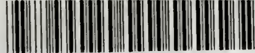
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UNIVERSITY BULLETIN

New Series, Vol. X No. 21

THE VALUE OF HUMANISTIC, PARTICULARLY CLASSICAL, STUDIES AS A TRAINING FOR MEN OF AFFAIRS

A SYMPOSIUM

From the Proceedings of the Classical Conference held at Ann Arbor, Michigan
April 3, 1909

Reprint from the *School Review*, June, September, 1909

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A SYMPOSIUM

ON THE VALUE OF HUMANISTIC, PARTICULARLY CLASSICAL, STUDIES AS A TRAINING FOR MEN OF AFFAIRS[1]

I. LETTERS

1. FROM THE HON. JAMES BRYCE
Ambassador of Great Britain

It is matter of great regret to me that I cannot attend your Conference, for the longer I watch the currents that are now affecting the higher education, the more I lament the diminished attention that is today given to classical studies. Most people seem to think that a language no longer used by a nation as its daily speech is a dead language and has no value for the modern world. But the truth is that no language which enshrines a great literature and through which the thought of the past speaks to the thinkers of the present can ever die. Such a language is far more alive than those spoken languages which contain little worth reading. Now in the Greek and Roman writers we find much that is not only equal in intrinsic excellence to anything produced since, but much that is quickening and stimulating us just because it is ancient, because it carries us into regions of thought and belief which differ profoundly from those of modern

[1] Part of the Programme of the Classical Conference at Ann Arbor, Michigan, April 3, 1909.

Through the kind assistance of the Board of Regents of the University of Michigan and the courtesy of the publishers of the *School Review*, it has been possible to secure some reprints of this symposium for distribution. Those desiring a copy may address (inclosing a two-cent stamp for postage) Mr. Louis P. Jocelyn, Secretary Michigan Schoolmasters' Club, South Division St., Ann Arbor, Mich. The previous symposiums of this series were as follows:

I. "The Value of Humanistic, Particularly Classical, Studies as a Preparation for the Study of Medicine and Engineering." Published in the *School Review*, Vol. XIV (1906), pp. 389–414; translated into German by Professor Von Arnim, of the University of Vienna, and published, with an introduction by Dr. S. Frankfurter, under the title "Der Wert des Humanismus, insbesondere der klassischen Studien als Vorbereitung für das Studium der Medizin und der Ingenieurkunde vom Standpunkt der Berufe" (4. Heft, Mitteilungen des Vereins der Freunde des humanistischen Gymnasiums, Vienna and Leipzig, 1907).

II. "The Value of Humanistic Studies as a Preparation for the Study of Law." *School Review*, Vol. XV (1907), pp. 409–35.

III. "The Value of Humanistic, Particularly Classical, Studies as a Prepa-

times. I do not say that the classics will make a dull man bright, nor that a man ignorant of them may not display the highest literary or the highest practical gifts, as indeed many have done. Natural genius can overleap all deficiencies of training. But a mastery of the literature and history of the ancient world makes every one fitter to excel than he would have been without it, for it widens the horizon, it sets standards unlike our own, it sharpens the edge of critical discrimination, it suggests new lines of constructive thought. It is no doubt more directly helpful to the lawyer or the clergyman or the statesman than it is to the engineer or the banker. But it is useful to all, for the man of affairs gains, like all others, from whatever enables him better to comprehend the world of men around him and to discern the changes that are passing on in it.

Without disparaging the grammatical and philological study of Greek and Latin, the highest value a knowledge of these languages contains seems to me to lie less in familiarity with their forms than in a grasp of ancient life and ancient thought, in an appreciation of the splendor of the poetry they contain, in a sense of what human nature was in days remote from our own. It is for all of us necessary to live for the present and the immediate future. But it is a mistake to live so entirely in the present as we are apt to do in these days, for the power of broad thinking suffers. It is not only the historian who ought to know the past, nor only the philosopher and the statesman who ought to ponder the future and endeavor to divine it by filling his mind with the best thought which the men of old have left to us.

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2. FROM JAMES LOEB

Formerly of Kuhn, Loeb & Co., New York

That a classical course is a valuable training for business life has always seemed to me a self-evident proposition. This question has been discussed often and at great length by those who are much more worthy of a hearing than I am. If I depart from the habit of years, and venture to send a message to your learned assembly, it is primarily owing to repeated urging. I find my only warrant for so doing in the thought that my personal experience at Harvard University, in business, and now, last but best, in the pursuit of *res dulciores et humaniores,* gives me a certain perspective that may not be without some interest to the Conference.

It would be a waste of your time and of my energy, were I to try to plead the cause of the Classics. America does not stand alone in its

ration for the Study of Theology, from the Point of View of the Profession." *School Review,* Vol. XVI (1908), pp. 370–90, 533–37, and 561–79.

A few reprints of Nos. II and III are still to be had; requests (inclosing two-cent stamps) should be addressed to Secretary Jocelyn. The reprints of No. I are exhausted.

decreasing attention to Greek and Latin. Schoolmasters and university professors in England, France, and Germany make the same complaint. We must not close our eyes to the fact that the prevalent methods of teaching classical literature are largely to blame for this decrease. The dry, pedantic insistence on grammatical and syntactical detail, so usual in High School and University, has driven many a student out of the fold. It is asking too much of even a well-disciplined lad to read the *Prometheus* or the *Antigone* in this spirit. His eyes must be opened to the human values and to the aesthetic charm of ancient literature; and for this the teacher is often too incapable or too unwilling. I am confident that the younger generation of teachers, who are now coming into their own, and who have "tasted the dragon's blood" in Greece or in Italy, will inject new life into their subject, or rather, that they will understand how to show forth to their hearers that eternal life and beauty of the Classics which is so often buried under mountains of dry philology.

In an age like ours, where ambitious youth no longer treads the cloistered walk, where "Make Money," "Win Success," "Out-do Croesus" are written in large letters on the blackboard of School, College, and University, usurping the place of the *γνῶθι σαυτόν*, how can we expect people to find *value* in Homer or Euripides, in Caesar or Catullus?

$uccess, written with the dollar sign, instead of with the commoner, but more harmless sibilant, is the shibboleth of our day. In his last year's Phi Beta Kappa oration President Woodrow Wilson, of Princeton, said:

> Is it not time we stopped asking indulgence for learning and proclaimed its sovereignty? Is it not time that we reminded the College men of this country that they have no right to any distinctive place in any community unless they can show it by intellectual achievement? that if a University is a place for distinction at all, it must be distinguished by conquest of mind?

Splendid! But what does the average undergraduate think of such words as these? "Stuff and nonsense; very pretty in theory, but how do they apply to my case—to me, who want to make a *Success* of my life?"

We have made the path of education too smooth; our young men and women rush over it on the soft cushions of hurrying automobiles. They are no longer forced to face that healthy struggle for knowledge that wearies the body, but refreshes the mind. Why, there are Colleges and Universities in our land where "original research" is recommended to young people as a profitable pastime before they know what a bibliography looks like! Most things can be popularized; original research cannot.

Some time ago I had the pleasure of a visit from a quite recent graduate of one of the largest New England Universities, who is now taking a classical course at Oxford. This young man, who had distinguished himself on the football field as well as in the classroom, was thought worthy of an appointment to a Rhodes Scholarship. He means to study Theology

and ultimately to return home as a teacher. Just now Classics are his chief pursuit. Our talk happened to drift to an incident in Modern History. "Oh," said my young friend, "I know nothing at all of Modern History." With the same engaging candor and honesty he protested his complete ignorance of Mediaeval History. To my timid suggestion that life at Oxford and the long vacations would give him ample time to make up this regrettable lacuna in his education he archly replied, "Oh, I do not need to know anything about history, because I shall never have to teach it."—Q.D.V.!

The degree of A.B. has been so far cheapened that the graduate of twenty-five years ago reluctantly admits the graduate of today into his intellectual companionship. The Elective System has overshot its mark and a decided reaction must soon set in, if we mean to uphold the respectability of a University degree. It may be good Business to encourage young men to take their A.B. in three years, but it is bad Paedagogics.

The constant and growing abuse of a free choice of subjects is slowly but surely removing the props of solid intellectual achievement. "The distinction that can be gained only by conquest of mind"—to cite President Wilson's well-chosen words once more—is predicated on a much more thorough *general* education than the American undergraduate brings to College. Too much and, above all, too early "specialization" is a great obstacle to his acquiring that broader and fairer culture of two or three generations ago.

