

**INTRODUCTORY ADDRESSES,**

DELIVERED AT THE

ORGANIZATION

OF

**BETHANY COLLEGE,**

PUBLISHED BY REQUEST OF THE STUDENTS.

WITH AN

**APPENDIX,**

CONTAINING

**THE BY-LAWS OF THE INSTITUTION.**

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THE IMPORTANCE AND UTILITY  
OF THE  
STUDY OF THE ANCIENT CLASSICS.

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AN ADDRESS,

*Delivered at the organization of BETHANY COLLEGE, Nov. 2, 1841, by A. F. Ross, Professor of Languages and Ancient History.*

It has often been said that the present age is an age of improvement and reform. Antiquity no longer bears the stamp of authority, and prescription no longer confers a right. Old habits and customs are no longer sanctioned merely because they are old, and the beaten track is no longer followed merely because it is beaten. The human mind seems to have paused in its onward career to inquire into its destination to ascertain the means which shall speed it onward in its course, and to disencumber itself of all that is useless or detrimental to its advancement. All that has hitherto been considered as orthodox is submitted to the test of a rigid scrutiny, and whatever is wrong—whatever is spurious—whatever is not found subservient to the high destiny of man, is marked as useless and consigned to oblivion. We ask the *why* and the *wherefore* of every thing which we find established, and whatever is retained must be shewn to be accordant to reason and conducive to the end for which it was established. Time can no longer consecrate, nor can universal acceptance deter from investigation. The human mind has attained an eminence commanding the whole horizon of man—it marks his destination and pursues it to the end. A spirit of inquiry and reform is abroad in society, trying all its established forms and institutions, uprooting whatever is unsound and injurious, and settling on a firmer foundation whatever is rational and conducive to man's high destiny.

In accepting that appointment to which I have been called in this institution it becomes my duty to give a direction to that course of instruction to be here dispensed, in a department which

has undergone the searching scrutiny of the reformer; the department of the Ancient Languages. A department of instruction which some would blot from the curriculum as a useless waste of time and expenditure of intellectual energy. A department of instruction which has received the sanction of time, and stood the test of experience, and which is associated with the progress of the human mind from the darkest period of its degradation to the full meridian splendor of its modern achievements. The study of the Ancient Classics is coeval with the birth of modern literature, and has accompanied it through all the successive stages of its development; and the question is now presented whether we can resign their guidance and dispense with their assistance. That the classics have been the altar at which the torch of modern genius was lighted, and that it has been within their influence that it has attained to all its acknowledged pre-eminence, seems of itself an argument for the importance and utility of their being retained in a course of liberal education. Whatever has been conducive to the development of the human mind during five centuries of progressive improvement must be subservient to the interests and the object of education. The physical system may continue to thrive notwithstanding the excesses and the accidents of youth, and the mind may continue measurably to improve notwithstanding erroneous systems of education; but it is not fair to suppose that *that* system is far wrong in which it has attained its widest expansion and loftiest pre-eminence. Yet notwithstanding the dictates of all experience, there are those who object to the study of the ancient classics, and it becomes him who would be their advocate to illustrate their importance and utility. We therefore invite your attention to a few remarks upon this subject, thrown together in the intervals of pressing and perplexing employment. In the short space of this address it cannot be expected that all will be said in favor of the classics which might be said upon so fruitful a subject. We pretend not to shew all that modern civilization owes to their influence, or to point out the numerous ways in which they are subservient to the great objects of education. We do not pretend, in the utilitarian spirit of the age in which an opposition to the classics had its inception, to enter into the arithmetic of the classics and to calculate their utility in dollars and cents, or to specify the practical purposes of life to which they may be applied. But we do intend, so far as we are able, to illustrate the importance of classical studies in promoting the great end of correct education.

