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# AN ADDRESS

DELIVERED BEFORE

## The Alumni Association

OF THE

UNIVERSITY OF NORTH CAROLINA,

JUNE 1853.

BY

JAMES H. DICKSON, M. D.



RALEIGH:

PRINTED AT THE OFFICE OF THE "SOUTHERN WEEKLY POST."

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UNIVERSITY, OF N. C., June 3, 1853.

MY DEAR SIR:

The Alumni return to you their sincere thanks for the learned and interesting address with which you favored them. In order that others may share in the gratification of your audience, the Association unanimously solicits a copy for publication.

It affords me no ordinary pleasure thus to prefer this request of the Alumni Association, and I hope that you will increase this pleasure by allowing me to report that you accede to the earnest wishes of your brethren.

Most respectfully,

CHARLES PHILLIPS,

*Secretary of the Alumni Association.*

TO JAMES H. DICKSON, M. D.

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WILMINGTON, N. C., June 6, 1853.

MY DEAR SIR:

Your letter of the 3d instant, conveying to me the request of the Alumni Association, for a copy of the address delivered by me at their late annual meeting, for publication, has been received.

In complying with the wish of the Association, I do so with some degree of reluctance, arising from an apprehension, that the favorable reception which it appears to have met with on its delivery, may fail to be sustained by a deliberate or critical examination.

Very respectfully,

JAS. H. DICKSON.

FOR MR. CHARLES PHILLIPS, *Sec'y Al. As.*

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# ADDRESS.

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*Gentlemen Alumni of the University:*

In enforcing the obligation of duty on the part of every individual to the generation in which he lives, that earnest writer, profound thinker and eminent critic, Thomas Carlyle, makes the philosophical hero of his *Sartor Resartus*, somewhat testily exclaim, "were it the pitifullest infinitesimal fraction of a product, produce it."

Sustained by such high authority in the opinion, that the small value of the offering which one may have to make furnishes no valid reason for withholding it, I have consented to appear before you on the present occasion, although I am well aware of my inability to bring with me any rich tribute of literary excellence, or any rare production of able scholarship, such as would befit the occasion; but solely to attest my sense of obligation to, and the deep interest I feel in, the great cause of human learning.

I greet you, gentlemen, on the return of another of your annual re-unions. Assuredly we must all regard these periodical assemblages as pleasant occasions, which not only afford us an opportunity of signalizing our strong and lasting attachment to our venerated *Alma Mater*, but which enable us to form new associations,

and at the same time to cement more strongly and to burnish more brightly the enduring links of earlier friendship.

A cycle of years, equal to what is ordinarily estimated by statistical writers as a generation of men, has elapsed since many of us first trod, with the elastic step of youth, the pleasant walks and shady groves of this our *Academus*.

The years which have passed since the completion of our scholastic term, have doubtless borne with them, to each of us, their common freightage—the vicissitudes of life; for it is fair to presume that we have not all been bound to the world by

“A chain woven of flowers and dipped in sweetness.”

The bright halo which encircled objects when seen in the distant perspective, we have probably found owed much of its beauty to having been viewed through the rosy portals of the dawn, and that as the day advanced, it waned into dimmer lustre, or faded entirely away.

The ever-changing events of life have no doubt placed us all, and perhaps frequently, in positions calculated to make the hardest sensitive, and the boldest cautious; and the rough contact of the world, the sorrows and disappointments of life, which none escape, must have exercised a more or less potent influence upon the thoughts, feelings and emotions which constitute the inner and real life of man. Without supposing that we have been survilely passive to the influence of surrounding events, it is obvious that we must have undergone **many** mental metempsychoses; for the doctrine of the

transmigration of opinions may be regarded as orthodox, and founded in correct observation. While individual character may bid defiance to the power of external circumstances entirely to transmute it, a very transient inward glance will enable us to detect the marks and colors—bright hues it may be, or dark stains—of many things which have touched or influenced us in passing along the road of life. We meet again, some of us, after the lapse of many years, during which we may have undergone a process of mental elevation and enlargement, but we have lived to little purpose if we have not learned

“that he most lives,  
Who thinks most; feels the noblest; acts the best.”

Amidst the jar and bustle of life, it is to be hoped that we have cast more than an occasional glance upward; and although the true ideal of humanity, the perfect in intellect and perfect in virtue, be hopelessly beyond our reach in this present sphere of existence, I trust that we have fixed our steadfast gaze on some high point in the standard of attainable excellence and endeavored to make such approximation thereto as it is vouchsafed to mortals to be able to accomplish.

*Hic labor, hoc opus est vitæ*—to live as denizens not of earth but of the universe. Let us cherish such high aspirations. Let our escutcheons be emblazoned with the motto “excelsior”—higher, still higher.

Some of you by the pursuit of “noble ends by noble means” have attained to distinction in the walks of public and professional life, and you will doubtless

admit, that the success which has attended your efforts, is attributable in no small measure to the intellectual training and habits of application to study, in part formed, and certainly greatly invigorated by your collegiate course.

And here I will take occasion to tender, a well merited tribute of thankful remembrance to the honored guides and instructors of our collegiate life, and doubt not, that in doing so, I shall be acting in unison with the feelings of all the members of your association.

Of the professors who occupied chairs in this institution thirty years ago, but one has a place among its present faculty—I allude to the learned and accomplished gentleman who at that time taught us how infinite was evolved out of unity; who marshaled us the way, and initiated us into the mysteries and powers of the science of Numbers—a science, which lies at the foundation of all other sciences, and interweaves itself in a most marvellous manner with all the practical pursuits of life—which is comprehensive enough in its grasp to enable us to estimate the weight of an invisible atom with Dalton, and to measure the cycles of the planets, and weigh their ponderous masses with Kepler—a science which exhibits its indispensable necessity, as well in the rudest handicraft of the mechanic, as in the loftiest creations of artistic beauty and sublimity—which shows the universality of its power in the poetry of Milton or the Music of Mendelssohn, as well as in the utilitarian inventions of Fulton or of Arkwright.