Conversation among men, and between men and women, is steadily losing those finer qualities which make an exchange of ideas profitable and uplifting. With the absence of respect for authority, which characterizes the youths of today, we are fast losing that respect for the dignity of our own work which alone can give that work real and lasting value. The foolish attempt to keep abreast of the so-called literature of the day, of those morbid, pseudo-psychological novels, the prying and indelicate memoirs—to say nothing of the even more pernicious products of untutored writers—would be impossible, were the taste of our growing youths and maidens formed by a proper study of Greek and Latin literature, the Bible, and the Classics of our own and other languages. The applause bestowed on the decadent drama, the vulgar comedy, the immoral and dirty play would turn into hisses, were the audience better acquainted with the works of Aeschylus and Sophocles. Those old tragedies served a great moral purpose by focusing motives and lime-lighting consequences. I venture to say that the low ebb of our public and business ethics is due, among other things, to the absence of that fear of consequences which the better acquaintance with the dreaded *Μοῖρα* of the ancients would necessarily beget in our consciousness. And much of what I have said applies to conditions in Europe as well as at home—in lesser degree, however, because Europe's

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mighty cultural inheritance still serves as a bulwark against the encroachment of these evils.

A thorough groundwork in the fundamentals of real culture, followed by a rigid training in the severer discipline of honest original research, of some sort, is the *sine qua non* of every successful life. Whether that life be devoted to Science or Letters, to Theology or Business, matters not. That an intimate acquaintance with Greek and Roman literature is among those fundamentals of real culture need hardly be urged here.

Business cannot be taught theoretically. The real school for Business is Business itself—the railway shop, the store, the factory, or the bank. "Business Colleges," good, bad, or indifferent, abound in our country, and recently Harvard and other Universities have thought fit to establish "Schools of Business Administration" and what-not else of the same character. A regrettable misconception—I am bold enough to say it—of the true functions of a University. We need ideals in our country. Shall we print the dollar sign on our Bachelor's degrees and flatter their holders into the vain belief that they are better equipped for money-earning because they have spent less time in learning lessons that mean vastly more for the *inner* life?

I have still to hear of the young man, whose theoretical knowledge of bookkeeping and finance and international exchange secured him better pay, or a position of greater trust, than that given the lad from the Public School. A level-headed College graduate is better worth his pay than a fellow who comes from a Business College with his head full of dummy exchange operations and make-believe entries on a ledger.

An old friend of mine, who fought in the Civil War, and who still clings fondly to the high-protection fallacy, once said to me, when I had just entered business in 1888, "My dear boy, you know more in theory today than you are likely ever to know in practice." My young graduate pride rebelled at this, but 13 years' experience in very active affairs taught me that the time spent at Harvard studying History of Finance, Political Economy, and International Law might as well have been devoted to the Classics for all the practical value I got out of those worldlier pursuits.

The great and legitimate aim of a business man is to make money, to provide for himself and his family such luxuries and comforts as his tastes and social standing demand. But when a man has reached the goal of his desires, when he has made his pile and wants to enjoy it, then comes the time for the making of the real and only *Balance Sheet.* Then he must ask himself, "What are my resources, now that I have everything that money can buy? What are my spiritual and intellectual assets? How can I best spend what is left to me of life?" Lucky is the man whose early training fits him for something more than the golf-field, or the tennis-court, and for something better than the gaming-table when his days of business

activity are over. He can taste the gentler pleasures that await him in his study and by the blazing hearth-fire. His Sophocles or his Homer or his Catullus will make the winter of life seem like its early spring when the greatest struggle he knew was with the elusive rules of grammar and syntax. This busy world of ours cannot stop: it will always whirl and rush and hustle. But some of us—and the more the better—must learn that on one side of the rushing stream of life lie the peaceful backwaters, in which the clouds and the sun, the shrubs and the birds of the air appear reflected in their true, undistorted image, gently floating on the limpid pool of reverie.

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3. FROM WILLIAM SLOANE

President of W. and J. Sloane, New York

An education is a large asset for any man, whatever his calling. His equipment for a life-work is that much better, and I, for one, think that an education, and preferably a classical education, is a distinct advantage to a business man, and will prove to be so in increasing measure as he rises to positions of responsibility and influence in his business or elsewhere. A wider horizon means greater ability to see through complex situations, to understand motives, to measure men; to say nothing of the more intelligent interest in those outside matters which increase general culture in the community, in the state, and in the nation.

An American man of affairs is hardly in the same category with the old-world shopkeeper. He must be well prepared to serve his day and generation in a great variety of ways. He may be called from the counter to the cabinet. The only limitations to success in America are those of capacity. But the great trouble with us is that we are forever looking for the short cut. This characteristic has caused a lack of thoroughness in our educational system which is unfortunate. If a man can skim over history and economics, and a modern language or two, and secure a college degree, he is ill prepared to perform the drudgery of an apprenticeship in business, which after all constitutes the only basis on which to build. I believe that the slow processes of translation of the Classics (which in my opinion should be compulsory in the academic course for a B.A. degree) make good training for the boy who has chosen a business career. This is entirely aside from the advantage, which he will never enjoy again, of communing with the gods. The business man's day is prosaic, the men he meets are as a rule men of little or no schooling. The business principles he finds are not always in accord with his preconceived ideas of honesty; there isn't much art or poetry in it all; and unless he has something to fall back upon, some background to his life and thought, some such continual source of quiet comfort and pleasure as a classical education

will afford him, life will be a very empty thing; while business cares and business successes will become such paramount issues with him that the man will be lost in his pursuits.

Again, a business man who has had a classical education cannot fail to remember with reverence and affection those patient, consecrated men who taught him Latin and Greek, and awoke in him a love for the beautiful. Such men as these, with ideals, he perhaps no longer meets in his daily vocation. With the passing years he may have forgotten the very names of the Classics he read at college, but the memory of those days, of those men, of their enthusiasm in their work, has had its effect on the man himself and he is better for it, and I believe a better business man too, for unconsciously he has acquired something which he values as a precious possession, a something which distinguishes him from his fellows and makes him singularly happy in his work.

II. THE STUDY OF THE CLASSICS AS A TRAINING FOR MEN OF AFFAIRS[1]

THE HON. JOHN W. FOSTER
Washington, D. C.

My experience in the practice of law and my observation of public affairs have led me to look with regret upon the diminishing interest in our higher institutions of learning in the study of the ancient classics. The modern university spirit seems to tend to the elective system and to study in the scientific and more practical departments of knowledge. I doubt very much whether it is wisest to leave entirely to the immature youth the selection of his course of study. So also it may be better to train and develop the mind in the earlier years than to store it with knowledge, which may well come later. If the university is to maintain its proper place as the seat of higher learning, Greek and Latin should not be relegated to an unimportant position in the curriculum, nor their study discouraged.

History tells us of the unequaled refinement of the Greek race in the days of Pericles. Only a few doubtful and imperfect specimens of the chisel of Phidias and his school remain, and the skill of Apelles' brush is entirely lost to us; but the highest evidence of the art, refinement, and thought of that golden age

[1] Read by President James B. Angell.

has come down to us unimpaired in the Greek language, the most perfect achievement of the human race. No better training for the youthful mind can be devised than the study of this language and the mastery of the high and polished thoughts which it has preserved. It matters not if in the resistless hurry of our practical age the Greek which we acquired in our youth passes from our memory; its influence on the mind will never be obliterated.

Lord Brougham, one of the first of English statesmen and scholars of the last century, in his inaugural address as rector of Glasgow University, said:

> Be ye assured that the works of the English chisel fall not more short of the wonders of the Acropolis, than the best productions of modern pens fall short of the chaste, finished, nervous, and overwhelming compositions of the Greeks. Be equally sure that, with hardly an exception, the great things of poetry and of eloquence have been done by men who have cultivated the mighty exemplars of Athenian genius with daily and with nightly devotion.

Also that other distinguished English statesman and scholar, than whom no one of his generation was greater master of his own language, Gladstone, wrote:

> The modern European civilization from the Middle Ages downward is the compound of two factors—the Christian religion for the soul of man and the Greek discipline for his mind and intellect.

I have been asked to discuss "The Value of the Study of the Ancient Classics as a Training for Men of Affairs." The quotations which I have just made from two of the most prominent men of affairs of the British Empire show the high estimate which they placed upon the study of these classics. Every man at the bar or in public life who was made familiar with the Greek and Latin languages in his early education knows how valuable that study has been to him in his professional career—not on account of the technical knowledge acquired, for that will pass from his memory unless preserved by constant reference to it—but because of the discipline which the study gave to his youthful mind in its formative state. The mere routine labor of the translation of Greek and Latin authors into one's vernacular, the effort to ascertain their exact meaning and the choice of the

words which correctly express that meaning, constitute a mental training which will be invaluable to the future lawyer or public man. True, there is some such training in the acquisition of the modern languages, but not to be compared with the study of the Greek, the most highly refined and perfect of all the languages for the expression of human thought.

