AN ADDRESS

DELIVERED BEFORE

THE TWO LITERARY SOCIETIES

OF

WAKE FOREST COLLEGE,

ON THE 9TH JUNE, 1846,

BY WILLIAM B. RODMAN, Esq.,

AT THE SOLICITATION OF

THE PHILOMATHESIAN SOCIETY.

RALEIGH:

W. W. HOLDEN—OFFICE OF THE STANDARD,

1846.
CORRESPONDENCE.

PHILOMATHESIAN HALL, WAKE FOREST COLLEGE,
June 8th, 1846.

To WM. B. RODMAN, Esq.

Dear Sir: At a meeting of the Philomathesian Society, held this afternoon, on motion, it was unanimously

"Resolved, That the thanks of this Society are due, and are hereby tendered to William B. Rodman, Esq., for the able and highly interesting Address delivered this day before the two literary Societies of this place; and that he be requested to furnish to the Society a copy of the same for publication."

The pleasing duty devolves upon the undersigned of making known to you this resolution, and allow us to add our hopes, to those of the Society, that you will not refuse to grant the request.

With the highest respect,

We are, yours, &c.,

S. G. O'BRYAN,
J. B. SOLOMON,
J. W. MERRIAM,
Committee.

WAKE FOREST COLLEGE,
June 10th, 1846.

GENTLEMEN: The Address to which you refer was written amid the anxieties and labors of a professional circuit, and no one is more sensible than myself of its imperfections. Such as it is, however, it is at your service. I beg you to express to the Philomathesian Society my acknowledgements for the very flattering terms in which they are pleased to speak of it, and to accept individually assurances of the respect and esteem with which I am

Yours, &c.,

WILL. B. RODMAN.

To Messrs. S. G. O'BRYAN,
J. B. SOLOMON,
J. W. MERRIAM,
Committee, &c.

ADDRESS.

GENTLEMEN OF THE EULALIAN
AND PHILOMATHESIAN SOCIETIES:

I cannot forbear expressing the natural diffidence I feel in appearing before you on this occasion, in obedience to your invitation to address you. Though conscious of my inability to equal your partial expectations, or satisfy my own wishes, yet it was an invitation which I did not feel at liberty to decline. Earnestly believing that Education is the great means of human improvement, and emphatically the thing essential for the prosperity and honor and even the salvation of North Carolina, I felt it a duty to accept an invitation to add what of interest it might be in my power to do to the anniversary exercises of this young institution—the first of that noble brood of Colleges which has sprung up in the State, the offspring of its reviving spirit and which are destined to be the richest and most valuable mines of its wealth. Wake Forest College is now the younger sister of the University, my own Alma Mater. If the one be, as it has been called, "the child of the Constitution" and the favorite of the law, let it be remembered that they are both the children of the people, and if destined to rivalry, may it be only a generous and friendly emulation in sowing the seeds of knowledge and nurturing the faculties of the mind.

These academic bowers—these halls consecrated to intellectual cultivation, bring vividly before me the hours of my own collegiate life; when the flowery fields of science were first opened to my admiring curiosity. 'They glowed in the rays of the rising sun—they sparkled' with the
diamonds of morning. Impatient I skimmed over all, and
kindled with new rapture at every fresh point of observa-
tion. You, gentlemen, are now gathering those golden
hours, the first fruits of the tree of knowledge. But soon
you will leave these sequestered walks, and these enchant-
ing pursuits will end to most of you; to most of you the
research of abstract truth will cease to be the occupation
of your lives. You will enter the ocean of active life—you
will be immersed in its ever restless currents and borne on
its mighty tide. Often from amid the tempests of ambition
or the cares of business you will look back with a fond
regret to this calm seclusion, and sigh for leisure to acquire
knowledge, to investigate the pregnant ideas which some-
times arise before us, but which, in the stir and conflict
of active life, where as a poet says “half our knowledge
we must snatch not take,” flit away before we can arrest
them and are lost forever; to deliberately examine the great
questions of life which address themselves to us at every
turn, and of which every act of our lives requires us to
assume a solution.

You will enter the world at an important epoch, when
old institutions and modes of thought and action are fast
passing away and giving place to new forms of govern-
ment, and society animated by new aspirations and guided by
new sentiments. The hoary civilization of the past has
been wrapped in casements and laid away under the
tomb of history; a new civilization, under the impulse of
increasing knowledge, and with the enthusiasm of successful
discovery, is beginning a new chapter in the annals of the
world. The effects of this new impulse are but just begin-
ing to be felt; it is but the “beginning of the beginning,”
yet in a few short years how great has been the change!
It meets us in every art or science, in the tone of general
literature, in the intercourse of nations, in the character of
events. It can be likened to nothing but one of those
episodes which geology deciphers for us from the stony
page of the earth, where rows exterminated in one stratum
disappear, and in the next we behold successors of a new
organization, with other vital forms, successors but not
possessed.