To the professor who guided our progress through its

algebraic and geometric methods of investigation, let us tender the tribute of our thanks. But let us not forget to hold in grateful remembrance the absent professors of that day—the instructive and attractive lecturer on that department of physical science, which unlocks the arcana of the material world, and reduces by well devised analytical processes, the complex forms which matter presents to their simpler elements; and also that polished writer and ripe classical scholar, who aided our efforts to cultivate a taste for the purer models of Greek and Roman literature.

The mutations of life have placed them in other spheres of action, in which they have gained a widely extended reputation, based on the firm foundation of useful activity in the high vocation of instructors. Let us also recall with grateful emotions, the memory of that venerated head of the college, who no longer occupies a place among the living; whose name is indissolubly linked with the history of this University, by the devotion of his entire manhood to its prosperity and advancement; who, finding it in a state of infancy and comparative weakness, watched over it with parental fondness, and nurtured it into robustness and vigor; who, when “his eye rested for the last time” on its noble structures, may well have felt the high satisfaction of contemplating his own monument, and as his mind dwelt upon the great intellectual and moral results associated with the scene, might without arrogance have exclaimed,

*Exegi monumentum ære perennius.*

In glancing back to the time of our entrance upon college life, the mind's eye ranges over a period of stirring interest in the world's history—a period written all over in characters of living light, with the words advancement and progress, physical, moral and intellectual.

Empirical science must always in the nature of things be incomplete and yet always progressive, as the asymptote progresses on its curve, and no generation of *Savans* will ever have to sigh like Alexander for another world to conquer. This single planet will furnish "ample room and verge enough" for the exercise of all the mental power conferred on the race for all generations. The rate of the progress of science is, however, by no means uniform, and our own era may be regarded as embracing the very flood-tide of advancement. A rapid glance at the general progress of science and of letters during this epoch, will enable us to estimate the share which our own country has taken in the onward movement, and her prospects for the future, and may furnish a not uninteresting subject of contemplation on the present occasion.

The whole domain of nature, from the remotest nebula on the very outskirts of our visible universe—from the region of the double and triple stars, down to the minutest cryptogamic vegetable, or the infusoria animalcule which finds ample room to live and disport in a drop of water, has been surveyed and re-surveyed by the argus-eyes of science; and yet of no age can it be said, that the wonderful progress of physical science, is as characteristic, as of our own. Sober history records



nothing comparable with it at any previous stage of human progress, and the wildest fable falls short, even in its most extravagant and visionary conjectures, of the reality.

The flight of the arrow, the ancient symbol of velocity, has ceased to be sufficiently expressive of the rapidity of its progress, and we are driven to one of its more recent discoveries for an adequate emblem of its speed, for without much poetical licence we may designate it by the term telegraphic; indeed it seems to acquire almost hourly accelerated velocity from its own impetus:

“*Vires crescunt eundo.*”

It is not easy to speak on such a topic, without the risk of incurring the charge of enthusiasm.

But he indeed must be a disciple of the *nil admirari* school, who can contemplate the brilliant achievements of science in our day without deep and strong veneration.

Who is not startled by the first announcement of the fact, that the age of the planet on which we dwell, is perhaps incapable of computation by our earthly arithmetic—that for unknown æons the struggling conflict of its chaotic elements was going on, while it was in process of preparation to become the fit dwelling place of man, thus furnishing a luminous commentary on the text which declares, that with the Deity, a thousand years are as one day? or by the disclosure of the fact, that its vast mountain ranges have been upheaved from its molten interior, by expansive forces, which still ex-

hibit their immense but greatly diminished energies in the earthquakes and volcanic eruptions of our era? that many of its solid rocks are but the exuviæ of fossil animaculæ once instinct with life? Who is not astounded by the announcement recently made by Ehrenberg and Cross, of the *apparent* generation of animalcular life by the action of the galvanic current on a solution of silex.

For ourselves we must confess that these things cannot be without our special wonder.

“Our life,” says Macauley, “is passed amid things as strange as any that are described in the Arabian Tales, or in the romances, on which the Curate and the Barber in Don Quixote’s village performed so cruel an *auto-da-fe*; amidst buildings more sumptuous than the palace of Aladdin, fountains more wonderful than the golden waters of Parizade, conveyances more rapid than the hippogryph of Ruggierro, arms more formidable than the lance of Astolfo, remedies more efficacious than the balsam of Fierabras.”

Thus has it come to pass that fact has outstripped fancy, and the scientific wonders of Watt and Arkwright, of Fulton, Morse and Erricsson have transcended the boldest imaginings of romance.

At any previous era of the world, such rapid progress in the field of physical science would have been regarded as marvelous.

It is true that at the commencement of this era there were many distinguished names among the cultivators of physical science. Sir Humphrey Davy was then in

the zenith of his fame and had established a reputation as brilliant as the combustion of the diamond in his own galvanic battery, while Berzelius, Brewster, Herschell, Olbus, Cuvier, Fourcroy, Silliman and others well sustained the scientific reputation of their respective countries.

Since then, however, the chemist having examined every accessible mineral, earth or salt—having apparently exhausted the world of inorganic matter, has created the departments of vegetable and animal chemistry, and has been astonishing and instructing us by the beauty and utility of his discoveries; while the astronomers of our day have almost ceased to excite our astonishment by the discovery of a new planet or asteroid.

The mediæval notion which restricted the number of the metals to seven, has been long since exploded by the former science; the subversion of the same transcendental opinion with regard to the number of the planets is a more recent achievement of the latter.

The corpuscular or Newtonian theory of Light, which we formerly thought established on a firm foundation, and which seemed so well adapted to explain all optical phenomena, has by the progress of scientific investigation, been forced to yield its place to the theory of undulations of a luminiferous æther; and even the great doctrine of gravitation in which we were educated, seems in some danger of modification, at least in name, from the theory just emerging into notice, of the unity and correlation of all the dynamical forces of nature—a the-

ory which supposes that heat, motion, light, electricity, magnetism, attraction, are correlated and mutually convertible forces—or modifications of the same force—that however various and diversified its manifestations under these different designations, it is by one agent in the hands of the Creator, that all the varied phenomena of the universe, from the germination of a seed to the motion of a planet in its orbit, or its rotation on its axis, are produced!