Education etymologically signifies a *drawing out*—a development of all the powers and susceptibilities of man as its subject. In its extended application it is directed to his physical, his intel-

lectual, and his moral nature, and the great result to be aimed at is in the words of Juvenal,

—*ut sit mens sana in corpore sano.*

It is not the knowledge of books merely; this is only secondary and subservient; it is one of the means for the attainment of that greater end, the developement of our whole nature. Nor is it the acquisition of knowledge only; it is something more; it is the improvement of the percipient faculty. The object of education is to train, and discipline, and marshal in their due order and proportion, the various powers and susceptibilities of our nature, and to fit them for a course of vigorous and spontaneous action.

The department of physical education comes not within the scope of our present subject; we shall therefore proceed to illustrate the tendency of classical studies to expand the intellect and improve moral faculty.

In a course of academical instruction directed to the intellectual nature of man, I think we shall discover two specific objects to be attained; the first is the discipline and improvement of the mental faculties themselves: the second, to furnish the mind with means, the instruments, the *tools*, if you please, which are necessary for its future developement. All our faculties, both of body and mind, are to be improved by exercise upon their appropriate objects. Is the intellectual exercise involved in the study of the Latin and Greek languages conducive to the discipline and improvement of the mental faculties? It may aid us in determining this question to consider the state of the mind prior to any thing like regular education. We shall generally find its powers and faculties undisciplined and restive, and incapable of any continued direction to a specific object. A restlessness, an impatience of restraint, and a reluctance to be confined to any settled habits of thinking, are the characteristics which mark the uneducated mind. Some course of discipline then is required which shall accustom the mind to habits of patient investigation and concentrated thinking. Such a course of discipline the study of the ancient classics furnishes, and one admirably suited to the human faculties in their imperfect state of developement. While it trains the mind to close habits of thinking and patient investigation, it presents no difficulties which are insurmountable to the human faculties in their undisciplined state. The close application of the mind to the signs of thought, necessary to elaborate the meaning of a passage, in collating, comparing, and distinguishing, inures it to the concentrated application of its powers, and that industrious research necessary to acquire all the requisite collateral aid, accustoms it to patient and laborious investigation. - Perhaps no other depart-

ment of instruction requires a more industrious and extensive research than the study of the classics. Researches in History, Geography, Mythology, Antiquities, Manners and Customs, are indispensably required in order to a correct interpretation of the classics. Idioms and analogous passages must be frequently scrutinized, and the whole context carefully examined, before we can attain to a satisfactory determination on the meaning of an author. The mind is thus inured to habits of industry and patient investigation. At the same time that this important object is attained the individual faculties are exercised and improved.

It is almost needless to remark that the study of languages requires the constant and vigorous exercise of memory, the first faculty to be developed in every system of education. In treasuring up the words of a foreign language, in collecting their individual meanings, and in retaining those grammatical principles by which the language is regulated; Memory finds an important and improving exercise. The discriminating faculty is continually exercised in distinguishing the various significations and shades of meaning of single words, and *judgment* is employed in selecting the most appropriate, and in determining upon the meaning of every sentence. Reasoning is called into exercise in scanning the context and in making out a consistent interpretation from the whole. Frequently the mind is obliged to turn inward upon itself, and by a close study of its own powers and modes of operation, it deduces the sense of a passage perhaps otherwise inexplicable. And in transfusing the sentiment into our own language, our stock of vernacular words passes in review before the mind; discrimination is employed in distinguishing their various shades of meaning, and judgment and taste are required in selecting the most significant. Besides the process here described, comparisons are instituted between analogous passages, idioms are scrutinized, allusions to manners and customs are investigated. Antiquities, Mythology, History, Geography, are called in to our aid. A fixed effort of attention is continually required in keeping before the mind the words, the context, and the various accessories which are to aid us in the interpretation.

The associating faculty, that by which a connection is established between the thoughts and affections of the mind, has justly been regarded an important part of our mental constitution. The associating of the appropriate words of our vernacular with the correspondent words of the language upon which we are employed, so that the one is immediately suggested by the other, is an exercise well calculated to give to this faculty a high degree of facility and quickness of operation.