I recall my own experience. As a law student and for some time after being admitted to the bar, it was my practice to carry about with me the Latin text of the law maxims extracted from Broom's compilation, in order to memorize them and master the principles therein so concisely and clearly stated. My main object in this exercise was familiarly to acquaint myself with the elementary doctrines of law and government, for practical application in my profession. But the exercise was of inestimable value to me in forming my method of thought and expression. Whatever of conciseness and clearness of style I may possess is to be largely attributed to such study.

Another great value to be derived from a study of these Latin maxims is that they contain the concentrated wisdom of the philosophers, scholars, and publicists of Greece and Rome. We of the English race, in our exaltation of the common law, are apt to forget that the foundation of almost all modern jurisprudence was laid by the jurisconsults of the Roman Empire in the compilation of the civil law, who availed themselves of the vast storehouse of wisdom gathered from more ancient sources.

Even the advocates of the elective curriculum which required no Greek and Latin admit that the study of those languages in the writings of their philosophers, poets, and scholars tends to produce the most cultured minds and the highest style of composition and expression. Amidst the great wealth of material in the ancient classics which has come down to us, none is more useful to the lawyer and the public man than the works of Demosthenes and Cicero. We are accustomed to look upon them only as orators and authors of treatises, but they were lawyers by profession, and of all the ancients the most successful in their profession of those whose lives we know or whose works have been preserved. And they also, like their brethren of the present

day, were led through their profession into public affairs. For a considerable portion of their public life both Demosthenes and Cicero swayed the destinies of Athens and of Rome.

Demosthenes lived about one hundred years after Pericles, but he had in his education the full benefit of the refinement and literature of that age and of the later days of Socrates and Plato. Cicero was educated by the most eminent teachers and philosophers of his day, and he perfected his education in Athens and Asia Minor. Many of the forensic efforts of these two men have been saved from the wreck of time, and are available for the study of lawyers and statesmen. They are conceded to be among the choicest productions of the human mind in force of expression, beauty of style, pure philosophy, juridical wisdom, and statecraft. It is well worth while for our public men to master the Greek and Latin in order to study the productions of these great lawyers, orators, and statesmen in their native tongues, unimpaired in their force and elegance by translation.

I have referred to the training derived from the translation of the dead languages, in the accuracy of expression which it requires, and the habit of searching for the true and exact meaning of the author. This training is of prime importance to all those who have to do with the framing or the interpretation of contracts, charters, statutes, or treaties. It has been deeply impressed upon me in my connection with public affairs. A considerable portion of my official life has been devoted to efforts to reach an understanding of treaty stipulations, which on account of their vague and inexact language have given rise to conflicting interpretations which threatened open hostilities between otherwise friendly powers. The most fruitful source of conflicting interpretation has been the attempt in our treaties with Great Britain to fix our boundaries with Canada and to define our respective rights.

In the treaty of peace and independence of 1783 it was stipulated that in order "that all disputes which might arise in the future on the subject of the boundaries of the said United States may be prevented, it is hereby agreed and declared, that he following are and shall be their boundaries, viz. . . . ." But the

first attempt to put this stipulation of the treaty into force developed the fact that the language used was so vague and uncertain that, owing to the opposing interpretations, it was impossible to put it into effect; and after much discussion, resort was had to arbitration to determine what was "the true intent" of the treaty as to the initial point of the boundary line. In succeeding years, as efforts were made to establish other portions of the boundary under this treaty, the varying interpretations placed upon its language caused much embarrassment and ill feeling.

The territorial rights of the United States and Canada on the Pacific coast, the discussion of which had caused the campaign cry of "Fifty-four forty or fight," were sought to be settled by the treaty of 1846, but the uncertainty of the language employed for that purpose caused bitter contention, only to be allayed by submitting the conflicting claims to the arbitration of the emperor of Germany to determine "which of these claims is most in accordance with the true interpretation of the treaty." Similar trouble as to the respective rights of the two countries in Alaska arose out of the proper construction to be placed upon the language used in the treaties of 1824 and 1825 between the United States, Russia, and Great Britain, which culminated in the expensive arbitral litigation at Paris in 1893, and at London in 1903.

The most conspicuous illustration of the defective character of treaty language is to be found in the recent agreement of the United States and Great Britain to refer to The Hague Tribunal the meaning of the words used in the stipulations of the treaty of 1818 regulating their respective fishing rights in the Northwest Atlantic waters. After nearly a century of diplomatic correspondence, heated local controversy, and long and elaborated arguments as to the meaning of words, it has been determined to organize at The Hague an international tribunal, before which the meaning of the words in dispute will be debated by the most learned lawyers of the two nations, and a final determination secured.

It is true that imperfect geographic knowledge has been responsible in some measure for these international misunder-

standings, but the greater part of the ill-feeling, arbitral litigation, and expense in these cases could have been avoided, if the negotiators of the treaties had taken more pains or had possessed the capacity to express their intent in more precise and accurate language. This citation of international controversies with our northern neighbors emphasizes the importance of having our diplomatists and our statesmen in the Cabinet and in the Senate who have to do with the making of treaties, well trained and expert in the force of language and the meaning of words. It is the unanimous testimony of educators and professional men that such a training can be best acquired by a patient and thorough study of Greek and Latin.

I heartily re-echo the sentiment heretofore expressed in these Conferences that there may be in this respect a restoration in our universities and colleges of the old condition of things, when the degree of Bachelor of Arts meant classical education.

III. THE STUDY OF LATIN AND GREEK AS A TRAINING FOR PRACTICAL LIFE

CHARLES R. WILLIAMS
Editor of the *Indianapolis News*

The purpose of education, as I conceive it, is to make youth conscious of its vast heritage, and to train its powers so as most effectually to appropriate and use its endowment. It is well constantly to hark back to foundation principles. What are we trying to do in all the process of education from the time we start with the schoolboy, "creeping like snail unwillingly to school," till the university sends him forth, diploma in hand, to take his place in the ranks of active endeavor? We wish as thoroughly and as quickly as possible to bring him into harmony with his intellectual surroundings, to raise him to the present average of the intelligence of the race, nay, in the university courses, to lift him above the average so that he may hope to be, may be fitted to be, a leader, not a follower in the race; a man that has learned through the mastery of his own powers and inclinations, through the discipline of his own nature, through

long association with the best that the world has thought and wrought, to have some adequate conception of life; who has come to "see life steadily and see it whole," or if not quite that, who has had formed in him some desire and aspiration to attain that high and worthy power.

A good share of education, nearly all that can be given to the majority of our youth, is of an essential, necessary character, such as every citizen ought to have. Most pupils are, to say the least, not geniuses, not even talented. All that can be done for them in their school years, it seems to me, is to give them thorough instruction in the essential elements of education and to quicken in them the desire for better things—to give them in some degree the spirit of knowledge, which is "that you must base your conclusions on adequate grounds."

Already when the lads reach the college or university the work of selection has gone far. Generally speaking, only those seek the higher courses of instruction who are above the average intellectually, at least in their desire for knowledge and training or in their aims or ambitions for their mature life. But for the most of the students, even in the higher courses, the spirit of instruction remains the same; only with ampler view, with wider prospect, with larger understanding. The minds are still immature, the accomplishment slight, the discipline of powers partial and often misdirected. It is not knowledge of facts that is needed most, so much as it is grounding in principles, right attitude of mind, training of powers in application, and in appreciation of what is right and good, of what is worthy and best. And along with this there needs to be, if best results are to be attained, constant inculcation, by precept and example, by spirit and power, of honesty of thinking, honesty of speech, honesty of action—the love of truth, the scorn of a lie. To my notion, it is quite as important to have instruction so permeated with the atmosphere of right purpose, and the love of all things true and honest, and of good report, that its constant endeavor and effect shall be to

> teach high thought, and amiable words,
> And love of truth, and all that makes a man.

"Three things Yale helped to make William Howard Taft," said President Hadley at the recent notable Yale banquet in New York: "A man, a straightforward man, and a man of high intellectual ideals." He added: "The central problem for our colleges today, is to see that we give the same help and stimulus to those who now come to us."

We have been inclined, especially in the last few decades, to place the greatest stress upon the practical life. Time was in our earlier days when men regarded the pursuit of righteousness as of paramount and dominating interest. Our ideal then, the ideal at least that we loved to exalt and to proclaim, was the life of plain living and high thinking. Is it too much to say that the popular ideal today is rather the life of plain thinking and high living? Does the intellectual life, do the concerns of the spirit bulk as large in our thought, in our approval, as aforetime? Is not it the prevailing sentiment of the youth of the period that the great thing in life is to get on, to lead in material accomplishment, to put money in one's purse?