Perhaps in no department of scientific research has there been more rapid progress than in that of Dynamical Electricity and Electro-Magnetism, and we are hourly witnessing its more than magical results, in the rapid transmission of intelligence from one end of the country to the other, and in the more exact determination of geographical longitudes.

The subject of terrestrial Magnetism, too, has of late commanded much of the attention of the learned, and observatories have been erected over almost the entire globe, from Canada to Van Dieman's Land, and from Paris to Peking, at which observations are simultaneously made and recorded. Among the beautiful results arrived at from these observations, is the determination of the fact that the magnificent Aurora Borealis, which with its flashing and brilliant coruscations so entrances the beholder, is the termination of a magnetic storm, and finds its analogue in the flash of lightning which terminates an electrical storm.

Descriptive Botany and Geognosy have received large accessions from many cultivators, but in an espe-

cial manner from the industry and learning of Alexander Von Humboldt, who of all men now living, seems pre-eminently entitled to the appellation of philosopher, and who, in imitation of his Grecian prototypes, has travelled over a large portion of the globe in pursuit of knowledge; scaling at one time, with intrepid step, the loftiest accessible summits of the South American Cordilleras, and at another, traversing with persevering toil, the dreary steeps of Northern Asia. All branches of science, whether conversant with the celestial spaces, or the surface of earth, or the depths of ocean, or the regions of air, seem equally to have occupied his study, and no department of letters appears to have escaped his profound research. From the rich storehouse of his vast accumulations of knowledge, he has been pouring fourth almost continuously, affluent streams to instruct and delight mankind; and now in the calm eventide of a long, active, and laborious life, he is still industriously occupied in his favorite pursuits, still conferring honor on his native country, and enjoying a world-wide reputation, which his friend and sovereign may well regard with envy.

Man seems to be instinctively a star-gazer:  
 Nature prompts him,  
*erectos tollere vultus,*  
*Ad sidera;*

and astronomy, the sublimest physical subject of contemplation ever presented to the human mind, and the only adequate standard by which to measure the extent of its marvellous, yet finite capacity, has from the re-

motest antiquity to the present hour, commanded his admiring attention. Grand beyond conception, in the extent and magnitude of its field, and fascinating in its details, it must always continue to be a favorite subject of scientific enquiry. The proudest intellectual achievements of our race have been accomplished in this department of the field of knowledge, and the discovery and promulgation of the great law of the universe, must be regarded as the crowning intellectual glory of earth. Peradventure, in this particular, we are without a rival among the planetary orbs, with which we are associated and by which we are surrounded.

It would be strange indeed, if in this age of intellectual activity and eager scientific enquiry, no great progress had been made in so inviting a field of research. In addition to the discovery of the numerous small planetary bodies which revolve between the orbits of Mars and Jupiter, our day has been signalized by the solution of a problem, which was never even contemplated as possible by Newton, Euler or La Place. I allude to the discovery of a planet and the determination of its place and its elements, by the disturbing action which it exercises on another. This triumph of scientific analysis has rendered the name of Leverrier immortal, and crowned with high distinction the astronomical science of the nineteenth century.

In instrumental astronomy, the progress of our day has been signally great. Those familiar with such subjects, are aware of the fact, that Sir Isaac Newton, having arrived at the conclusion that the refracting

telescope was incapable of much greater improvement, had turned his attention to the improvement of the reflecting instrument, and that following out this idea, Herschell's forty-feet reflector, was finally constructed.

Surely, now, the astronomer had the means of pursuing his investigations in the remotest regions of space. According to Herschell's calculations, he was enabled to penetrate space to a point so remote, that the light proceeding from it has occupied nearly two millions of years in reaching our earth, and the light from those distant regions "thus furnishes us," in the words of Humboldt, "with the most ancient perceptible evidence of the existence of matter. It is thus, that the reflective mind of man is led from simple premises to rise to those exalted heights of nature, where, in the light-illuminated realms of space, myriads of worlds are bursting into life like the grass of the night."

But even this enormous instrument was not long destined to maintain its superiority. The still larger instrument of Lord Rosse was erected but a few years ago; and, in the meantime, the industry and skill of the opticians had brought the refracting telescope to an equal degree of power, and it is but a few months since we have received the announcement of the erection of one of the latter description of instruments, by Dr. Craig, in England, which far surpasses in power the enormous reflector of Lord Rosse. As advancement in this department of physical science depends in a great degree on the perfection of the instruments used in its investigations, we may reasonably anticipate still great-

er discoveries and still more rapid progress. By their aid "the astronomer has already discovered among the stars, double, triple, and multiple systems, in which one or more stars revolve around another—he has been enabled to descry in the remotest nebulæ, groups of stars and spiral forms of arrangement, indicating forces of which we know nothing, and on a scale of magnitude which the highest reason will probably never grasp."

By the instruments now in our possession, enough has already been discovered to explode the seemingly beautiful nebular hypothesis of La Place and Herschell, and to scatter to the winds the infidel argument, partly founded upon it, by writers of the school of Lamark and O'Kerr, and the author of a recent work styled, "The Vestiges of Creation."

The inferior instruments, failing to resolve many of the nebulous masses, scattered over the immensity of space, led those able, but in this instance, somewhat speculative astronomers, to suppose that this nebulous matter was the material out of which the starry bodies, by a gradual condensation were finally evolved, and Herschell thought that he had discovered stars, annular and fringed, which were undergoing this process. Infidelity seized upon the idea, as furnishing a strong argument in favor of the theory of development, which makes man to proceed, through a long series of progression, from an infusoria monad, and the universe from self-existent but ever changing matter. Thus does pseudo-philosophy conduct its votary to those dreary, glacial heights, from which she teaches him to look up



with complacency to a vacant heaven, and around upon a magnificent cosmical panorama, which stretches on all sides to infinitude, and fails to discover for him any satisfying demonstration of the existence of its omnipotent author and upholder—most lame and impotent conclusion—barren and melancholy result of such painstaking toil. For, lo! the improved instruments resolve the nebulae into myriads of perfect stars, and disperse the very existence of nebulous matter; and thus baffled, the infidel is driven, discomfited and crest-fallen, from his presumed strong hold in this field of controversy.