On this occasion, when some of you are just about enter-
ing this scene of revolution—happily bloodless and peaceful—but not less real and important—and all are standing
on the verge and lending to the results more or less of your
intelligence and sympathies, I have thought that I could
not choose a theme more pertinent; that I could not interest
you more for the brief hours that we are to be together, than
by reviewing some few of the most prominent features
of those great intellectual changes which have already
come accomplished themselves, and endeavoring to note some of
the points of that now in progress and in which you are
designed to participate. And I adopt this subject the more
readily, in preference to dwelling on those moral ideas
which, from their importance are apt to suggest themselves
on such occasions, because I am satisfied that in the course
of your attendance here all “heavenly truths” have been
inculcated in a manner compared with which they would
not “come mended from my tongue.”

With the characteristics of the civilization of the clas-
se States of antiquity your studies have made you
familiar. In comparing the aspects of ancient society in its
most polished periods with that of our own age, we are
striking in these States with the remarkable prevalence of a
feeling for the fine arts exhibited in their statues and temples,
and the graceful ceremonies of their religion and a high
estimation of the genius which produced them, in union
with an equally remarkable and prevailing contempt and
disregard for the sciences and merely useful arts, which
attract so much honorable notice, and play so important a
part in the operations of modern society. If there is no
branch of ancient literature in which we should not find ample evidence of this tendency, but it appears with particular distinctness on a view of the systems of philosophy then most popular, and which were of far more importance in those times than any system of mere philosophy can be now; because they contained for their disciples not a system of philosophy only, but at the same time a religion and the only religion they had, save mere formal shows and unintelligible fables. Rich and elaborate as this philosophy is, embellished with the sublimest arts of logic and the finest flowers of rhetoric—admirable as a mere exhibition of the fineness and stretch of the human mind, the student rises from its acquisition with a deep sentiment of regret that powers so noble should have been so vainly directed. It would seem that in philosophy, as in taste, "distance lends enchantment to the view;" that the remote has a dim and shadowy grandeur which disparages what is close at hand, and first attracts the inquisitive admiration of an infant philosophy. In every country men have sought to read the stars, and to sound the fathomless mysteries of their own minds, or of the outward world, before studying the productions of nature which lie at their feet; they have sought to begin at the Infinite, instead of ascending by slow and laborious steps; they have preferred "spinning cobwebs of learning" from the substance of their own brains to weaving strong and useful textures from the materials which an observation of Nature supplies. This was the case with the Greeks; and though Socrates is said to have boasted that he brought Philosophy from the clouds and made her an inmate in the dwellings of men, yet it was a vain delusion, a boast reserved to be realized only by ages after by a philosopher who overthrew both the system of Socrates and its great rival. The ancient philosophy dealt in abstractions; it dwelt habitually in the clouds and loved of preference to soar in those empyreal regions of pure reason which lie above the highest peaks of thought habitable by the human intellect. If it ever descended to earth it touched it with a foot disdainful and repulsive. To accompany man in the vulgar labors of his existence; to enter his home and his workshop; to stand by his side day by day and minister to his wants; to array in his favor in his life-long struggle with nature the potent spirits of the elements, there the pride and the glorious trophies of modern philosophy formed no part of its scheme. Even those who made useful discoveries looked upon their creations with a sort of shame, as if they had stooped from the dignity of science. We have the works of Archimedes on pure mathematics, but he disdained to record his observations in natural philosophy. Yet notwithstanding this strong tendency to the abstract and ideal in ancient philosophy, it exerted little or no influence in redeeming from sensuality the practical art of life. And this resulted alike from the doctrines of the two great antagonist sects; the Stoics denied that they had a body; the Epicureans that they had a soul; and while the latter consistently cared for the body alone, the former did the same in effect by indulging it without restraint to care for itself; for when philosophy disdains her office as the guardian and guide of life, the ambitious passions readily seize the abdicated post. Seneca was no less a voluptuary than Epicurus. The philosophy of the classic age presented this singular contradiction: too sensual for pure morals, it yet disdained the useful arts which minister to sensual good. Music indeed was cultivated and honored as a part of philosophy, as at once a promoter of abstract thought and an instrument of the most refined sensual pleasure. History has carefully recorded who added a seventh string to the lyre. But who invented the screw, the arch, the wheeled chariot, and glass? Who during the classic ages improved on any of the useful inventions? Where are to be found the names
of the Fultons, the Whitneys, the Watts, the Arkwrights, is this polished and intellectual antiquity? "Curent's Bramante." No poet has married their names to deathless song, no patent office, the herald college of the nobility of ingenuity, has linked them to their still more immortal inventions. In the heathen Pantheon, Vulcan, who was the representative of mechanic craft, was portrayed as deformed and lame; he was the least worshipped of all the gods, and his contemptuous expulsion from heaven was but the symbol of the treatment of the art he personified, among men. The spirit which animated the ancient world was the love of Art as distinguished from Science—an exaltation of the ideal over the real—a sacrifice of the useful to the beautiful. This was carrying the spirit of poetry to an extreme and giving to the imagination, which is but one faculty of our minds, a domination over all the others combined. Like our other faculties the imagination has its appropriate office and limits, which can never be transgressed without disorder and injury. Claiming to be the link which unites man to heaven, let it borrow from thence heavenly hues to gild and adorn human life, but let it not forget or abandon the real world to revel in a fantastic one of its own creation.