For years the gospel of strenuosity has been dinned into our ears with inescapable iteration; and we of all peoples, by reason of our temperament and the tendency of our thought, have needed such preaching least of all. The very conditions and opportunities of our life, with a virgin continent to enter into and possess, have set the blood coursing through our veins in a very fever of impetuosity, and made us avid of material conquest and achievement. With so great possibilities demanding development and offering so munificent rewards to those that should succeed, it is no wonder that young men of energy and enterprise and initiative have been impatient to enter the lists and to win their spurs in the sort of activity which the times seemed most highly to regard. It is no wonder, perhaps, that in the swift revolution of thought, the breaking up of old habits of mind, of old forms of faith, which the marvelous development of science has gendered, and the new mastery of the powers of nature has fostered, it is no wonder, perhaps, I say, that the material side of life has come to occupy so disproportionate a share in the thought and ambitions of the age. Its favors are

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CALIFORNIA

so obvious and so convenient; it is so good to be lapped in ease, to be luxuriously housed, to be clad in purple and fine linen, to have one's heart's desire!

And so our very education has tended, has it not? to be materialized; has come more and more, has it not? to exalt the immediately useful and practical—the utilitarian—side of instruction. The old college education had at least an ideal of culture. It began somewhere, it proceeded by orderly sequence of courses, through clearly defined territory, toward a definite goal. That goal was trained and disciplined manhood—a mind stored with much knowledge of the sources of our culture; a mind with all its powers, at least somewhat, tested; a mind that had been made conscious of its capacities and of its ignorances, that had been disciplined in the ways of attaining knowledge; a mind brought into some reasonable frame toward the great and obstinate questionings of the soul; and a character established on the eternal foundations of principle and morality. That was the old ideal, as I conceive it. Surely that was a very noble ideal. Of course it was only measurably attained or attainable, but it moved on before the hosts of youth seeking escape from the bondage of immaturity and rusticity, of convention and prejudice, of sensualized desire and low ambitions, a pillar of cloud by day and a pillar of fire by night, leading steadily toward the promised land of the enfranchised human spirit.

But in the multiplicity of courses that the college offers today, in the clamor of appeal of its diverse and divergent departments, what ideal controls and co-ordinates the whole? I trust I speak not in the tone of the hopeless conservative, of the mere *laudator temporis acti,* to whom the old, because it is old, seems good, and the new, because it is new, portends degeneracy. I have not that temper of mind at all, I hope. I know that the colleges and universities are greater and better in unnumbered ways than they used to be. But what is the ideal of their courses? This I do know, that it is possible in these days of so large freedom of electives for men to graduate with high honors from some of our higher institutions, who with all their equipment of particular knowledge, with all their specialized power, are devoid of culture

and possess no philosophy of life. Doubtless they know more about some things than the graduates of the older day knew, but they know less about everything—the universe, the majestic movement of human culture from its far-off sources in the past, increasing with the broadening times, to its present multitudinous volume.

Not infrequently we hear it asserted that it makes little difference what a young man studies, so only that he studies and learns to study in the right way. All roads lead to Rome, we are reminded. So any subject pursued diligently, we are assured, will certainly bring the student to efficient mastery of his intellectual powers. Well, let us freely admit that there is something, nay a good deal in this theory; and yet there is a difference. A student may discipline his mental powers in the study and investigation of subjects which in the end have given him little more than discipline, power for further effort, but that have left in his mind, made part of his soul-life to be the furniture of his thought and the subject of his meditation, almost nothing that he cares to remember, almost nothing that has become of the very texture of his inner life. The range of knowledge is so vast, its lines extend with so many ramifications, interlacing and driving wide apart, to the ends of the world, that no one can ever hope to compass it all; much less in the years of his tutelage. Of course no one line of study is best for the best development of every mind. There must and should be choice and variety to answer the needs of varieties of gifts. The higher institutions have been wise in recognizing this requirement, and so enlarging and enriching their curricula. But, after all, have not they moved too precipitately in this direction? Have not they given to youth, fickle and uncertain in its bent, too great and too early freedom of selection? Have not they allowed specializing and consequent narrowing of intellectual interest to begin too soon? Have not they, in the flush of zeal for the new learning, gone too far and too fast in encouraging the abandonment of the old ways and the old paths? Does not the experience of the ages of successful tuition after all count for anything? Should not the wisdom of the elders have some weight—far more

than it has seemed to have in late years—in guiding, counseling, and directing callow youth in the courses that promise most for their best development?

It does make a difference, a very great and momentous difference, to my notion, what a youth studies in his formative and impressionable years. He is to gain discipline, he is to win mastery over himself, to learn to use his intellectual powers; but if he can attain these necessary ends and at the same time be adding vastly to his spiritual resources, to the comfort of his soul, to the joy of his true life in the years to come, when the cares and responsibilities and distractions of professional and business activity shall absorb his time and energy, should not those subjects for study be preferred which shall enable him most easily to bring about these most desirable results? Let us never long leave out of our thought that life is not mere getting and spending, mere sowing and reaping, mere material success of whatever form. That is only the basis for something better and higher and more enduring.

And so, especially for the young men that hope to be leaders in the professional and business life of the time, in finance and affairs of state—in practical life, in a word—those studies are to be preferred which shall make him more a man, give him a wider outlook, a larger prospect of life, quicken his power of vision, enlarge his range of sympathy and appreciation, and bring him into fullest consciousness of the sources and development of the culture we enjoy. It may be tremendously interesting, to be sure, to be able to determine the distance of the sun from the earth or to measure the diameter of the moon; power of observation and a magnified sense of the miracles of nature's adjustments all about us may doubtless come from microscopic study of the eye of a wasp or of the delicate whorls of a lichen. But, after all, what do such investigations furnish the mind withal besides the added power except just the facts ascertained? How have they, except in infinitesimal degree, made a man more a man, or helped prepare him for his life among men? And never more than in this age of crowded activities, of enlarging governmental functions, of militant socialistic agitation by half-educated theo-

rists and lop-sided sentimentalists, was there need of men that know the world was not made yesterday nor the day before.

Pope voiced a profound truth when he declared that "the proper study of mankind is man;" and some wise man, whose name I do not now recall, uttered the dictum: "There is nothing noble in the world but man; there is nothing noble in man but mind." Whether or not we accept that as wholly true, we must unquestionably recognize that in it lurks great truth. What man has been, what man is, what he can hope to be—is there any other theme of such enthralling interest, any other field of investigation that can so widen the spiritual horizon, that can exert so humanizing an influence? It embodies the whole accomplishment of the race, in civil society, in religion, in letters, and in art.

And it is into just this field of investigation that the study of the Greek and Latin literatures and polities conducts us with enticing appeal and supreme authority. It is no accident, no assumption of conceit, no pedant's caprice, that named the Greek and Latin courses the Humanities. That title is the expression of exact and suggestive verity. In these courses certainly we are studying humanity in concrete manifestation and in abundant wealth and variety of intellectual and spiritual achievement. While the life presented has all the air of maturity and presupposes antecedent ages of preparation, yet for us it has all "the freshness of the early world." For us it presents the foundations on which our civilization is built, the germ out of which our culture has developed. Our jurisprudence recognizes principles established by the Greek and Roman lawgivers; our municipal administrators could find much to emulate in ancient methods; our philosophers still quote the authority of Socrates and Plato and Aristotle; our literary forms were given to us by the poets and orators and historians that made Greece famous; our art tests itself by comparison with the scanty derelicts of the studios of antiquity. How can one possibly have appreciation of the higher things in modern life that has made no thorough study of the sources from which these have sprung or in which they have found inspiration?

And there is no way to study these sources so effective as to

study them in the original languages. The very fact that the languages are so different from our own, that their content is so remote and alien to present moods, and that therefore progress in their mastery is slow and laborious, adds to their value as disciplinary material and deepens the impression that the knowledge they convey and the wisdom they impart make on the mind and the memory. A man in after-life may forget the declensions and the conjugations, may lose power indeed to read or translate, but the effect of the study on his mental development, the knowledge of men and the world that he thereby gained directly or indirectly, the uplift of soul, the widened vision—these have entered into and become a part of his being, that shall never leave him more. They have helped to give him an understanding of life, a grasp of principles, a consciousness of the solidarity of the race which otherwise he would have failed to gain, or at least to gain so strongly and distinctly. "Will such studies make anachronisms of us?" asks Mr. Lowell, "unfit us for the duties and the business of today? I can recall no writer more truly modern than Montaigne, who was almost more at home in Athens and Rome than in Paris. Yet he was a thrifty manager of his estate and a most competent mayor of Bordeaux."

Unless a student is dull indeed of comprehension he will have learned by his contact with the ancient world, by his pursuit of the Humanities, that the problems of government and sociology, the just division of powers, the distribution of wealth, the relations of classes to one another, the incidence of taxation, and the control of great estates are not new problems peculiar to this age and continent. He will thus be prepared to deal with them with larger intelligence, with wiser patience; he will not be carried away with every wind of doctrine fanned by the flippant but ignorant mountebank of yesterday, nor prone to accept the long-ago rejected but freshly discovered panacea of political or financial ills proclaimed by insinuating rhetorician or crafty demagogue. He will stand, he must stand by reason of the training he has had, of the wisdom he has absorbed, as a bulwark of defense for the things that are sane and sensible and that experience has proved and approved.