This fanciful philosophical hypothesis, thus banished from the celestial regions, lingered a little longer among the dubious fossilized fragments of an ante-deluvian era, until driven from this retreat by the rattling artillery of the logic of Hugh Miller, who may be said to have given it the *coup de grace* in his late work on the Asterolepsis of Stromness. What new discoveries are in store for the world, by means of the great telescope recently erected at Wandsworth, in England, time only can develop. Its space-penetrating power—though greater than that of any instrument heretofore constructed, has a wide field to operate in;

“the vast whole

What fancied scene can bound;  
 Immeasured and immeasurably spread,  
 From age to age resplendent light may urge  
 In vain its flight perpetual; distant still  
 And ever distant from the verge of things;  
 So vast the space on opening space that swells  
 Through every part so infinite alike.”

Within the limits of time under review, a compara-

tively new department of physical science has received a prodigious impulse. I allude to the science of Geology; for the meagre outlines of the Hultonian and Wernerian theories taught us thirty years ago, hardly furnished the frame work of its present goodly structure, and the researches of Cuvier and Broquariat had but laid the foundation of its paleontological department. Geology, as at present investigated, could not indeed have existed at any former era, for the "growings of science are according to law, and the preliminary sciences were not ready for the success of geological researches until the approach of the current century."

"Of all the sciences which relate to the material universe" says Sir David Brewster, in his biography of Hugh Miller, "there is none, perhaps, which appeals so powerfully to our senses, or which comes into such close and immediate contact with our wants and enjoyments, as Geology. In our hourly walks, whether of business or pleasure, we tread with heedless step upon the apparently uninteresting objects which it embraces, but could we rightly interrogate the rounded pebble at our feet, it would read us an exciting chapter on primeval times, and would tell us of the convulsions by which it was wrenched from its parent rock, and of the floods by which it was abraded and transported to its present humble locality.

"In our visit to the picturesque and sublime in nature, we are brought into closer proximity to the more interesting phenomena of Geology. In the precipices which protect our rock-girt shores, which flank our

mountain glens, or which variegate our lowland valleys, and in the shapeless fragments at their base, which the lichen colors, and round which the ivy twines, we see the remnants of uplifted and shattered beds, which once reposed in peace at the bottom of the ocean. Nor does the rounded boulder, which would have defied the lapidary's wheel of the giant age, give forth a less oracular response, from its grave of clay or its lair of sand. Floated by ice, from some Alpine summit, or hurried along in torrents of mud and floods of water, it may have traversed a quarter of the globe, amid the crash of falling forests and the death-shrieks of the noble animals they sheltered. The mountain range, too, with its catacombs below, along which the earthquake transmits its terrific sounds, reminds us of the mighty power by which it was upheaved, while the lofty peak with its cap of ice or its nostrils of fire, places in our view the tremendous agencies which have been at work beneath us. But it is not merely amid the powers of external nature, that the once hidden things of the earth are presented to our view. Our temples and our palaces are formed from the rocks of a primeval age, bearing the very ripple marks of a pre-Adamite ocean; grooved by the passage of the once moving boulder, and entombing the relics of ancient life and the planets by which it was sustained. Our dwellings, too, are ornamented with the variegated limestones—the indurated tombs of molluscos life—and our apartments heated with the carbon of primeval forests, and lighted with the gaseous element which it confines. The obelisk of granite and the co-

lossal bronze, which transmit to future ages the deeds of the hero and the sage, are equally the production of the earth's prolific womb, and from the green bed of the ocean, has been raised the spotless marble to mould the divine liniaments of beauty, and perpetuate the expression of intellectual power. From a remoter age and a still greater depth, the primary rocks have yielded a rich tribute to the chaplet of rank and to the process of art."

Almost the entire globe, from the Arctic to the ant-Arctic pole; from the ocean to the Ural and Himalaya mountains in Europe and Asia, and to the Alleghany and Cordillera ranges in America, has been traversed and explored by the eager searchers after geological knowledge. No mine has been found deep enough, no mountain peak high enough to dampen their ardent yet patient pursuit. From the bowels of the earth, in which they had been entombed for ages, have been brought to light the fossil remains of vegetables and animals of a pre-Adamite age. Its gigantic ferns, club-mosses, calamites and coniferous plants, enable us to form some faint conception of the pristine vegetation of our planet. Its Saurians and Ichthyo-Saurians, huge monsters which

"extended long and large,  
Lay floating many a rood,"

of its aquatic and amphibious tribes; its megatheriums and mastodons, of its land animals and the enormous pterodactyl, of the winged monsters, part bird, part reptile, which traversed its dreary, dense and vapoury

atmosphere, cause the present denizens of the sea, land and air to shrink into insignificance. The earth is full of the mutilated remains of the strange animals of a former era, once instinct with life. Its fossil flora, too, is rich in the remains of an extinct race of plants. These constitute the pictorial characters by which much of its mysterious, unwritten history may be partially deciphered—the strange chronometry by which the relative ages of some of its sedimentary strata may be determined.