If we look at the general literature of antiquity we shall find the same spirit animating it. I do not mean to depreciate this literature, but merely to characterize it. Even that regard and appreciation of the useful arts which actually existed in the age was not reflected by its literature, and were our sources of information confined to this alone, our knowledge of the extent of ancient art and science would be far more limited and scanty than it is.

Another cause of the contempt and neglect in which the useful arts were held was the form in which slavery existed. The number of slaves in the ancient States was immense—of races subjugated by the accidents of war, but intelligence and native spirit equal to their conquerors. Their education was often considerable, often superior to that of their masters. Into their hands fell naturally the mechanic arts which the proud citizens disdained. They and the class of freedmen became the tradesmen and citizens of the community; a part of the inheritance of Demosthenes consisted of skilful cutlers and couch-makers. Thus the great artisan class, of such transcendent importance and respectability in modern society, was utterly destitute of political weight and at the very bottom of the social scale. The fruits of this unfortunate constitution may be easily conceived. Genius will often rise superior to poverty, but servitude is a doom which blights it forever. Invention and skill must at least hope to reap the harvests they sow. In addition, the fact that the mechanic arts were usually exercised by slaves had a constant tendency to confine them to that class; it degraded them in popular esteem, and effectually depressed them from aspiring to any excellence beyond that of mere manual skill. No art or science can ever flourish whose pursuit is regarded as ignoble and servile.

"The love of fame that the pure mind doth raise,
Scorning delights to live laborious days."

is the inspiration of the inventor and the man of science, as well as of the poet and the scholar. Deprived of this, ambitious genius repelled the promptings of nature and turned its efforts into other fields. This is one of the historical consequences of this institution, and it is doubly interesting to us since the same institution (though under a different form) exists also among ourselves, and we have before us the means of ascertaining whether its inherent tendencies still operate, or are negatived by other elements.

This classic civilization at once so rude and so polished, which we are apt to view with partial admiration through the rosy medium of poetry, came at length to a mature
end. It had performed its task. It left to the world many speculations, some knowledge, many facts, destined after wards to ripen into knowledge, the memory of some brave deeds, and some noble sentiments. Evidently it had completed the circle of human ideas or wants. What has been aptly described as a “deluge” of barbarism now overspread the world, and art, science, literature and refinement were mingled in a common ruin. But in the midst as in the material world destruction is but the precursor of re-production. After a while the waters subsided and the monuments of ancient knowledge and thought were seen slowly emerging, but rare and mutilated. The destruction had been almost complete—the very languages of antiquity had perished—its arts and learning were lost—its grateful religion was utterly extinguished. If the world was devaluated it was also fertilized. A soil rich in new elements of thought was deposited from the turbid waters, and it put up in new systems of art and society with the vigor, luxuriance and profusion of a virgin vegetation. The feudal system took the place of the old forms of government throughout Europe. It was a barbarous system, and the age still continued predatory and fierce, and philosophy, when it re-appeared, still disfigured the same barren questions as formerly. But there were influences which had not existed before to exalt and redeem. There arose a regard and respect for woman which had been unknown to the ancient world. Under what circumstances the germ of this emotion, which had so long slumbered, was quickened into life, is hidden in the depths of Teutonic forest. Certain it is it was the introduction of the Gothic nations—the gift of the new barbarism to the old civilization. Among the classic nations woman was the slave of men, the minister to his pleasures, the purchase of his wealth, the prize of his victorious strength, never his companion and equal friend—in general condemned to ignorance, to 