That faculty by which we recognize relations, the operation of which has been termed comparing, is that which gives pre-eminence to the human intellect. It is upon the accuracy of our *comparisons* that the correctness of our reasonings and the strength of our conclusions must ultimately depend. It is therefore important that this faculty should be exercised and improved in every system of education. That exercise and improvement the study of languages is eminently calculated to supply. In tracing the relations of single words and their influence upon each other, in the relations of separate sentences to the whole context, and in the comparison of idioms and analogous forms of expression, this faculty is continually exercised. You cannot *distinguish* without comparison, and in that process of discrimination which has been heretofore described, it may be seen how much the operation of comparing is employed in the study of languages.

Thus a simultaneous and vigorous exercise of all the most important faculties of the human mind is continually required in the study of languages, and which is indispensable to the student of the classics.

And here let me remark the importance of that *simultaneous* exercise of the mental faculties involved in the study of languages. The great object of education is not the precocious developement of any one single faculty of the mind however excellent it may in itself be, but the simultaneous and proportionate developement of the whole of our mental nature. The grand product of education is a well balanced and thoroughly disciplined mind. The various faculties of the human intellect mutually aid and strengthen each other, and the disproportionate developement of one to the neglect of the rest, leaves man an imperfect being. This simultaneous cultivation of the mental faculties involved in the study of the Latin and Greek languages is thus admirably calculated to give to the human mind that symmetrical and proportionate developement in which its chief excellency consists. Perhaps in this point of view the classics stand unrivalled. It would be difficult to point out any other department of instruction involving a more varied mental discipline in every stage of its progress.

If, then, it be a law of our mental constitution that our various faculties are improved and strengthened by exercise, we must admit that the study of the dead languages is an important instrument in the developement of the human intellect.

But this department of instruction is equally conducive to the second important object which we have specified in a course of academical instruction directed to the intellectual nature of man; that of furnishing the mind with the instruments which it

is to use in its future developement and in making farther acquisitions.

The next advantage, therefore, which I would remark as resulting from the study of the Latin and Greek languages, is that facility and precision which it is so admirably calculated to impart in the use of our own. And here it may be observed that the mental exercise involved in the study of these languages is well calculated to give precision and accuracy in the use of our own; for it is a mistake to suppose that in studying the classics we make a proficiency only in the languages of Greece and Rome. The constant canvassing of the meaning of English words necessary to select the most significant, the habit of distinguishing their shades of meaning and their various applicabilities, must necessarily impart a facility and precision in the use of our own language absolutely unattainable by any other means. The student thus gains an intimate *familiarity* with the words of his own language at the same time that he is acquiring a new one. This is an advantage which would result from the study of the Latin and Greek languages though there subsisted no connection between them and our own. But these languages have been the fruitful source from which all the cultivated languages of modern times have drawn, and our own is indebted to this source not the least among them. Whatever of harmony and elegance, whatever of strength and significancy it possesses, it owes to the Latin and Greek. Our language has been estimated to contain about one hundred and forty thousand words; of these fifteen thousand are primitives, two-thirds of which are either directly derived from the Latin or indirectly through the medium of the French. The remaining are compounds mainly resolvable into Latin and Greek, which must be etymologically analyzed before their precise meaning and significancy can be ascertained. Besides its principles of construction and of compounding words, its prefixes and its affixes are borrowed almost without exception from these languages. Thus the languages of the ancient classics have become so intimately and thoroughly incorporated into our own, that precision and accuracy in the use of the latter cannot ordinarily be attained without a knowledge of the former. The importance of accuracy and precision in the use of language may be inferred from the fact that language is not only a medium of communication, but an instrument of thought. If words float vaguely and loosely in the mind, thought must be inaccurate and undefined, and the want of precision and accuracy in the use of language is not only the effect, but likewise the cause of inaccurate thinking. "By familiar use from our cradles," says Mr. Locke, "we come to learn certain articulate sounds very perfectly, and have them

ready on our tongues and always at hand in our memories, but yet are not always careful to settle their significations perfectly; hence it often happens that men even when they would apply themselves to an attentive consideration, do set their thoughts more on words than things." "This," says he, "though men make a shift with in the ordinary occurrences of life, where they find it necessary to be understood, and therefore they make signs till they are so; yet this insignificancy in their words when they come to reason concerning either their tenets or their interest, manifestly fills their discourse with abundance of empty unintelligible noise and jargon. Especially in moral matters, where words for the most part standing for arbitrary and numerous collections of ideas not regularly and permanently united in nature, their bare sounds are often only thought on, or at least very obscure and uncertain notions annexed to them."