So far I have discussed the general effect and influence on mind and character in fitting a man for leadership in the practical affairs of life, which in my opinion a study of the Humanities is pre-eminently suited to produce; and perhaps I might properly arrest my discussion at this point. But there is another phase of the question, no doubt, of comparatively minor importance, but still in my opinion of great significance, to which I cannot forbear to give attention. No man is well educated, is well fitted for leadership among his fellows, that has not a thorough and easy command of his own language. Language is the instrument of thought, whether we fully agree with the nominalists or not, the instrument of expression, of human relationship. There can be no clear thinking, no adequate expression except by one that has mastery of the instrument of thought and expression. It is hardly possible therefore, to my mind, to exaggerate the importance of inculcating and cultivating the knowledge and power of our native tongue. Indeed the greatest heritage we enjoy is our English language with what it contains. It is the noblest instrument of thought that the human mind has developed, with the possible exception of the ancient Greek. And when we recall the complexities, one might almost venture to say, the perversities, of Greek etymology, one may be permitted to express unqualified preference for our so-called formless speech. At any rate it is acknowledged to be, for all practical purposes, far and away superior to any other modern tongue.

To this transcendent language of ours we owe a profound respect and devotion akin to the feeling of patriotism or loyalty. It is our duty as educated men to do all in our power to maintain its integrity and to preserve its purity. Students ought to be impressed with the thought that the language is not theirs to do with what they will; it is a great patrimony given to them in trust, to be transmitted unimpaired, though perhaps enriched, to their successors. It is theirs to use, to enjoy, to glory in; but not to abuse, to mutilate, to degrade.

Now, in my opinion, there is no other way by which students can come to so thorough a knowledge of the powers and possibilities of the English language, to working familiarity with its

ample vocabulary, to a comprehension of slight distinctions of significance in its profusion of synonyms, to a precise discrimination among its wealth of epithets, and to ease of movement in marshaling word and phrase in orderly formation, that is to be compared with the study of Greek and Latin. Every hour with text and lexicon and grammar, every exercise in classroom, becomes a practice, an experimenting, a successful engagement in what Mrs. Malaprop thought she was saying when she boasted of her aptitude for "a nice derangement of epitaphs." At a period of his development when a student has few thoughts of his own to express, and scant power to express even what thoughts he has, he has placed in his hands a masterpiece of the world's literature couched in alien idiom and surcharged with allusions to customs and traditions and events remote from his cognition or experience. For high thought and strange form and antiquated mode he must find adequate interpretation and expression in his own language. Almost imperceptibly he finds his range of expression amplified; his appreciation of delicate shades of thought quickened; his vocabulary expanding; his sense of the value of words, inherited from the Greek and the Latin, deepened; his ability to think more clearly and to give utterance to his thought with propriety and precision vastly augmented. In all his efforts to translate the classical authors he has been sounding the depths and exploring the heights of his own vernacular. He has been away for the time at any rate from the flippancies and irrelevancies and slang of the campus and the athletic field and drinking large draughts from the well of English undefiled. He may have thought he was only trying to learn Greek and Latin, but all the time he was perfecting himself in the mastery of English, perfecting himself in the power of precise and accurate statement, of adequate and appropriate expression. If any man hopes to be a leader in the practical life of the time he must have the power to think straight and to give forceful utterance to his thought.

For the man that seeks to be a leader in the practical life of the world the study of the Humanities, of Greek and Latin, is to be recommended and urged, therefore, because of the thorough

understanding and mastery of English that it gives; because of the discipline of the intellectual powers it affords, in determining the precise meaning of an author's discourse; because of the knowledge gained of the sources of our own language, our institutions, and our culture; because of the cultivation of taste that comes thereby in all that is high and fine in literature and art; because of the wider vision it gives to the spirit of men, and because it deepens one's sense of the continuity of culture, of the solidarity of the race, of our debt to the past, and so of our obligation to the future. It makes a man more a man, the more he knows of what men aforetime have borne and done and thought. The most practical man, in the final survey of human life, is the one that puts the emphasis on man and not on practical; who is never too absorbed in the cares and triumphs of life to ask himself soberly now and then: "What shall it profit a man, if he shall gain the whole world, and lose his own soul?"

IV. THE VALUE OF THE STUDY OF GREEK AND LATIN AS A PREPARATION FOR THE STUDY OF SCIENCE

HARVEY W. WILEY
Chief of the Bureau of Chemistry, Washington, D. C.

In this twentieth century, when the world is full of men of affairs, when so much is accomplished in a material sense, when the intellectual power of certain men over their fellow-men is so marked, when our leaders are of such consequence, it is a matter of interest to study every phase of the training of young people, for they will be responsible for the progress we shall make in the future. All of us, teachers and students, workers in every line, are striving to make our work tell in the final result, and not one of us is willing that the precious time of the youth of this generation should be spent on studies that give no value received at all commensurate with the time spent upon them.

In the general education, which all of us agree should precede the study of the science, art, or profession which is to be a

person's life work, such good and broad foundations should be laid that later in life no trained man shall feel that his early training has been essentially defective. That much, at least, we older men owe to those coming after us, for we are supposed to have learned, by our experience as working members of this busy world, what parts of our education have given us the best training for the things we may have accomplished.

To estimate the value of the study of Greek and Latin as a preparation for the study of science, it is well to know what is thought on the subject by men of eminence in the various branches of science. If the matter is passed upon by chemists only, the conclusions to be drawn from opinions rendered would be very different from those to be drawn from the opinions of astronomers exclusively.

As a member of the Committee of Nine of the Classical Association of the Middle West and South, I sent a circular letter to one hundred prominent scientific men in the United States, teachers and others, for the purpose of eliciting information respecting their attitude toward the promotion of classical learning and their estimation of its value. This letter is in part as follows:

I particularly desire to present the matter of classical studies to the scientific men of this country with a view to securing more extended study of the classics as a basis for scientific studies. The great tendency in the past few years has been to eliminate any requirement of classical knowledge from courses in science. I hope that a careful study of these problems will lead to the return, at least in part, to former conditions of qualification.

I feel deeply that a man who proposes to follow a scientific pursuit especially should be well trained in both Latin and Greek. I do not mean that he should become a specialist, but that he should have such a knowledge of these languages as will enable him to appreciate their beauty and utility. I desire to have your views on the following points:

1. What value do you place upon a fair knowledge of the classical languages, especially Latin and Greek, as a basis for scientific studies and activity?

2. What practical utility may such a knowledge of the classical languages be to a scientific man in the active work of his profession?

3. What particular branches of science would be most benefited by such a knowledge?

4. What effect upon the style and clearness of expression will such a knowledge give to a scientific writer or speaker?

5. What practical help will such a knowledge be to the scientific man who is required to learn some modern language in addition to his own?

6. What effect will such a knowledge of the classics have upon the pleasures arising from knowledge rather than its application which may be enjoyed by an active, educated man?

7. At what age in a person's training should the knowledge of the classics above referred to be acquired or the acquirement commenced?

8. What effect would such a knowledge have upon the success of a scientific man in his professional activity?

9. Any miscellaneous or explanatory expressions respecting the value of classical study to scientific life and scientific research.

To this letter thirty-five replies have been received, of which the following is a tabulated summary, as regards the first eight questions:

Replies received	35
Favorable to the study of Latin and Greek	14
Unfavorable to the study of Latin and Greek	17
Favorable to the study of Latin, but not of Greek	4

Point 1.—What value do you place upon a fair knowledge of the classical languages, especially Latin and Greek, as a basis for scientific studies and activity?

No value	3
Very little value	4
All knowledge is of some value, therefore Latin and Greek must have some value	2
Latin and Greek have little value in comparison with the time needed to acquire a knowledge of them	3
Training in language is needed, but French and German are better than Latin and Greek	3
Latin is valuable, but not Greek	4
Helpful	2
Great value	11
Essential	3

Point 2.—What practical utility may such a knowledge of the classical languages be to a scientific man in the active work of his profession?

No specific answer	4
No answer whatever	4

Very little value	9
Practical utility of Latin varies with the nature of the science followed	1
Some knowledge of Latin and Greek is of benefit in making English scientific terms intelligible	4
Latin is of great value in obtaining a knowledge of the proper use of English, so necessary to any educated man	2
A student of Latin and Greek really learns syntax while he is studying Latin and Greek. He could do this equally well by studying a modern language and better still by analyzing English authors	1
The value of Latin and Greek is the resulting acquaintance with English etymology	1
Severe attention to detail which the thorough study of Latin and Greek requires is of value, but strictly scientific studies might give the same result	1
The nomenclature and terminology of science are based on Latin and Greek, hence knowledge of them is very important to a scientific man	8

Point 3.—What particular branches of science would be most benefited by such a knowledge?