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Education and domestic labor. The idea of her inferiority and subjection pervades the whole body of classic literature; in this respect the reverse of all since. The ancient sires have done homage to every passion which sways the heart, but this. Not that woman does not appear; but as the captive or the subject, as an appendage to some hero; her woes are painted to darken the horror of some tragic catastrophe, or her charms to swell the pomp of some triumphal procession. If any of my fair audience have formed the intention of studying this literature, let me tell them the spirit of that age pervades the whole body of classic literature; there is not a love story in it—not a sigh of romantic passion heaves within its dusty bosom—not a feat of chivalric gallantry is recorded in its heroic annals. The spirit which made woman the arbiter of destiny—which dared the impossible for her smile and prized it as the most acceptable reward of achievement—is the growth of this middle age; and the delicacy of passion which in our days hedges her in with a divinity, and in addition to the endowments of nature adds innumerable graces from exhaustless imagination, so as almost to make her an ideal being, and love rather the harmony of a thousand associations than a single emotion—this, with its attendant train of social and domestic refinements, is the fruit of the romantic gallantry of the middle ages.

But undoubtedly the prominent distinction of this period from the past is to be sought in the influence of the papacy. The religion of the ancients had been one of the senses—its gods were deified heroes; the future life was at best but a shadowy prolongation of the present. The new religion, however corrupted it had become even at this period, was a spiritual one. It held constantly before men's minds as objects of reverence and devotion, things beyond and above this world. The foundations of its power were in the mind, which it sought to mould. It did not, as the ancient philoso-
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Phy had done, keep aloof from the affairs of life, but, while as the representative of the will of heaven it aspired to rule the rulers of nations, it guided with equal care the duties of the humblest, instructed, admonished and consolcd him. Weak in physical power, violence was not its choice. Rich, from the offerings of the pious, it encouraged the arts of peace. In its origin the papal power represented the democratic in opposition to the feudal elements of society. It held the want of birth and fortune as no barrier to its service or honors. Genius in low estate, repressed elsewhere, found through its doors the avenues of ambition, and often from the heights of spiritual power looked down on the dominations of the earth. It is undeniable that under its influence society was re-organized from its chaos, and sentiments of order and devotion implanted deep in the hearts of men. How much of good that has since borne fruit in the world may be traced back to the seed it sown! Let us render impartial testimony to its merits, and recognize the service it performed. The papacy possessed then sincerity and earnestness; conscious of its own deserts, it courted light, and sought, by the diffusion of knowledge, to elevate men to appreciate the great truths it represented. It had not then began to dread the freedom of thought. Literature was its ally; it enlisted in its service the ancient logic and philosophy, and bending their arts to new questions, thought by their means to lay the foundation of its dominion secure forever, not in the fugitive affections, but in the very reason of man. It sought by means of artfully constructed syllogisms to build a system which should forever satisfy all human wants and limit human enquiries. Proud achievement! But its accomplishment assumed that the human mind had then reached its fullest development, and that the deductions of this logic were its final and perfect fruits. Upon this assumption the papacy planted its faith and assumed infallibility in all things. From innovating on barbarous opinions and usages, it became conservative. From being the leader of advancing humanity, it endeavored to hold the human mind bound in the chains of a false logic. Vain presumption! Terrible and instructive lesson! the most terrible and instructive to every tyranny, now and herafter, which history records. As well stop the onward flood of the sea— as well bind the winds that sweep around the globe. Humanity went on. The mausoleums which were to bind were broken in pieces, and the power which would have resisted its progress, left palsied and powerless. And yet, on her seven hills, amid crumbling monuments, sits the relic of this once mighty power—a tinsel crown upon its brow, a shadowy sceptre within its grasp. Heaven, as if for our instruction, still prolongs the mockery of life—still holds the picture to our contemplation, that we may ever and ever draw and renew the moral of the "chained mind."

The Reformation marks the beginning of another great revolution in the world of thought. Its origin was theological, and it was placed by its great author on merely theological grounds. Had its consequences been so confined, I should omit to notice it, for those are questions unsuited to this occasion and on which I have no desire to encroach.