Without the instrumentality of language the mind must forever remain but the passive recipient of sensations and perceptions, the mere elements of thought. The whole process of combining, arranging, and comparing these, of tracing their relations and of deducing general principles, is accorded to the mind only by the intervention of language as an instrument of thought. It is the use of language alone which enables the mind to work up the simple elements of thought into the materials of knowledge. Without this use of language as an instrument of thought, no process of reasoning whatever could possibly be conducted. If, then, language be an instrument so necessary to the human mind that, without it, it could not proceed a single step beyond its mere perceptions, the accurate and correct use of this instrument must be an object of the highest importance. And if it be true, as Mr. Locke has stated it, that men are prone to an inaccurate and unmeaning use of language, whatever is calculated to remedy this defect is an important part of education, and he who is acquiring a facility and accuracy in the use of language, is supplying the mind with its most efficient instrument. It were in vain that you furnish the student with all the facts and principles of nature—in vain would you supply him with all the imposing apparatus of science, unless you give him a correct use of that instrument by which alone all his reasonings concerning them must be conducted. Of what avail is the whole array of the sciences to the student who understands not the very nomenclature which is borrowed almost without exception from the Latin and Greek? Even the significant and correct application of the very terms of science, requires a considerable knowledge of the languages of Greece and Rome. The study of the ancient languages thus promotes the interests of physical science, not only by giving the student a facility and correctness

in the general use of language, but also by furnishing him with the means of an understanding application of its terms and accuracy in their use.

More time and labor must ordinarily be spent by the student without a knowledge of these languages, in treasuring up in his memory and retaining the nomenclature, for instance, of the Linnean System of Botany, (which to him must appear mere arbitrary and capricious terms,) than would be necessary with their aid to render him a thorough practical Botanist.

But the study of the Latin language particularly is important in furnishing the greatest facilities for the acquisition of nearly all the cultivated languages of modern times. It has been the parent of all the languages of the south of Europe in which the greatest literary riches are contained. "The languages which are spoken by the inhabitants of the South of Europe," says Sismondi, "from the extremity of Portugal to that of Calabria, and which usually receive the designation of the Romance Languages, are all derived from the mixture of the Latin with the Teutonic; of the people who were accounted Romans, with the barbarous nations which overthrew the Empire of Rome. The diversities which exist among the Portuguese, the Spanish, the French, and the Italian, arise rather from accidental circumstances than from any distinction between these different races of men. Each of these tongues is founded upon the Latin, but the form is often barbarous. A great number of words were introduced into the language by the conquerors, but by far the greater number belong to the vanquished people. The grammar was formed by mutual concessions. It has not in any of the languages of the South preserved the cases in the nouns; but making a selection among the varying terminations of the Latin, it has created a new word from the nominative for the Italian, and from the accusative for the Spanish and Portuguese; while for the French it has contracted the word, and varied it from both these terminations."\* It is thus obvious that a knowledge of the Latin language furnishes the greatest facilities in the acquisition of the modern.