But after all, geology furnishes us with no clue, by which to unravel the sublime mysteries of creation. It may enable us to explain more satisfactorily, the simple but sublime story of the Genesis, as given to us by Moses. It may convince us by a process of induction from the facts which it has discovered, that “in the beginning the earth was without form and void,” that its chaotic elements underwent commotions, compared with which the earthquakes of our day are as the ripple of the summer lake to the surging of a tempestuous ocean; that its dripping slimy surface first gave birth to the humble monocotyledonous plants (the grass and the herb yielding seed after its kind,) and at a later period to that of the higher order of dicotyledonous, (the tree yielding fruit whose seed is in itself.) It may show us that throughout the entire geological series, there is a conformity, either symbolical or literal, to the written record—that the lower orders of animals preceded the higher—that the dynasty of the fish preceded that of the reptile, as the reptile preceded the mammiferous

quadruped, and that man, the noblest work of creative energy, was also its last. It may confirm, it cannot supplant revelation; and to the irreverent sciolist who would attempt to hold up his farthing candle for the lamp of life, to substitute his, perhaps, distorted perception and dubious rendering of the rocky records of the book of nature, often as obscure and enigmatical as the cuniform letters of ancient Assyria, or those mysterious characters graven on the face of the Sinaitic valley, for the venerable magnificence and clear illumination of revelation, we may well apply the sharp rebuke of Pope—

“Go wondrous creature, mount where science guides;  
Go measure earth, weigh air and state the tides,  
Instruct the planets in what orbs to run,  
Correct old time and regulate the sun;  
Go teach eternal wisdom how to rule,  
Then drop into thyself and be a fool.”

But if science has been progressing with such giant strides, during the period under review, literature has also been advancing, if not *pari passu*, certainly with very stately stepplings.

The literature of the present day is not surpassed, if indeed it be equalled by that of any former period in modern history, with the exception of the Elizabethan, sometimes styled the Augustan age of English Literature.

By a sort of poetical license, the Elizabethan age is made to extend over a period of sixty years, from Marlowe to Milton, embracing portions of the reigns of several sovereigns. This was the period immediately

succeeding the great Reformation, when the peerless form of the human intellect, having cast off the shackles of a despotism which had long bound it to the earth, arose in its majestic beauty prepared "like a giant to run his race."

The minds of men at this period were stimulated to unusual activity also, by the bold adventures and great maritime discoveries which were in progress. America had been discovered, the Cape of Good Hope had been doubled, and the adventurous prow of Drake had circumnavigated the globe.

Such were the circumstances in which arose that splendid galaxy of literary greatness, which renders this era unsurpassed, perhaps unsurpassable; for Milton still maintains an unapproached, indeed, an unapproachable elevation, and *Paradise Lost*, must still be regarded as the loftiest achievement of the human intellect—the only work which born of earth, seems adapted to the universe; whilst the reputation of Shakspeare, growing with the centuries, has already become colossal, and is destined to last as long as the

"Great globe and all which it inherits."

With the exception of this resplendent era of letters, our own age will bear a flattering comparison with any, and seems likely to make a near approach even to that great epoch. Indeed, the rapid march of science must of itself communicate a corresponding impulse to literature; although, there are not wanting those who fear that so large a proportion of the best intellects of <sup>41</sup>

day are devoted to scientific pursuits—that literature suffers in consequence of it, and who seem willing to adopt the opinion of Edmund Burke, that it is our ignorance of natural things which causes all our admiration, and chiefly excites our passions—that the discoveries of science, by stripping nature of its mysteries, by making fact more strange than fiction, serve to rob imagination of the dim, mysterious twilight region in which she loves to revel and expatiate; and hence, are adverse rather than auxiliary to creative art.

But, happily, imagination is a heaven-winged faculty, and if driven by the sunlight of science, from the shadowy realms, which she has peopled with genii, elves and fairies—"from the thick mists beside the reedy lake"—from the dark Dombdaniel caves of ocean, she can still soar on vigorous wing to the empyrean, and find that the feeling of the sublime has not been contracted by the numerical precision of the astronomer's discoveries; or, if, on lighter pinion, she skims "o'er earth in summer vesture clad," o'er mountain, wood or flowery mead, that her perception of the beautiful has not been dimmed by the researches of the botanist or geologist. No matter how much the field of knowledge is extended, there will always be a limit to it, which it is her province to overleap and

" Body forth the shape of things unknown,  
And give to airy nothings  
A local habitation and a name."

Notwithstanding all the light which science has diffused or can diffuse upon mind and matter, man him-



self, and the hoary planet upon which he has his temporary habitation, must always continue to be, both to the stolid and the speculative—the ignorant and the learned—the wonder of wonders.

We have insight enough, it is true, to discover that they are visible and actual manifestations of Omnipotent power; but in spite of our sciences and cyclopedias—simply miraculous.

In confirmation of the opinion, that the progress of science is auxiliary to that of letters, I adduce, as an offset to that of Burke, the opinion of Schiller, who, speaking of art in general, including the *Art Poetica*, says, as translated by Bulwer:

What in the land of knowledge wide and far,  
Keen science teaches —r you discovered are,  
First in your arms, the wise their wisdom learn,  
They dig the mine you teach them to discern:  
And when that wisdom ripens into flower  
And crowning time of beauty—to the power  
From whence it rose new stores it must impart;  
The toils of science swell the wealth of art.

Our era has been characterized by such singular events in the world's history,—events which have revolutionized governments, unsettled old opinions and upheaved society from its foundations, that it would be strange indeed, if its literature, which is the embodiment of the thought and feeling of the age, the mirror which reflects the ever changing phases of society, should not have felt the influence of the stirring events which were passing around us.

The French revolution itself, the result, at least in the horrible atrocities which marked its progress, of the

atheistic literature which immediately preceded and accompanied it, exercised a manifest and wide spread influence upon the intellect and literature of the age. How, indeed, could it be otherwise, with the world all in commotion around, the great deep of opinions broken up and in conflict, the intellects and passions of men loosed from all restraint, human and divine, time honored usages and deep seated principles subverted; but that the intellectual conflict, the struggle of mind with mind, should partake of the vehemence and energy which characterized the physical conflicts of the period. The influence of the infidel philosophy and political opinions of France was soon felt, and still manifests itself in the literature of Germany, and to some extent, also, in that of England.

The sickly sentimentality and impracticable political opinions of Rosseau tainted the lucid intellect of Gœthe, if indeed they found not a congenial soil in the mind of the great German, and shook for a time the firm faith and manly heart of Schiller. The influence of the French atheistic school of writers exhibits itself prominently in the works of Weiland, Jean Paul Richter, Hoffinan, Tieck and indeed in almost all the German literature of the day.