Whatever might have been the exciting causes of the reformation, its consequences have been, and are destined yet to be, the emancipation of the human mind in every department of thought. Among its first fruits was the overthrow of the scholastic philosophy. That vast system of artificial reasoning—gorgeous with the spoils of time and glories with mighty names—which had aspired to supplant, and which had in fact for so many ages deposed and supplanted, the natural intellect, fell quietly and with scarce a struggle, before the genius of Bacon. Bacon founded no new system; he invented no new method of reasoning, for the inductive method is coeval with human thought.
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What he did was merely to show that philosophy had therefore led only to error; because it had gone upon false postulates, and not sought true ones in the study of human nature; he pointed out also a new aim for its efforts, and that was common utility. This was the great idea of Bacon, like all great things, when once done, so simple and easy as to be not so much wonderful in itself as to make our previous errors so. As simple as Galileo's idea of the revolution of the earth, or Columbus's of a new continent, or Jefferson's of human equality—and, like those, pregnant with divine fruits.

Thus a theological revolution led to a philosophic and scientific one; and if we follow the stream of history we shall find them intimately connected with the social and political ones which have succeeded. Truth indeed must exist in the bosom of nature as a unity. Each new discovery in science yields enlarged generalizations and indicates connections between objects the most remote. Every idea is infinitely connected with every other; every science encircles every other; and every thought which is liberated from its birth-place in the caves of the brain, unites with every other which has preceded, as every rivulet trickles down the mountain slope, under whatever sun, finds its way to the ocean.

The first task of the new philosophy—new at least in its end and objects—was necessarily one of destruction; the overthrow of the errors which false methods of reasoning had generated in so many centuries, and the renunciation of prejudices which time and authority had so deeply rooted in the human mind, as to seem like those sacred truths of instinct which nature herself inspires. How much of false knowledge was swept away, and how humiliating was the confession of ignorance! Astrology ceased to read the scroll of destiny in the stars; Alchemy sought more practical ends than the philosopher's stone, and renouncing its dreams became chemistry; Geography dispeopled the earth of innumerable

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The progress, of course, was slow; one by one ancient errors were dragged forth, reluctantly, sacrifices by the priests of the new philosophy. It was the task of centuries, but it has been almost accomplished.

The tendency of Bacon's own mind was to the physical sciences. These, from the facility of experiment, afford the readiest field to his doctrine, and it is in these that the results have been most brilliant and decisive. Neglected and despised through the classic age, and the classic period of the middle age, they at length indicated by their fruits the rank to which they are entitled. Their triumph is written on every soil and sea; they are felt to be the instruments of power; violence is no longer the readiest road to wealth; the sword has yielded its spoils to the more peaceful instruments, and bounteous nature unlocks her exhaustless stores to the magic wand of science. The creations of the imagination have been surpassed—the fervor of poetry lag behind the reality of achievement. Printing lends wings to thought; the discoveries of genius are the property of the world, and circulate, like the winds, in ever-giving, ever-replenishing life and power around the globe.

Its effects have not been confined to the physical sciences; its principles and lessons are applicable equally to all. History, availing itself of these, has ceased to be a mere pantomime. In the historical drama events no longer sweep over the stage of time in gorgeous but silent and mysterious procession under the impulse of an inscrutable Fate. They have a significance, and the historian gives them a language to declare the ideas, true or erroneous, which move them. The ancient historian aspiring to beauty rather than truth, under the dominion of Art and Science, confined his attentions to kings and heroes, and their wars and, triumphs; while the mass was forgotten, or brought in merely as an accessory to fill up the picture and throw lustre on the principal characters. The history of Man is now written
for Man; it relates his condition, occupation, opinions, and aspirations, and endeavors, from a comparison of these at different eras, to grasp the general laws which influence them. Not content with mere beauty of form and drape, the historian now seeks to penetrate the heart of events and detect the principle of life within them: comparing and systematizing these, he boldly draws practical generalizations; from tracing consequences to their causes, he aspires to predict the consequence from the cause, and cast the horoscope of nations. This is the true science of history—a science, if from the enlarged era of its experiments in space and time more difficult than most others, yet obviously not impossible.

From the mass of facts which modern history by its enlarged views has accumulated, has arisen the science of Political Economy. The reflective genius of Adam Smith presented it to the world in an intelligible system. The laws which regulate the production and distribution of wealth had never before been investigated. They lay in impenetrable darkness. He deduced them from the parts of history, arranged them in order, and illuminated them with the light of philosophy. It is a new science; its principles are not yet entirely settled, but its beneficent fruits are already manifest. Already we behold it breaking down the barriers between nations, staying the weapons of the hostile, and binding the friendly in stricter ties of sympathy. Time, which unrelentingly destroys every thing false, and spares only the true, will purify it of errors and establish its truths; thenceforth man will follow the laws of nature, and no longer be vanquished in fruitless opposition.