The study of the ancient classics is thus subservient to one of the great objects of education—the developement of the intellectual faculties. It has been shown, we believe, that it calls

\* This rule more especially applies to the plural. The following is an example:—

Latin.	Italian.	Spanish.	Portuguese.	French.
<i>Coeli.</i>	<i>Cieli.</i>	<i>Cielos.</i>	<i>Ceos.</i>	<i>Ceux.</i>

In the words introduced into the English language from the Latin, the accusative seems to have been frequently selected by depriving it of its characteristic termination. Thus *infantum* becomes *infant*; *originem*, origin; *nationem*, nation; though this rule is by no means general.

into active operation all the important faculties of our mental constitution, and in that way which is calculated to give to the human mind that precise kind of developement in which its chief excellency consists, and at the same time that it furnishes the student with important facilities in the acquisition of physical science and modern languages; thus laying a broad and solid foundation for future attainments. Mathematics may afterwards lend their aid in bringing to a mature and perfect developement the faculty of reasoning, already called into active exercise in the study of languages; and logic may furnish the student with the correct mode of conducting the operation. Rhetoric and criticism may point out more definitely the proper objects for the exercise of those principles of taste already developed, and metaphysics may explain and reduce to system those mental operations with which the student had already become acquainted in the interpretation of language—the only intelligible transcript of the operations of the mind.

In this connection I will notice what constitutes to us an argument of some importance for the cultivation of the languages of the ancient classics. To the interests of science and the literature of every country it is important that the language which is to be its vehicle should be permanent in its character and fixed in its meaning. But there is in every language, so long as it continues a spoken language, a natural tendency to fluctuation and change of meaning, arising in part from the varying character of the people who use it, but chiefly from that proneness in the human mind to be content with mere sound, and to the use of words without any settled or definite meaning annexed to them. Words thus change their original meaning, and in the absence of some settled standard by which their meaning can be definitely ascertained and fixed, may mean any thing or every thing according to the time or circumstances in which they are used. But the Greek and Roman languages, from which ours is principally derived, have long since ceased to be spoken; and by the cultivation of these languages we have an invariable standard by which the most important part of our own can be rendered fixed in its meaning and permanent in its character, in all ages and in all circumstances. The mere phrase, “the dead languages,” has constituted a standing objection with the opponents of the ancient classics, and has been paraded by them as though it carried with itself the force of an argument. Whereas the fact that they are “dead languages” is a fact of importance to our own and their careful cultivation, can alone give to the English language that permanency of character and fixedness of meaning which will enable even the arguments of the objector to be understood by his own countrymen three centuries

hence. The cultivation of the dead languages is thus calculated to impart a vitality and to give a character of permanency to the English, unattainable by any other language not similarly circumstanced; and it is a fact of no small importance to the interests of Christianity, that the facts and the doctrines, the precepts and the promises of the gospel are contained in a dead language. There they are forever secured from the mutations of language and the corruptions of men. If there be one fact which more than another has contributed to the preservation of the sacred oracles in their purity, it is the fact that this language ceased to be spoken so soon as it had been made the medium of communicating to man the greatest message which he ever received from heaven. That these languages are "*dead languages*," instead of being an objection to their study, is a circumstance which renders them a more valuable and important part of education. We would therefore discard an argument based merely upon an epithet, and would require some logical reasoning to support the objection.

We have hitherto attempted to show that the influence of classical studies is to develop and improve the intellectual faculties—to give precision and accuracy in the use of language, and to impart to the English language a fixedness of meaning and a permanency of character.

These are objects worthy of the student's attention, and of themselves would be a sufficient recompense for all the time and labor devoted to classical studies. But the study of the classics is valuable not only as a means of mental discipline, but because of the accessions which it makes to the knowledge of the student. In that course of reading necessary to a correct understanding of these languages, how much valuable knowledge of History, Antiquities, Mythology, Geography, Manners and Customs, has been acquired! The Ancient Classics embody the facts and the principles, the domestic and civil institutions of a whole period of human civilization. They display the condition of the human mind for a thousand years and its gradual progress from barbarism to a state of refinement and civilization which has ever been the admiration of succeeding ages. The language of a nation is the depository of a nation's mind, and the index of a nation's character. The sprightly French, the soft and voluptuous Italian, the grave and stately Spanish, the harsh and sedate German, are fitly represented in the national character of the people. Thus the subtle genius of Greece and the lofty majesty of Rome are embodied in their respective languages. Without a knowledge of these languages we may dimly survey the Roman and Grecian character at a distance through the mist of ages, but with them we are introduced into