No specific answer	7
All sciences	3
Astronomy	1
Biological sciences	6
Botany	3
Chemistry	3
Geology	3
Humanistic sciences	1
Mathematics	1
Medicine	6
Natural history	2
Natural sciences	1
Paleontology	1
Philology	1
Physics	2
Zoölogy	1
No use in any science	9
Those sciences in which an elaborate terminology is supposed to be a mark of scientific activity	1

NOTE.—Several answers to Point 3 named more than one science. Several left the question blank.

Point 4.—What effect upon the style and clearness of expression will such a knowledge give to a scientific writer or speaker?

No specific reply	5
No influence	8
Often injurious	1
Tends to make the style obscure	2
Depends on personal peculiarities of the man; some people are benefited, others injured	2
Teaches grammatical precision	1
Training in English is better than training in Latin or Greek	4
Effect is beneficial	4
Knowledge of classical languages is very important to a scientific man to teach him how to use English with clearness and precision	8

Point 5.—What practical help will such a knowledge be to the scientific man who is required to learn some modern language in addition to his own?

No specific reply	4
Effect will be to hinder the acquisition of a modern language	3
Any language training is helpful as a preliminary to other language training	2
A knowledge of Latin is of some value in the acquisition of French and Italian, but this is no motive for the study of Latin and Greek. Such a laborious and indirect approach to modern languages is wasteful in the extreme	6
A help in learning any Romance language	15
No help in learning German, the most important of modern languages to a scientific man	3
English is the best language to study as the basis for another modern language	2

Point 6.—What effect will such a knowledge of the classics have upon the pleasures arising from knowledge rather than its application which may be enjoyed by an active, educated man?

No specific reply	10
All knowledge gives pleasure; there is no special pleasure to be obtained from Latin and Greek classics	5
Much more pleasure is found in the great works in modern languages than in the classics in Greek and Latin	5

A source of great pleasure 9
A source of pleasure, provided the study of Latin and Greek be carried far enough 4
A knowledge of the classics in Latin and Greek is essential to a broad education 2

Point 7.—At what age in a person's training should the knowledge of the classics above referred to be acquired or the acquirement commenced?

No specific reply 8
Should not be acquired at all 1
After French and German have been acquired 2
If studied at all, begin as young as possible 4
Between 8 and 10 2
Between 11 and 20 3
About the age of 12 6
In the secondary schools 6
In college 2
Before professional studies are begun 1

Point 8.—What effect would such a knowledge have upon the success of a scientific man in his professional activity?

No specific reply 9
No effect 6
Little effect 9
Culture value only 1
Many of the best schools have given a very large part of their time to Latin and Greek. Of course the graduates of these schools are better trained than those of poor schools with better programmes 1
Advantageous effect on a man's reading, writing, and speaking 2
Effect of drill in careful use of language 1
Other things being equal, the botanist with a good classical education is more likely to succeed, because he is less dependent upon others for certain essentials in his science, such as etymologies of words, translation of Latin descriptions, and writing Latin descriptions 1
A man becomes a better popularizer of science 1
Classical knowledge is of much value for the success of a scientific man 4

I select some typical replies to Question 9, giving them in full, since in many cases the attitude of the writer to the whole

subject under discussion is most clearly shown in his reply to that question:

J. M. BALDWIN, JOHNS HOPKINS UNIVERSITY

I think the attempt to continue so-called "classical" study in its traditional artificial position is quite useless and unwise. Let it take a place it can hold—one in common with other literary and linguistic groups of studies. To give it great importance in connection with science is a conceit, *me judice,* of its foster-parents.

R. P. BIGELOW, MASSACHUSETTS INSTITUTE OF TECHNOLOGY

To summarize my opinions in the matter of scientific education, it seems to me that the essentials are of two classes: First, a thorough training in the use of the tools required by a scientific man, namely, the modern languages and mathematics; second, a training in the scientific method, especially as applied to the branch of science in which he desires to specialize. If to the curriculum, the study of the classics can be added without interfering with these essentials, then it seems to me that in some cases it would be desirable as a means of culture and enjoyment.

M. T. BOGERT, COLUMBIA UNIVERSITY

No reason for a scientific man to go beyond Caesar and Xenophon. Much more important for a chemist to be familiar with German than Latin, and Italian, French, or Danish than Greek. In fact, I would place the languages in about the following order for an organic chemist: German, English, French, Italian, Danish, Swedish, Latin, Greek, Russian.

G. C. COMSTOCK, WASHBURN OBSERVATORY, UNIVERSITY OF WISCONSIN

The value of the classical languages and their study appears mainly to result from the drill and mental exercise upon a host of constantly recurring small problems and the applications of flexible rules which the diligent student cannot escape, and which are especially adapted to the discipline of immature minds. The initial stages of such study appear to me of much more value for general training than anything which can come after the first three or four years of such work.

J. U. NEF, THE UNIVERSITY OF CHICAGO

I think everyone realizes as he grows older that he has his limitations. I, for one, regret very keenly that I took a great deal of Latin and Greek and did not spend far more time on advanced mathematics and physics. I am, however, not now wasting any time in vain or useless regrets on this account, but simply doing the best I can with the knowledge that I have acquired.

ORMOND STONE, LEANDER MCCORMICK OBSERVATORY, UNIVERSITY OF VIRGINIA

The tendency to eliminate classics as required subjects from courses in science is pedagogically correct. Life is too short for everything.

Modern languages (at least German and French) are essential to the English-speaking man of science.

W. F. Osgood, Harvard University

I value linguistic training, and I believe that for the English-speaking person German offers all the advantages of Latin—not German crowded into a corner with Latin five hours a week for four school years, but German taught by the ear and by the eye, with thorough schooling in grammar and reinforced a year or two after the start by French, similarly taught, both languages strengthening each other through their comparative study. From such a study come the advantages, first, of the discipline, of the exact knowledge and the intelligent performance of a task well understood; second, of the broadening influence of wider human contact through really seeing something of the thought of other peoples; and, third, of having in our possession a useful tool for our science.

C. R. Barnes, The University of Chicago

While I should advise every young man who is going to make a special study of some branch of science to study both Latin and Greek, I should greatly deplore *requiring* either. I do not think it possible to run every scientific intellect into the same preparatory mold.

Florian Cajori, Colorado College

Modern languages are indispensable. I have seen scientific men who could read their Virgil, but to whom a German book was a sealed book. Their scientific work was seriously hampered.

C. W. Dabney, University of Cincinnati

I do not know how a man can understand the terminology of science, much less keep up with its literature, unless he has a full knowledge of the classical languages. The scientific man must be able at a glance to know the meaning of all the terms used in science and I do not see how he can do this unless he has a moderate knowledge of Latin and Greek. He needs French and German to keep up with their literature and those languages are, in part, based on the classical languages.

E. S. Dana, Yale University

I may say in general that my experience has shown that a knowledge of Latin and Greek is of great benefit to the scientific man, particularly in natural history, since without this he is ignorant in regard to the meanings of a considerable part of the scientific vocabulary, and if his work requires him to invent new specific names he has not the basis of knowledge to allow him doing this intelligently. Furthermore, the drill in Latin and Greek translations seems to me one of the best ways of studying the English language and thus training the individual in a clear style.

J. W. Mallet, University of Virginia

But in a broader way such a one may well desire to have his share with his fellow-men in the mental strength and enjoyment which a moderate

acquaintance with these tongues opens up in history, in literature, in art, and generally in a knowledge of the mental life of the chief races of men who have before us inhabited the earth. In the selection of subjects with which to fill the time and thoughts of the young during the part of life which can be given to formal training there must of necessity be close instruction within practically attainable limits, and the teacher must constantly keep before him the problem of what best may be *left out,* but in the so-called conflict between classical and scientific studies it may, I think, be truly said, "This should ye have done, and not have left the other undone."

B. Osgood Peirce, Harvard University

I do not regret the years that I spent in school and college (not very willingly at the time) upon Latin and Greek.

Edward Renouf, Johns Hopkins University

Every scientific man knows what a dismal farce the result of classical instruction in the American preparatory school is, and I do not think it possible for classical instruction to scientific students to be prolonged beyond the second college year. The result obtained at that period, with the material the teachers have to handle, is still pitiable, and, to my mind, of little value, especially if it has lessened (as is usually the case) the time allotted to modern language. I cannot but feel that it is "up to" the teachers of classics. Scientific teachers starting with a freshman—about equivalent to entrance into *Ober-Secunda* of the *Gymnasium*—turn out an average undergraduate product which compares favorably with that turned out in German universities in the same working time from *Real-Gymnasium* graduates.