“The trail of the serpent is over them all,”

and it is even now working out its legitimate results in the wide spread infidelity of Germany and the socialism of France. The sturdy good sense of England, to a great extent, resisted the shock, and yet its unwhole-

some influence is clearly exhibited in the gilded ribaldry of Byron and the metaphysical pantheism of Shelly, and more recently, in that cohort of novel writers, whose works have given rise to a new school of Romance, aptly designated by a judicious American critic, as the Romance of Rascality—much of the subtler essence of these speculative, philosophical and political opinions, after passing through the alembic of German poetry and metaphysics, has been gradually infiltrating the higher literature both of England and America.

To the mental activity aroused by the stirring events of the times, and to the reaction against French philosophy and politics, we owe, in a great measure, that brilliant constellation of authors, both in poetry and prose, which sheds so bright a lustre on our era. The clash and conflict of opinion, the good and the evil, the radical and conservative sentiments of the times, its faith and its skepticism, are all reflected in its literature, in poetry and prose, in history and drama, essay and review, in science and theology. Nor has the influence of these potent agencies been restricted to Europe in its effects. Our own country has felt the generous impule of aroused activity, and has fairly started, we confidently believe, on the path of a high and glorious career. Like the morning star, though yet scarcely risen above the horizon, she is diffusing the mild effulgence of her light among the nations; and we trust we are indulging in no idle vaticination, when we predict the early advent of a period in which her literary, scientific and artistic renown will rival her political greatness.

If the visible and the material fail not on this continent to exercise their wonted influence on the mental, time must develop a literature commensurate with the physical grandeur and magnificence of our country. Where on the broad earth has the plastic hand of nature been more busily at work, in the production of scenes of beauty and sublimity? Have we not river and lake, prairie and forest, gentle brook and foaming cataracts? Have we not mountains of more imposing magnificence than the Alpine Jura or the Thracian Olympus, and valleys as beautiful as the song-renowned Tempe.

Nature has here, as in other lands, an esoteric as well as an exoteric meaning, to the mind capable of making the exegesis. We may still find

"Sermons in stones, books in the running brooks,  
And good in every thing."

The solemn phases of the starry heavens are above our heads, the flowrets of earth are around our path—the earth and the fullness thereof—nature with all her varied scenes and manifestations is before us.

"The sun of Homer smiles upon us still."

We can look, too, on man, and the changes of his many colored, many sided life, with as keen a perception as has been exercised on such topics in any age or land, and we can discover no evidence of mental decrepitude in our generation.

If we recur to what has been already accomplished by our countrymen, in science, literature and art, we may indulge a feeling of complacent satisfaction, if not of national pride.

In the walks of science, we find at the present time the names of Henry, Maury, Gillis, Walker, Pierce, Bond, Mitchell and others, whose labors have conferred high distinction on our country. They constitute a corps of mathematical and scientific ability well qualified to stand by the side of Airy and Hind, Struve and Gasparis. The application of the electric telegraph to the determination of longitude, is an American invention; so also, is that of the kindred apparatus for recording transit observations of the heavenly bodies.

Astronomical observations are now as regularly made at Washington, Cambridge and Cincinnati, as at Greenwich, Paris or Pulkowa; and we hope soon to have the pleasure of seeing the name of our own capital added to the list.

The Rocky Mountains, we are told, have recently been scaled by<sup>1</sup> an enterprising searcher after knowledge, by one of its most difficult passes, and in the midst of hostile Indians, and we are informed by Dr. Owen, in his report to the Commissioners of the Land Office, that the territory of Nebraska exhibits some of the most remarkable results in Geology yet made known to the scientific world; and that equally strange and wonderful facts have been developed with respect to its Ethnography, shedding<sup>2</sup> light upon the history of the lost

<sup>1</sup> Dr. J. Evans, of Washington city.

racés who roamed over its surface at the same period of time, or anterior to the existence of the Mammoth or Mastodon.

A late arrival from the Pacific brings us the intelligence that Lieut. McRae, a native of our own State, who had been detailed on a Magnetic and Geographical expedition by Lieut. Gillis, had accomplished the passage of the Andes, undeterred by its storms and its snows, and had succeeded in accomplishing the series of observations necessary to solve the interesting problem he was sent upon; while at this moment the expedition under Lieut. Kane, prompted by science and humanity, is on the eve of again braving the dangers and terrors of the Arctic ocean. With such evidences multiplying around us, of ardor and perseverance in the pursuit of knowledge, we may rely with confident pride on the steady progress of American science, and banish all craven fear that our country is destined to lag behind in the Olympic race of honor.

In the higher walks of art—in painting and sculpture—we need not shrink from a comparison with the nations of Europe. But few painters of the present day, in the high requirements of the art, excel our poet-painter, Alston. The studios of American sculptors are at present the most attractive in Florence and Rome. American art is yet destined to adorn our cities and dwellings with its beautiful creations, and to exercise a refining influence on our advancing civilization. Nor is our literature as meagre as trans-atlantic disdain would endeavor to make it appear. If it be true that we can-

not boast of a brilliant galaxy of authors, such as bespan the literary firmament of those nations which have had a thousand years of civilized existence, we have many bright particular stars, many single luminaries, of the very first magnitude and of the most brilliant lustre.

The earlier literature of the country presents the highly respectable names of Franklin and Edwards. The works of the former have a high literary as well as scientific value, and those of the latter are thought by competent judges to compare well with the writings of Locke, which is surely praise enough "to fill the ambition of a common man."

The historical works of Irving and Bancroft may well challenge a comparison with those of Allison or Robertson or Thiers; while those of Prescott have much of the combined excellencies of Hallam and Macaulay, and have contributed largely to the elevation of the character of American literature, both at home and abroad. Nor must I omit to mention, in terms of high commendation, the historical productions of a gifted son of our own State, who, though no longer resident with us, has honored us with his presence on this occasion, and who reflects the lustre of his distinguished reputation on the land of his birth. In an especial manner does he deserve the thanks of every conservative member of society, for his admirable historical treatise on Egyptian archæology, in which the infidel arguments of the French and German savans, are quite as effectually exploded, as was that founded by them on their interpretation of the Zodiacs of Dendera and Esneh, by Champollion. We

all know how effectually the shout of demoniac triumph which heralded the discovery of those tablets, was stifled in their throats, as soon as the inscriptions were read aright by the great decypherer of the hieroglyphical writings, and how completely they were thus driven from the historical field of argument.