Athens and Rome; we mingle with the spectators of the Olympic games and in the Roman Forum; we converse with Plato in the Academy and Aristotle in the Lyceum, and mingle in the philosophic parties at the Tusculan villa. If the proper study of mankind is man, it is here we can study him in his primitive character, unaided by the light of that revelation which now diffuses its quickening influences upon his intellectual energies. It is here we can learn what unassisted human reason can do, and are thus prepared to estimate the value of that dispensation under which we are placed. The classics confessedly embody the writings of some of the greatest Poets, Orators, Historians, and Philosophers which the world has ever seen; and can it be supposed for a moment that the student who has mastered these has done no more than merely to acquire the languages in which their immortal conceptions have been embodied? Will he not likewise have acquired the facts—the ideas, the principles of which they treat, and have embodied some of that spirit with which they were animated? Will the student who has carefully read Herodotus and Livy, Thucydes and Tacitus, Xenophon and Sallust, have acquired no knowledge of history? Will he who shall have studied the works of Plato, of Aristotle, and Xenophon in that language which “can give a soul to the objects of sense and a body to the abstractions of philosophy,” have acquired no materials of thought or no subjects for the exercise of the reasoning faculty? Will he who shall have read the philosophical writings of Cicero have imbibed none of that philosophical spirit and those beautiful forms of expression which are embodied in all the efforts of his gigantic mind? Or will the student acquire no just principles of taste and criticism from the perusal of those immortal productions of the Poet and the Orator which have remained as models to all succeeding generations? There is some chance of that mind’s growing into manly proportions which is thus early accustomed to measuring itself upon the most gigantic intellects that have ever existed. It was long ago remarked by Demosthenes and afterwards repeated by Longinus, that it is impossible for those conversant with low and grovelling things during their lives, to have a great or manly mind; and the converse of the proposition is now no less true, that it is scarcely possible that those who are early made conversant with the master spirits of antiquity can be diminutive in their intellectual stature—

*Quo semel est imbuta recens, servabit odorem  
Testa dia.*

In mentioning some of the treasures of wisdom and knowledge contained in the ancient languages, we have as yet said nothing

of the sacred scriptures, nor is it now our purpose to enlarge upon the excellence of that system of doctrine and precepts revealed in the sacred volume, or to institute any comparison between them and the heathen mythology and philosophy. But we would simply ask whether any system of Christian education can be regarded as complete which makes not provision for a knowledge of that language in which the most important version of the Old Testament and the whole of the New are written? No matter how faithful a translation may be, no matter how nearly it may approach to the spirit of the original, still, in the language of another, it is the work of fallible men, it is a copy, not the original—the description of a traveller accurate indeed and graphic, but not the holy land itself. Of other lands a description may suffice us; but this land we would, if possible, visit for ourselves, and view with our own eyes, not with the eyes of other.

We have thus presented a few remarks illustrative of the important influence of classical studies in the education of the intellectual nature of man. Their influence on the moral faculty still remains to be discussed, and on this topic we now propose to make a few observations. We are aware that this head had been a favorite topic of declamation with the opponents of classical literature. Their influence has been represented as demoralizing, and their principles as altogether unfit to be imbibed by the youth of a Christian community. Regarding as we do, the moral culture of the young as one of the chief objects of education, we could not for a moment be induced to advocate the study of the classics could we be made to believe that they had any immoral tendency. It were nothing to society that the intellectual faculties of the youth have been cultivated to the utmost, if their moral nature has been left a waste, and they have only been endued with an enlarged capacity for mischief.—While we are cultivating the head, we must not neglect the heart.