Why cannot the preparatory school teaching Latin to boys from 12 to 18 equal, or at least approach, the product produced between 12 and 17 by the classical *Gymnasia? When* they do, the questions on this sheet will not be needed—the man with classical training will be the only man who will be practically received as university or college teacher in science, as it is practically in Germany today.

C. O. Whitman, University of Chicago

I have long held that a good knowledge of Latin and Greek is quite essential to the modern man of science. In my own department, the ablest men are without an exception men who have had a thorough classical training. Those who have failed of this show it in inability to express themselves accurately and concisely. They do not have a fine appreciation of the primary meanings of words. . . . .

The scientific man must not only know how to use English, but also how to *form new words* for new purposes. Besides, his terminology is made up almost wholly of Latin and Greek derivatives. Over half of our whole vocabulary is founded on Latin. A knowledge of Latin aids immensely also in the learning of French, Italian, Spanish, etc.

The replies to the circular letter have been difficult to classify, considering each one as a whole. Examination of a letter often showed that different parts of it should be classified under different heads. I have endeavored, however, to separate them into two classes. First, those which upon the whole favor classical instruction; and second, those which upon the whole oppose classical instruction; but even with this clear-cut line of demarcation it has been found impossible to make a just distribution in all cases. Some of those which are found in class 1 will contain sections which should be placed in class 2, or vice versa.

The most prominent deduction from a study of the replies is the existence of two schools of thought based upon different premises or points of view. In the one instance there is quite a respectable element among scientific workers and teachers favoring decidedly, or in a limited manner, the requirement of classical instruction for the college degrees. This school believes, as will be seen in the detailed analyses given, that classical studies upon the whole are advantageous to those engaged in scientific work and also contribute to the enjoyment of scientific life. On the other hand, we may class those who are of the very positive opinion that all the time spent in learning dead languages, especially Latin and Greek, is wasted, and that the knowledge which the ordinary student obtains of these languages is not a working knowledge, nor is it of sufficient extent to warrant the belief that it adds anything to the pleasure or to the efficiency of those engaged in scientific pursuits. That such a difference of view would be secured was clearly foreseen. The surprise that has come to me in studying the replies I have received was produced rather by the large amount of testimony in favor of the classics than by that which is opposed to them. In general I think it may be conceded that in so far as actual utility is concerned in scientific research itself, a knowledge of the classical languages is not of any very great importance. On the other hand, in so far as nomenclature of science is concerned, especially biological science, a knowledge of Greek and Latin is almost indispensable. Moreover, it seems to me there is a decided opinion to the effect that a knowledge of the classics is more or

less indispensable to one who claims to be a man of culture and education in the broadest acceptation of those terms.

In regard to the period at which classical studies should begin, the preponderating testimony is in favor of an early commencement. In other words, it is the opinion of most of those who have expressed any conviction at all upon the subject that a good knowledge of classical studies should be acquired during, or even before, the schooling which is designed to fit the young man to enter the freshman class of a good college or university. There is a very decided preponderance of opinion to the effect that the time of the more mature studies, that is of the last three years of the college course and practically the whole of the technical courses in scientific studies, should be free from any special devotion to classical researches.

I may cite as a typical advocate of classical learning the letter received from Professor Bessey of the University of Nebraska. He states in part:

In the management of the department of botany in the University of Nebraska, I require a knowledge of Latin at least, by those who take up the serious study of botany, and I urge such persons to have some knowledge of Greek also. The botanist *must* know something of Latin and he should know something of Greek also. One young man who came to me a number of years ago with a preparation in modern languages only, soon became so convinced of the necessity of a knowledge of Latin and Greek that after entering the University he went back to the beginning of Latin and brought up his knowledge of this language so that he became a critical Latin scholar. He did the same with Greek, and always defended his action on the ground of its being necessary for him in his botanical work. He is now one of the eminent botanists of the country.

As a typical illustration of the attitude of those opposed to classical learning I may give the letter received from Professor Carl Barus of Brown University:

It seems to me little short of ludicrous that anybody at the present age of progress should make an endeavor to reintroduce classical philology, particularly at a time when at such venerable seats of learning as Oxford and Cambridge determined efforts have been made to get rid of this incubus. How is it possible for anybody to fail to realize that the trend of science is ever toward mathematics, that in the next generation the demand for a mathematical equipment and the need of it will be increased

tenfold? How is it possible to ignore the fact that this is the direction in which specialization should be made, beginning at an early age, for the burden is continually heavier, and that this is precisely the direction in which nothing is being done. As for philological work, let us have English, French, German, Italian, etc., which not only have the same cultural value, but open to their possessors a world of life and learning and science. I can't answer your questions for they put me in a temper.

These two letters plainly join the battle between the opposing forces and in neither of them is there any uncertain sound.

Professor McKee, of Lake Forest College, sent a most interesting letter. He states that he is distinctly convinced from experiments he has made that classical studies are a positive disadvantage to scientific students. He finds that students who have come with a knowledge of Latin rather than with a knowledge of German do not rank as high as those who have studied German. This is not a mere opinion but is based upon actual data of the examinations of college students.

Professor Branner, of Leland Stanford Jr. University, does not agree with Professor McKee. He says:

I believe that a systematic examination of the records would show that the men who have the most enduring reputations in the science I know most about are men who have more or less training in the classics.

This may well be true, since the men who have enduring reputations are older men, and the older men were educated at a time when classical training was required and not made optional, as it is at the present time. Even, however, should the records of scientific men show in the future that those who have acquired distinction in sciences are those who have had no classical training, it would not be a proof of the lack of value of classical culture. It is well known that the taste for scientific studies often develops early in life to such an extent as to exclude all desire for the study of any languages, except those necessary to scientific reading and research. Hence it would happen that men with a natural bent for scientific studies would naturally omit the study of classical languages when such a study was not required for college graduation. Upon the whole, it seems to me that the class of data submitted by Professor McKee is likely to be the most reliable. Unfortunately for my own personal

views in the matter, the results of his observations seem to be distinctly unfavorable to the classical scholar. I should not, however, like to rest content with this one instance, but should like to see it supplemented by others. If we think for a moment of the vast number of distinguished men who have already made their mark in science, and recall the fact that practically all of them were well trained in the classics, we would hardly be able to condemn classical studies on the ground that they are positively injurious, as is claimed by many of those who have responded to my inquiries.

My own opinion, partly formed, I must say, before receiving the replies to my circular letter, though somewhat accentuated by reason of these replies, is that it would be a very serious mistake to omit from the higher learning of the United States instruction in classical studies. I believe, on the other hand, that more attention should be paid to these studies, as was the case forty years ago, when it was deemed not possible to have a liberal culture without a knowledge of Latin. I believe that most of the objections to classical studies made by those who have responded to my inquiries would be removed if these studies were begun at an earlier age I am led to believe after many years of careful consideration of the subject, and as a result of four years of teaching the classics to young college students, and as the result of six years of instruction in the classics received from very competent teachers, that the failure to reach the full value of classical instruction lies essentially in the fact that this instruction is attempted at the wrong time and, to a certain extent, in the wrong manner. The general practice in this country is to defer classical studies until the time a young man begins to prepare for college. While there are many notable exceptions to this, exceptions that are, by the way, the strongest evidence of the pertinence of these remarks, I think it may be demonstrated that four years of classical study, beginning at the age of sixteen, as a rule, would produce no more mastery of these studies than would two or three years of study if commenced at the age of ten or twelve. Youth is the natural period for learning a language. In extreme youth the brain may be regarded as

almost unwritten upon and the sensations which it registers most indelibly are those which pertain to language. If the brain may be regarded as a palimpsest, I think we will all agree that the first inscriptions upon it should be those of language. Mathematics and science and philosophy can be written over words with good effect, but if you try to write a language over the other inscriptions you will have but little success.

V. THE CLASSICS AND MODERN LIFE

THE HON. JAMES BROWN SCOTT
Solicitor for the Department of State, Washington, D. C.

Ever since the Renaissance there have not been lacking able exponents of the view that the modern is superior to the ancient world; that the literature since the great revival of learning is superior to the literature of classical times, and that the duty of the modern world is to develop itself along modern lines without any great regard to the past. The supremacy of the modern world was ably proclaimed by Perrault in the reign of Louis XIV. The literature of this period, however original it may be, was based upon classic models; and the Battle of the Books, to quote the expression which Swift has made famous, has raged in England as well. That the question is still debated and considered debatable can only mean that the contest is undecided, and that the arguments advanced have been neither convincing nor exhausted.