In the *ars poetica*, that divine art, which adds so much to the happiness and dignity of the human species; which has always exercised a comprehensive and genial influence on the civilization of the race, and is never absent from its highest and palmiest state of development, we are not without numerous and bright examples.

Amidst much metrical mediocrity, which, according to the Horatian canon of criticism, is offensive to both heaven and earth, we have much genuine poetry of a high order; and it would be no difficult task to select from among the poets of America, many names which the world will not willingly let die—the possessors of which have well earned for themselves

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“the wreath  
Due to the poets' temples.”

If we have yet uttered no tuneful \*world-voice; if we have reared no majestic fabric of genius which, as we pause to contemplate it, presents unequivocally the aspect of eternity, we can console ourselves with the reflection, that such structures are but thinly scattered

\* Carlyle.



along the centuries and seem to be the crowning results of a long process of previous preparatory causes.

Leaving out of view entirely, the spoken literature of America; the oratory of her statesmen, jurists and divines (in which she may fairly claim equality with that of any age, ancient or modern) her literary progress has, assuredly, thus far been highly respectable.

In comparing the literary and scientific prospects of our country with those of the nations of Europe, we think we can discover a difference in our favour, arising from the energy of our national character and the nature of our political institutions. The energy of the American character has become proverbial. No physical obstacle has yet caused it to succumb, hardly to pause. Neither storm-vexed seas, nor snow-topp'd mountains, nor arid deserts arrest our progress. We seem ready to cast ourselves *cætra flammantia mœnia mundi*.

Now this resistless energy, which for the present exhausts itself in physical effort and adventure, must, when wealth shall have accumulated, and education shall have become generally diffused, expend a large portion of its force in intellectual efforts, and the results cannot be regarded as by any means doubtful. That political freedom should be favourable to the growth of letters and the arts, seems not only natural, but is in accordance with the experience of the past.

We recur, in illustration of this position, almost instinctively to that land of renown, which has left the deep imperishable impress of its intellect on all succeed-

ing time, which has anticipated the world in every department of intellectual, and artistic excellence; whose learning borrowed by her conquerors, has interwoven itself with that of all succeeding civilized nations; whose very language, as perfect in the days of Homer and of Hesiod as in those of Pericles, has been and still is the wonder of scholars, appearing to have had no infancy, to have sprung into existence like Minerva full armed from the brain of Jove; which a learned, but perhaps in this particular, enthusiastic scholar of our own country, Prof. Taylor Lewis, regards as too perfect to have been the work of man, and hazards the suggestion that it was a direct gift of the deity. Greece, the world's wonder and the world's pride, was a republic.

Learning and the arts flourished under some of the Roman Emperors, it is true, as well as during the existence of the republic. But Greece was at that time still "living Greece," though a conquered province. Athens, though plundered of her richest ornaments, could still boast of her schools at which Roman youth were educated. Cicero and Horace were pupils of the Academy or Lyceum at Athens. Cæsar, Sallust, Lucretius the author of the Poem *De Rerum Naturæ*, Titus Pomponius, surnamed Atticus, from his critical knowledge of the Greek language, and indeed almost all of the well educated Roman youth of this era, finished their studies in Greece.

In following down the stream of time, we find but little to illustrate our position, until we reach the period of the revival of learning in Europe, which was in real-

ity but a restoration of Grecian literature, which had found a refuge from vandalism in Constantinople and the Caliphats of Bagdad and Cordova. The greatest original production of this period, is doubtless the *Divina Comedia* of Dante, and whatever may have been the state of civil liberty during the feuds of the Guelphs and the Ghibellines, this noble work bears evidence of the fact that its author was on all occasions the zealous and fearless advocate of civil and religious freedom.

During the Elizabethan epoch of English literature, the struggle between privilege and prerogative had commenced, and the era of Milton, Butler and Cowley was republican. Look where we may, liberty and literature exhibit an intimate alliance, and we shall evince but little faith in the lesson taught us by past experience, if we allow ourselves to entertain any but the most cheering anticipations of our own probable future literary eminence. If true to our best interests, a glorious destiny in this respect is assuredly in store for us, and to secure such a result should be among the leading aims of enlightened patriotism. How such a desirable consummation is to be most certainly and speedily attained, is a question well worthy of our most serious consideration.

It would, surely, be entirely a work of supererogation to undertake to prove before such an audience as is here present, that the only rational mode of accomplishing this object is by the promotion and diffusion of knowledge. Indeed the advancement of knowledge, second only to the attainment of that higher wisdom which cometh from above, is the noblest undertaking in which

the mind of man can engage. For not until man casts aside the trammels of ignorance—not until his moral and intellectual nature has been improved by culture, does he exhibit the dignity of which humanity is capable. Heap upon him the wealth of “all the Indies,” clothe him in purple and fine linen, and lodge him in sumptuous palaces, without intellectual and moral culture, he is still but the creature of blind impulse and passion, and presents a spectacle in the sight of true wisdom more melancholy and more revolting and inharmonious than that afforded by the rude denizens of our western forests. The true and only certain mode of attaining national renown, and indeed material power and greatness, is by the cultivation and diffusion of knowledge. Not that superficial knowledge with which I fear our utilitarian age is too apt to be satisfied; but knowledge, broad, comprehensive and profound; and hence our system of education should embrace the whole ample field of learning. At present we are forced to make the humiliating confession, that education among us is, for the most part, merely professional, and even in that, the low standard of utility has been erected as the proper measure of its value.