While the capacities of the youth are enlarged society must be secured by the sure guarantee of a virtuous character. No excellency which the study of the classics may possess in the development of the intellectual faculties can be a recompense to society for corrupting the morals of the young. But so far from the general tendency of classical studies being to corrupt and deprave, we regard them as an important instrument in moral culture, and one which cannot well be dispensed with. How shall moral instruction be instilled into the minds of youth? is an important question. Shall we begin with some abstract metaphysical disquisition concerning the nature of virtue? Shall we proceed by some train of *a priori* argument to discover some fundamental quality in actions which renders them

virtuous or vicious? Shall we represent nature as a mere abstraction—a subject of speculation? And shall we permit the formation of the characters of the young to depend upon the erring speculations of human reason? Or shall we not rather present them with the actions and the characters of men and the uniform decisions of whole ages and nations of mankind as to the right and the wrong of human conduct?

The latter method we have no doubt will commend itself to reason and philosophy. We must not treat of virtue in the abstract, but in the concrete. We must not begin with some arbitrary definition, and tell the youth that virtue is *this*, and vice *that*; but we must present them with examples of human conduct, and teach them that this is *virtuous*, and that *vicious*.

We must follow the example of the father of Horace: we must recommend virtue and deter from vice by pointing out their effects in the characters and conduct of men. We should endeavor to insinuate morality in the disguise of poetry, history, and eloquence—by examples of unbending fidelity, heroic fortitude, maternal tenderness, and filial piety—by affecting incidents, and sentiments that either exalt and fortify, or soften and melt the human heart. Such was the idea of the Grecian and Roman moralists. Virtue was with them the *to kalon* and the *honestum*; and Homer long ago remarked that morality could be better learned from Horace than from professed writers on morality.

*Qui quid sit pulchrum, quid turpe, quid utile, quid non,  
Plenius ac melius Chrysippo et Crantore dicit.*

Such a plan we believe philosophical ingenuity would devise, and this plan already exists in the study of classical literature, nor can modern literature and history ever be substituted in its place. "Modern example," says Sir John Mackintosh, "can never imprint on the youthful mind the grand and authoritative sentiment that in the most distant ages, and in states of society the most unlike, the same virtues have been the objects of human veneration. Strip virtue of the awful authority which she derives from the general reverence of mankind, and you rob her of half her majesty. Modern character never could animate youth to noble exertions of duty and of genius by the example of that durable glory which awaits them after death, and which in the case of the illustrious ancients they see has survived the subversion of empires and even the extinction of nations. Modern men are too near and too familiar to inspire that enthusiasm with which we must view those who are to be our models in virtue. When our fancy would exalt them to the level of our temporary admiration, it is perpetually checked by some trivial circumstance, some mean association—some ludicrous recollec-

tion which damps and extinguishes our enthusiasm. They had the same manners which we see every day degraded by ordinary and vicious men; they spoke the language which we hear polluted by the use of the ignorant and the vulgar. But ancient sages and patriots are, as it were, exalted by difference of language and manners above every thing that is familiar, and low, and debasing; and if there be something in ancient examples not fit to be imitated or even approved in modern times, yet let it be recollected that distance not only adds to their authority, but softens their fierceness. When we contemplate them at such a distance, the ferocity is lost, and the magnanimity only reaches us." This eloquent passage suggests a twofold aspect under which the moral influence of classical studies may be considered.

First, as they illustrate the universality of moral distinctions and the supremacy of conscience; and secondly, as their study develops and strengthens the discriminating power of the moral faculty by exercise.

*First.* The classics illustrate the universality of moral distinctions and the supremacy of conscience.