Philosophy, strictly so called, has abandoned the discussions in whose barren round it heretofore revolved. The limits of the inscrutable have been recognized—it no longer seeks to leap the "flaming bounds of time and space." Rescuing from the wreck of time every thing truly valuable,
every thing is rounded off in curves of grace and shine with an artificial polish. There is an unity of idea in the whole which produces a deep but a single impression on the mind. Modern literature is far more comprehensive; it sweeps over every field, embraces every subject, distinguishing no character however humble, no situation however vulgar; but seeks to impart interest, if not beauty, to each by connecting it with some feeling or sympathy of our nature. Its illustrations are taken not from nature alone but from history, science, or romance—from every idea or feeling in short, which previously exists in the mind. It often illustrates the concrete by the abstract, the known by the unknown, and matters of fact by the mere creations of the faith and imagination. It rather associates and suggests than compares—its illusions have a vagueness and want of completeness which leave much to the reader, and evidently suppose, if a less severe taste, a richer and more instructed understanding. The object of the former seems to have been to excite admiration; the latter aims at interest and sympathy. If the former may be compared to a Grecian temple ancient in its purpose, simple in design, polished in execution, standing solitary on some jutting cape, or crowning some rounding hill, before which the beholder stands in awe and admiration; the latter resembles more some wide spread and populous city, with here a heaven-pointed spire and there a manufactury, with its palaces, its hovels, its shops, and bazaars of commerce, from all arising the hum and stir of labor, instinct with life, full of joy and sufferings, and sweeping with irresistible sympathy over every chord of our hearts.

Our own revolution was the next great era of the human mind. That it contained no other idea than the narrow one of national independence, of mere separate government, has been proved to be an error by its consequences, which have not been confined within that limit. New forms of govern-
We have seen it traversing the ocean; it has vindicated for France the partial blessings of a constitutional monarchy in Germany; it has appeared under the shape of general education and a confederacy as yet merely commercial.

Though the main idea of our revolution was purely political, yet it results from the unity of truth that its influences should extend to every region of thought; and we find in fact that from about that period dates a new impulse to almost every science, a freshened zeal for discovery, and a quickened apprehension of results. All Europe entered into competition in the career of improvement. Since that time chemistry has made its most brilliant discoveries, and laid its solid foundations in the doctrine of definite proportions; Laplace has perfected the theory of the Celestial universe; in Philosophy the schools of Kant and of Cousin have appeared; Electricity and magnetism have been almost created, and their laws investigated with amazing success; Steam in its varied application has multiplied beyond all calculation the hands of labor and increased its products; Geology has read the history of the earth in ages before man existed, and exhibited to our astonished view the grotesque forms of an antiquity too remote for computation; the Daguerreotype has been added to the elegant arts; Agriculture, the most ancient and least improved of all arts, has at length found an efficient ally in Chemistry.

America has not kept behind the rest of the world in this noble emulation. Not to mention the political sciences, to which we have made such signal additions, and which are emphatically our own, the name of Franklin is too intimately connected with his great discoveries to require illustration. To the same science, Professor Page has made important original contributions; the Telegraph of Professor Morse is unrivalled for convenience and ingenuity. The geology and botany of a large part of our country have been explored and compared with that of Europe; Zoology has been

Whited by the indefatigable labors of many naturalists; Meteology, a science which promises much future usefulness, has received great attention from individual inquirers and aid from government; the Geography of scarce any part of our country remains to be explored, and the expedition under Capt. Wilkes has been as useful to science as memorable to the country. All this has been accomplished while forests have been felled, roads extended, cities built, colleges founded and education more generally diffused than ever in any country before. These are achievements in which we may feel a laudable pride.

Our review has now brought us to the point of time on which we stand. The past exhibits a succession of changes of the same general character; it shows that man has been constantly increasing his acquisitions of knowledge, and extending his dominion over the powers of nature. When in the morning of existence the Creator gave man "dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth," He also gave him a command to "replenish the earth and subdue it;" and this divine command to sovereignty over the earth and the powers of all its elements, is no less legibly engraved in the aspiring curiosity of his nature.

But if it be true that the general law has been progress; it is equally true that this progress is not spontaneous, is not won without effort, and that the law does not apply at all times to all nations and individuals. The dominion which is given, may be renounced—the sovereignty of nature abdicated. We see particular nations which have retrograded from their former knowledge, or at least ceased to advance; at times the whole world has seemed stationary; we know too many individuals, to whom the page of knowledge is unrolled in vain.

