only that you may yourself create. For only through this divine power of creation is any one really man; without it, he is only a tolerably clever machine.†

It is the business of every scholar to do something to extend the domains of knowledge in at least some one direction. He can not afford all his life long to cultivate nature and knowledge on all sides; one life would never

* l. c., p. 147.
suffice even to acquire a knowledge of what the past has done in many departments of thought and what is yet to be done; and so that life and its powers would be lost to the world to which they should have been consecrate. To some it may be painful to think that we must live on and die and leave many a wide field of knowledge untraversed and unknown. This longing to learn every thing is in itself a noble element of our nature, and leads to noble results; but it needs to be checked by the stern voice of duty. Otherwise we should be living to self—living off the world’s bounty. The world owes no man any thing; but every man owes the world all that he has and is, for the growth of the past has made the possibilities of the present. No one has a right to labor for his own enjoyment merely or keep his education for his own gratification. Every true scholar, therefore, must, according to taste or natural capacity or previous training, make his choice of that side of his nature to which he will give the preference, and, after the foundation of the pyramid of his education has been laid broad and strong, rear the superstructure, narrowing as it aspires. His own culture in its other departments must be left to take care of itself. Therein consists the higher sacrifice. And the more useful the scholar’s life is to be, the higher will be the sacrifice he must make, and the more he will have to surrender of that very culture without which his genius would have been unstable and helpless. He has no choice in the matter. He must turn his back upon many an avenue for self-culture opened up to him by nature, in order to devote all his natural gifts and all his acquired powers to the superior development of one or two capacities.

But for a student to specialize on one line too early in his career is to deprive himself of the half of his soul and shut himself up too early to a trade. That is technical training, not education. If professional training is a benefit, it is so in greater or less degree according to the measure of the culture and attainment which one brings to such study.
All professional training, all specializing, if it is going to accomplish that which is best in its own sphere, must be built up like our pyramid, step by step, upon the foundations of a culture broad and deep. And the higher we build the pyramid of special knowledge, the broader and deeper must its foundations have been laid and the more carefully must these have been calculated for that special superstructure they are to bear. This is the realm of the human mind. Without that, law, medicine, or any other profession is practically helpless. We can not take boys from the byways and hedges, teach them to read and write and do simple sums, then give them a two or three years' course in a medical school and expect them to do much for the lastling betterment of the human race. Here and there one or two may, through chance or through some God-given talent, help somewhat to that end, but we have no reason to expect that with the preparation they have had they will succeed in doing so. We force into every profession boys and girls from our lower schools with minds absolutely untrained and utterly incapable of living up to the best they might, if it were not for our American weakness of being forever in a rush. Our colleges have made provision for meeting just this difficulty, but in our overhaste to get into the struggle for existence that provision is ignored. If there is any one thing which more than another distinguishes our American university from other universities it is this: that whereas the German university exists for the production of scholars, investigators, and the English university for the production of clergymen and the polish of young noblemen, the American university exists primarily for purposes of culture — the culture of the common man.

The question of usefulness or of "practical" value in this culture stage of higher education is now, we may happily say, among educated men but very seldom raised; or if it is raised, it is only for the purpose of putting it down the more effectually. In the production of culture every thing depends upon truth; practical utility (in the vulgar sense)
is altogether a secondary matter. In the truer sense of the word, any thing is practical that makes a man or a community or a state or a nation stronger or better or wiser, any thing that helps a man to live up to the best that is in him, to be true to himself, to his neighbor, and to his God. That is practical and nothing else is, except as it is wrought through such a medium. The scholar’s work may bring him in his daily bread, yes, even wealth. But that is only incidental; it is not the most real nor the noblest function of his work, nor even the most practical.

But whatever your education, it must be returned with proper increase to the world that gave it to you. Of what use to your college or your country or this world, to whose betterment your best should be consecrate — of what use to anybody or any thing but yourself, is your education if you become not the leaders of thought and the teachers of those who follow to make up the forces that make for righteousness and the advancement of truth? Your first calling is that you be witnesses of the Truth. Every scholar, every educated man, to live out the best of which he is capable, must be the “living spirit of knowledge”; he ought to be morally the best man of his age, and he must in some way or other be a teacher, whatever his other profession or professions in life; and “they that be teachers shall shine as the brightness of the firmament, and they that turn many to righteousness as the stars for ever and ever.”

You that have attained so much of the skill required to overcome and correct the improper tendencies of the natural man, to combat ignorance and vice and build up in their place knowledge and righteousness; you that have acquired so much of culture that you are ready to be sent forth into the world to do, to teach, and to bless, remember always that you are destined to act and react with a most powerful influence upon humanity. Whether the circle of your influence be wide or narrow, the culture you have received is to be extended to others and every where to lift up our common brotherhood to a higher plane of living.
We have made it our highest aim to contribute to the culture and elevation of humanity in you and in all with whom you may ever have a common point of contact. All knowledge and all science that we may command, which does not tend to that end, is vain and worthless. How successful it shall be in attaining that end has depended upon the spirit in which you have received what has been afforded here and will depend also upon the spirit and faithfulness with which you carry further the lessons of truth you have learned and upon the increase and transmission of the power you have made your own. You go forth, believing in the ultimate triumph of the good, with your ideals of what humanity ought to be. Is humanity up to your ideal? If not, then you can not be true to yourself, to your neighbor, or to your God, if you fail to devote all your best powers, your best self, to the elevation of the humanity you find about you up to the ideals you cherish for yourselves.

You have your life problems to face, not alone these literary, intellectual, and educational problems, the proper solution of which will raise us above the present "hopeful level of Philistine vulgarity" which we are accused of occupying, and make us to be leaders of the world in things of pure intellect as well as in lines of mechanical application of scientific principles; that is yours to bring about; but you have also just as serious social, economic, and political problems, and the world looks to you to solve them. The questions of finance must be answered by college men; the relation of capital to labor, the question of trusts, of marriage and divorce, and of the reform of municipal government, the annihilation of that worst enemy of education and morals, that legalized destroyer of men and property—the saloon—these are grave problems which call for the application of the best minds and strongest characters our colleges can develop. Shall we not all find inspiration to advance in these lines of Charles Mackay's:
Men of thought be up and strong,  
    Night and day!  
Sow the seed, withdraw the curtain,  
    Clear the way!  
Men of action, aid and cheer them  
    As ye may!  
There's a fount about to stream,  
There's a light about to beam,  
There's a warmth about to glow,  
There's a flower about to blow,  
There's a midnight blackness  
    Changing into gray;  
Men of thought and men of action,  
    Clear the way!  
Once the welcome light has broken,  
    Who shall say  
What the unimagined glories  
    Of the day;  
What the evil that shall perish  
    In its ray?  
Aid the dawning, tongue and pen;  
Aid it, hopes of honest men;  
Aid it, paper; aid it, type;  
Aid it, for the hour is ripe,  
And our earnest must not slacken  
    Into play;  
Men of thought and men of action,  
    Clear the way!