Without attempting to enter upon this controversy, it is perhaps not improper for a layman to observe that even if the supremacy of the modern world in literature, in art, and in philosophy be admitted, the supremacy is the result of the achievement of the ancient world in literature, art, and philosophy, and that the modern world has reached its present degree of civilization and culture by a return to the traditions of the ancient world, interrupted by the ignorance and indifference of what we are pleased to term the Dark Ages; that the present is a development out

of the past, which cannot be understood without a knowledge of the past, and that the civilization and culture of the present are therefore a growth rooted in Greece and Rome, not a condition developed by the immediate past or created by the conditions of the present day.

The question, however, is not one of supremacy either of the past or the present, but of the value to the present of the art, literature, and philosophy, the institutions and civilization of the ancient world. Indeed the question is still narrower, for an expression of opinion is not desired as to the theoretical importance of this knowledge, but as to the practical importance of the humanities to one actively engaged in the world's work. While it may be admitted that a public servant may perform the duties incumbent upon him without a knowledge of Greece and Rome, and with no very great familiarity with the institutions and problems of the ancient world, it is almost self-evident that the usefulness of a legislator, as distinguished from an administrator, would be enhanced by an adequate conception of the institutions of Greece and Rome as well as of the masterpieces of their political philosophy. Men change, governments rise and fall, nations pass out of existence, but the political relation of man to man, the problems of government, whereby individual liberty may be reconciled with the requirements of society, remain, and must be considered by each generation. The experience of the past, however remote, or of states, however small, cannot safely be overlooked by one who regards government and governmental theories as a development. Constitutions grow, they are not made; the Constitution of the United States was not created in the constitutional convention in 1787, but was the result of centuries of conflict and growth.

Again, it cannot be maintained for a moment that the artistic conceptions of Greece, and in a lesser degree of Rome, are of no advantage to the painter, the sculptor, the architect, and the critic. The mere statement amounts to a demonstration and we need only look about us to see the persistent, molding influence of Greece and Rome in all these departments of activity.

It may well be granted that the literature of the present day differs widely from the literature of the ancient world; that the conditions of the modern world demand a different treatment, and that various forms of literature have sprung into existence to meet the changed conditions. The standard of taste, however, has changed but little; the principles of composition are substantially the same; and it is not too much to assert that a masterpiece of modern literature would have commended itself to the critics of Greece and Rome just as the masterpieces of Greece and Rome not only commend themselves to the modern world but are models of thought and composition. It is not suggested that the littérateur of the present day must proceed along classical lines, and be minutely acquainted with the literature of antiquity, but it would seem to be beyond controversy that the average writer of the present day would have his thought refined, his taste purified, and his style chastened, by a thorough knowledge of the models and canons of the literary composition of Greece, and its imitator Rome. Genius is a law unto itself, and finds expression in any time and in any language; but the man of talent is strengthened by a knowledge of the past.

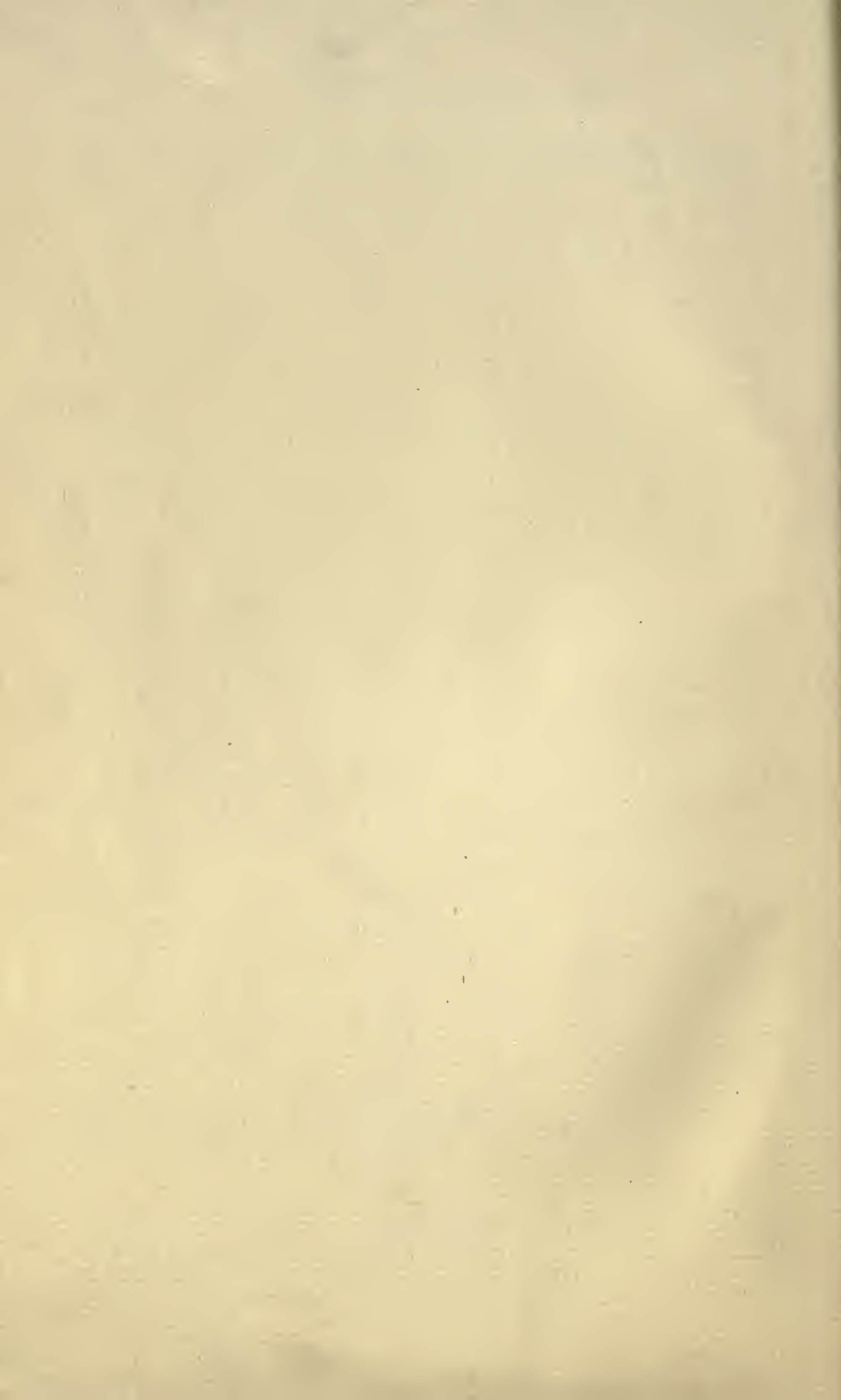
In the realm of philosophy the same is true. We cannot eliminate Greece, and in a much lesser degree Rome, if we would construct a system universally applicable. We cannot create a system without reference to the systems of the past which it has taken the past itself centuries to develop. These contentions may be readily admitted and yet it may be insisted that they apply to but limited classes; that they concern specialists in these various lines, and do not affect the overwhelming mass of our people engaged in the practical questions of the present day. However strong this objection may be, it is susceptible of an answer which amounts to refutation; for the study of these subjects, or of any of them, gives training and balance to the mind and we must perforce admit that the trained mind is essential to the proper conduct of affairs whether we be called upon to discuss problems of state, questions of literature, or canons of art and philosophy.

It is not asserted that training and balance may not be acquired by the study of the natural and physical sciences, or that an

acquisition of modern languages will not supply linguistic training. It is maintained, however, that the study of classical literature, art, and philosophy supplies a training based upon models which have stood the test of time and which may therefore be considered universal; that the training derived from their study is therefore correct training, and that we cannot, even if we would, omit these subjects in any curriculum which aims to fit a man for the problems with which he will be confronted in his daily life. It is not necessary to maintain the superiority of these studies; it is necessary, however, to assert their right to equality of treatment and that they be not discriminated against in our colleges and universities.

May I in conclusion illustrate and enforce the necessity at least of a comprehensive knowledge of Latin by calling to your attention the subject of international law, in which Department I may perhaps speak as a specialist?

The student may, indeed, obtain a knowledge of international law as it exists at the present day from a careful reading of texts in English, supplemented by French and German treatises, but if he would trace international law to its beginnings and estimate rightly the force of public opinion, which not only controls our national policies but is shaping the international policies of the world, he must master the sources of international law; he must familiarize himself with the leading writers of international law who have in the past three centuries laid broad and deep the foundations of a stately structure, and he cannot do this without a thorough and practical knowledge of Latin. For not only did Grotius himself appeal to the public opinion in that language, with which public opinion was familiar, I mean Latin, but his predecessors and those who carried on the Grotian tradition and perfected the science of international law composed their treatises in Latin. The history of international law is a sealed book to one who is not a Latinist, and the ignorance of Latin argues at best but an acquaintance with secondary sources.



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