I take it for granted that you gentlemen, do not mean for yourselves or your country, so far as your efforts
can avail, to exhibit this degrading relapse. I take it for granted that you intend in your future years to continue and extend the cultivation of your powers, which is only begun here, and to acquire your portion of those stores of knowledge whose variety and extent have been exhibited to you here, and the keys to which are placed in your hands. I do not mean that it is expected you should adopt any of what are by courtesy called "the professions," or the "learned professions," as your occupation in life. The vulgar, but mistaken idea, that these alone require or reward, or are worthy of intellectual cultivation alone, causes me to provide against this misunderstanding. The cultivation of which I speak is independent of any particular avocation, and compatible with any. But in order to conform to this law, which we have seen pervading the history of mankind, it is clear that you must have another idea than that merely of knowing what is already known or supposed to be so; you must be animated with the idea of progress, and endeavor for yourselves in the particular pursuit to which future attention may be directed, to extend the limits of truth, or what is of equal importance, to destroy existing errors. To attempt to be stationary is to retrograde; change is the one immutable law in all things human; the past must be as the past has been. It will not do to assume that all that is now known is all that can be known—to assume any existing system as infallible, and exclude all improvement. Let us recollect how often before that has been done, and how we now smile at the absurdity of the errors which were then cherished. Let us recollect that systems of society, of science, of government, without number have arisen served for a while more or less perfectly their purposes, and crumbled into ruin. Every attempt to bind the human mind inextricably in any of these forms has successively failed. Each system has originally come as an innovator; each having perfected its development has become conservative, and every conservative system which has yet existed has been vanquished by some new system. The emperor Julian was a conservative; the Papacy was conservative; George the third and Louis the sixteenth, were conservatives. Not yet does Nature say to us, as the poet to our first parents in Paradise, "O yet happiest if ye seek no happier state, and know to know no more." You will find, gentlemen, on your entrance into the world, if your studies have not already disclosed to you, a number of conflicting systems inviting your attention and demanding your homage. It is so in almost every department of knowledge—in science, in philosophy, in legislation, in taste and art. Never has the world been more prolific in theories, each contending with equal zeal, ability, and sincerity of conviction for despotism in its domain. Implacable, jealous, each would be supreme, and

[...] "Bear like the Turk, no brother near the throne."

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guiding opinion to the shrine of truth, and assuring the certainty of conviction; and to estimate the value of these instruments we need only borrow an illustration from 
Bacon: "to draw a straight line or a circle," says he, "will the naked hand, requires great skill and practice—they can easily do it with a ruler and compass. The greater part of mankind live in the "ignorant present"; they have never beheld, from the elevation of history, the variety of opinions which every where prevails, nor the innumerable errors which Time, the Saturn of the ancients, has successively begotten and devoured; nor has a study of the powers of their own minds revealed to them the thousand gates at which Error may enter and expel Truth from its sanctuary. Hence with them authority is too apt to have the weight of reason, and every "vulgar fallacy" is cherished like a divine inspiration. All that can be expected of them is conscientiously to see with the lights before them, and be charitable to other men's opinions, which a different accident might have made theirs.

With you, gentlemen, fortune has dealt more kindly; yours is a different destiny. Education has made you the heir of all the ages, foremost in the files of time. You live not in the present alone, but also in the ages that have revolved before you; you live in the mental life of two hundred generations of ancestors, who have bequeathed to you their intellectual acquisitions, which go to swell the native powers of your minds. Faithless indeed will you be, fortune, recant to your destiny, if you ignobly stoop from your high estate—if you renounce your own reason, and consent to swell the servile throng that follow the banners of controversy. Receive no system implicitly and without examination; first examine its postulates and test its conclusions. What if you should be left in a state of temporary doubt? Is it not the permanent state of the wisest on many subjects desirable to be known? Partial ignorance is better than false knowledge; as it is better to stand still to deliberate than to take the wrong path, for fear of losing time in obtaining the right. Do not think I am recommending a system of universal scepticism—far from it. Nobody contends more than I, the ridiculous Pyrrhonism which once raised itself under the name of philosophy. Excessive scepticism is a fault to which youth is but little prone, and a certain degree of it is a necessary foundation for certain knowledge. He who starts from certainty, says Lord Bacon, strains to doubt; but he who would reach certainty, must start from doubt. I consider this as of the more importance, since it so often happens that opinions are adopted on the most important subjects—opinions which color the entire life on the most trivial consideration. Far less would I be understood to suggest religious scepticism—a state of mind, which less frequently exists, than it is assumed by shallow pretenders to originality. He who is really devoid of a faith, is the most pitiable of human beings; he who affects to be so, is the most contemptible.