We by no means wish to undervalue professional knowledge. Indeed we are advocates of high professional attainments; but we object to an exclusive devotion to such pursuits, as having a tendency to narrow and contract the mind. Nor does it generally lead to the attainment of the highest professional reputation. Marshall and Story were not mere lawyers, but men of

enlarged knowledge and profound scholarship. Mere professional attainments would probably never have elevated Jeffrey or Brougham to the peerage; Armstrong and Darwin are hardly known except as poets, and the literary fame of Burke and Clarendon completely eclipses their professional reputation. A low degree of knowledge, and an imperfect discipline of the mind, is the necessary result, where the standard of present utility is set up, as the measure of its value.

It is indeed an ignoble principle of action—a mode of thinking which casts a deadly blight upon morals, literature and art, and extinguishes all high aspirations after the beautiful and ideal, either in life or literature. We are told by the poet, and with truth, that

“Man loves knowledge, and the light of truth  
More welcome strikes his understanding’s eye,  
Than all the blandishments of sound, his ear,  
Than all of taste, his tongue.”

But in this age of great physical progress, it is becoming too common to value it only in the ratio of its productiveness. Now, all knowledge is useful, either immediately or remotely; but we degrade it, if we do not love it for its own sake—for its ennobling and expanding influence on the mind.

It is impossible to estimate the full value of any new truth at the time of its discovery. Who could have predicted, when Galvani discovered that form of electricity which is generated by the contact of two dissimilar metals, that it would have led to the brilliant discovery of the metallic bases of the alkalies, by Sir

Humphrey Davy, or its application to the telegraph, or to the more exact determination of longitude ; or when Huygens discovered the polarization of light, that the distinguished French astronomer, Arrago, would have been enabled by means of it, to determine that the entire body of the sun is not a solid incandescent mass ; but that its central nucleus is surrounded by a luminous atmosphere.

The necessity of enlarging the basis of education in our country is beginning to force itself on the public attention. The establishment of a National University is now occupying the minds of the learned and patriotic among us ; and it is gratifying to know, that the governors of this institution, have decided to enlarge the sphere of its usefulness, by establishing professorships for teaching the application of science to agriculture and the arts.

We hope, therefore, that the time is not remote, when we shall no longer be compelled to admit the correctness of the remark made by an able writer of our country, " that there is a strong tendency among us to undervalue the importance of liberal studies, philosophical investigations, profound scholarship and scientific attainments."

The strongest prejudices and the hottest warfare of the Utilitarians has been directed against metaphysical and philosophical studies. Many do not hesitate to pronounce them positively useless and productive of no benefit. Very different, however, was the estimate placed on their value by such men as Plato, Cicero, Bacon, Leibnetz and Milton. Cicero calls philosophy the guide of life, the protector of virtue and the expeller

of vice; Bacon places it only subordinate to religion as of all things most worthy of human nature, and Milton, in contemplating its grand results and its happy influence on the mind, in the fullness of his admiration, exclaims:

“How charming is divine Philosophy,  
Not harsh and crabbed, as dull fools suppose,  
But a perpetual feast of nectar'd sweets,  
Where no crude surfeit reigns.”

High authority is not wanting, then, in favor of such studies, for these are names which stand prominently forth in the history of our race, as exercising an influence on many generations—an influence which is still felt, and which is likely to be coeval with the cultivation of letters.

As the intellectual is superior to the physical, as mind exercises the mastery over matter, surely that department of inquiry, which aims at acquiring a knowledge of the laws which regulate the intellectual faculties, must be a high and ennobling pursuit. It brings man to the study of himself, a most important subject of study; for of his intellectual, in a more especial manner than of his physical nature, it may be said, that he is “most fearfully and wonderfully made.”

The highest possible subject of study is that sublunary *chef d'œuvre* of its maker, the mind of man; and such study, far from being without practical results, is daily exercising its beneficial effects, even upon those who undervalue its usefulness and ridicule its pursuit, for it constitutes the basis of every well devised system

of education. A proper training of the intellectual and moral faculties, pre-supposes a knowledge of those faculties and of the laws which regulate their operations. In the words of a fine writer, "we should not carry our minds as we do our watches, content to be ignorant of the constitution and action within, and only attentive to the external circle of things to which the passions, like indexes, are pointing."

Doubtless much of the prejudice which exists against such studies, has arisen from the wild vagaries and empty speculations of the mediæval schoolmen, and the transcendental abstractions of some of the more modern writers on such subjects, especially among the Germans, who, abandoning the track of legitimate investigation, and endeavoring to dive into the nature of efficient causes, and the mysterious laws of the universe, have bewildered themselves in the inextricable mazes of conjecture. But no such objection can stand for a moment against the noble work of Mr. Locke, on the Human Understanding, or those remarkable specimens of crystal logic and condensed rhetoric, which have emanated from the pen of Sir Wm. Hamilton. These and such as these are the minds which, occupying the high mountain ranges of thought, give impulse and direction to the currents of literature which meander in the valleys below. Thus the writings of Coleridge are redolent of the philosophy of Kant and of Schelling, and much of the poetry of Pope is but the exponent of the philosophy of Lord Bolingbroke.



As an important means of elevating the standard of scholarship, as an intellectual gymnasium for the discipline of the mind, such studies surely deserve the encouragement and approbation of those who desire and aim at a high grade of intellectual attainment for our country. Diffuse among our population a large number of men of extensive attainments and profound learning, and we may look with confidence for the appearance of works which will, in the course of time, constitute a body of American literature, which will confer honor on our country.

But in striving after the attainment of a high order of scholarship and the acquisition of human learning, let us not forget that man has a moral, as well as an intellectual nature—that human learning, scientific knowledge, as we call it, is but the outward garment, the artificial investiture of truth—that our emotional feelings and affections have a higher dignity, a holier sanctity, than our intellectual powers. Let us not neglect the teaching of that *prima philosophia*, that supreme wisdom, which not only sheds its bright light on the pathway of life, but spans with its iridescent radiance the dark clouds which overhang the tomb—penetrates the otherwise impenetrable obscure, and intermingles its cheering beams with the glorious effulgence of eternal day—that wisdom which

makes us brave,

In the great faith of life beyond the grave.