Examine all the systems cautiously but boldly; draw your own conclusions—cultivate habits of self-relying and independent thought. This independence of thought was the conquest of centuries, and is not to be lightly relinquished. One by one, the sciences became enfranchised; why should we be assured that the victory is yet complete? Are there no provinces of thought that yet await emancipation—no barbarous countries, into which the light of the new philosophy may be borne? First, clear your own minds from prejudices; not only those of antiquity, but extirpate that second growth, which springs from association and circumstances, and to which we are all subject; then examine boldly. The boldness with which we may draw our conclusions and the assurance of our convictions, increases with the number and certainty of the data, and
these of course with time. We may draw wider generalizations, and rest on them with more confidence than our fathers did; what to them was conjecture, to us may be certainty; what was rashness in them, may be in us only a proper confidence; they could but conjecture the revolution of comets; we describe their orbits, and predict the hour of their return. Having thrown off all allegiance to authority, they called up received opinions—passed them under judgment; and while we remember that in proportion to the extent of their condemnation there is the less necessity for severity in us, let us also not forget that Error is hydra-headed—that no Hercules has yet been found to subdue its prolific wounds; and innovation is therefore a perpetual duty. The discoveries of modern times are not so much absolutely new truths, as simply the clearing away of surrounding errors. Reject no opinion simply because it is old, for if truth be ever discoverable, four thousand years must have discovered some portion of it; nor merely because it is new, because the future must be assumed to be at least as prolific in truths as the past has been. In this connection, a sentence of Jouffrey’s is so pregnant with truth, that I beg to quote it, both for the precept and its limitation. “Ouifward revolutions,” says he, “are indeed of service, when they tend to realize the truths which have already been discovered; but to desire revolution when the truths for which an age has been sighing are yet unknown, and as a means of discovering them, is to commit the absurdity of wishing that a consequence should produce its principle, or an end its means.”

Having made this examination, if you adopt any system, you will not be a blind devotee; you will, at least, have a reason for the faith that is in you; you will know its scope, its exceptions, its limitations, how far to go, and where to stop. But you will probably find that impartial nature has given to no sect of humanity a monopoly of truth; that every system represents truly the elements of the minds which conceived and have adopted it; and is a mingled web of truth and error. Probably no system of opinions has ever been honestly adopted by any considerable number of persons, which did not involve some share of truth—none ever opposed, which did not contain some portion of error. The conclusions of Mathematics are universally received. But to eliminate these elements—to precipitate the gold of truth from its impure solution, this will require all your skill and care.

You will perceive, gentlemen, that this view leads to toleration of the opinions of others. It is time, indeed, that the reign of bigotry and fanaticism were over. I do not mean to stigmatise, by these harsh names, earnestness of belief or an ardent attachment to our own convictions of right, which are laudable and indeed almost inseparable from a generous and manly tempermen; but that pleasing distortion of vision, which can recognize in dissent neither capacity nor virtue. No spirit can be more fatal, either to the acquisition of truth or to true greatness of character, than this. Yet how often do we see it prevailing! How madly does it rage in the contests of political parties! How are all social ties snapped asunder, and all the sweet charities of life—how ruthlessly are they sacrificed on the grim altar of party! Have we not seen this spirit, in the advocacy of its particular system of opinion, wildly trampling under foot the very social duties and moral obligations which it is the object of every political system to protect and enforce! Vice, holding her Saturnalia in the names of Decency and Law? How ludicrous would it be to Democritus—how painful is it to the patriot! Public opinion has opened the dungeons of the Inquisition, and no longer permits dissent to be extirpated by the rack and faggot; how much longer will personal detraction and falsehood be licensed to torture the mind? Advancing humanity has
given; laws to war—poison and assassination are forbidden weapons; how long before good sense and good feeling will impose laws on the conflicts of opinion, and proscribe calumny? I trust that to whatever side of opinion you may attach yourselves, you will disdain an ignoble partisanship—that you will not merely not encourage, but that you will discourage by open scorn every species of unfairness, by the use of all dishonest means, and above all, the calumny and detraction of private character for the promotion of party ends. It were to be wished that the honest, of all opinions, should, by common consent unite to execrate all who use such means, and thus vindicate public morality, without which as a basis, no structure of good can be raised; and which is far more precious in the eyes of all good men than the ephemeral triumph of any opinion.

From this hasty review it is manifest that the tendency of the age is chiefly to the development of what may be called the practical sciences, and to the realization of science in the practical forms of art. What consequences to civilization this tendency and the cultivation of these sciences are yet to produce, the history of the past sufficiently foretells; I need not enlarge on it. But I may be permitted to say that living, as we do, in a country which yet bears so much of the rudeness of nature upon it, and where comparatively so little has yet been done in the way of cultivation and improvement, these sciences have for us a peculiar value.