Notwithstanding the vast difference between the religious opinions, the domestic and civil institutions, the forms and habits of society of the ancients, and those of the present day, we still find the same distinctions of moral good and evil. We still can applaud those same instances of virtue which received the plaudits of their poets, their orators, and their historians. We still admire the virtues of Aristides, the patriotism of Epaminondos, the self-denial and fortitude of Regulus, and the simple industry and frugality of Cincinnatus; and we still visit with our condemnation the avarice and tyranny of Critias, the treachery of Pausanias, the follies and debaucheries of Heliogabalus, and the blood-thirsty cruelty of Nero. Granting that in the classics some passages are obscene—granting some are immoral—granting this to the greatest extent that any alarmist would claim, still we must contend that in the sentiments of the classics there is a vast preponderancy in favor of virtue. Though immersed in the darkness of a grovelling and absurd superstition—though worshipping abominable gods, still that immortal principle which God has implanted in the human mind ever recognized the eternal distinctions of right and wrong. The conduct of the ancients and the moral sentiments of the classics clearly illustrate the fact, that, no matter in what state of society man may exist—no matter how corrupt his religious system may be—no matter how abominable the gods which he worships, he still bows with reverence to the majesty of virtue. And if in classics we discover some principles irreconcilable with the pure morality of the gospel, is it not an abundant illustration of another

important fact, and one which cannot be too often illustrated and impressed—the insufficiency of human reason to originate and complete a perfect moral system for man? The classics, we believe, furnish the most perfect illustration which the whole history of the human mind can supply of this fact; that there is implanted in the human mind a principle which recognizes the great outlines of those eternal distinctions of right and wrong which exist in the nature of God, but that these cannot be fully discovered or understood except in the revelation which He has given of himself. “The Paganism of the ancient world,” says Rousseau, “produced indeed abominable gods, who, on earth, would have been shunned or punished as monsters; who offered as a picture of supreme happiness only crimes, to commit or passions to satiate. But vice armed with this sacred authority descended in vain from the eternal abode. She found in the heart of man a moral instinct to repel her. The continence of Xenocrates was admired by those who celebrated the debaucheries of Jupiter. The chaste Lucretia adored the unchaste Venus. The most intrepid Roman sacrificed to Fear. He invoked the god who dethroned his father, and died without a murmur by the hand of his own. The most contemptible divinities were served by the greatest men. The holy voice of nature, stronger than that of the gods, made itself heard, and obeyed, and respected on earth, and seemed to banish to the confines of heaven guilt and the guilty.” Such instances as those referred to by Rousseau, illustrate the universality and paramount authority of that law, which, written on the heart of man by the finger of God himself, served thus to control the conduct and to influence the moral judgments of the ancient heathen amidst the baleful influences of a corrupting and degrading superstition. The contemplation of such instances as these must tend powerfully to impress upon the minds of youth a reverence of that law, to the majesty of which all ages and nations of mankind have bowed with reverence, even when contrary to the direct influence of a prevailing system of religious belief. And how powerfully must it tend to impress upon the mind a sense of the divine original of the gospel system, whose precepts and doctrines so completely harmonize with this voice of nature speaking in the heart of man. True religion and morality never can be contrary or separable from each other, and that religious system bears with itself a proof of its divine original which thus commends itself to the decisions of an enlightened conscience. The ancient classics display the shipwreck of the human faculties in the great sea of morality, and it is fit that this period should be kept in careful remem-

brance to repress the pride of human reason, and to inspire a believing confidence in that system of moral truth revealed to us in the gospel. The classics thus demonstrate the universality of that moral nature which God has given to man, and at the same time they point us to the volume of inspiration for our instruction in morality. That this is the general tendency of the classics is demonstrable to reason, and it requires only the directing hand of the instructor to turn them to this valuable account. The objectors to classical studies have told us of the obscenities and immoralities of classical literature. We readily grant that there are in the classics some passages that are obscene—some that are perhaps immoral in their tendency; yet it is observable even with regard to those authors which fall most justly under the reprehension of the rigid moralist, that vice with them is scarcely ever the object of direct recommendation. Though Horace has occasionally dragged his genius in the low filth of obscenity—though he has ridiculed in plain—perhaps indecent language, the lewd practices and immoralities of his times; yet he abounds with the most beautiful moral precepts calculated to recommend virtue to the imagination and the heart. Though Juvenal has dragged to light indecencies and impurities which an anxiety for the honor of human nature would bury in oblivion; yet he still calls things by their right names, and is even the stern and indignant reprehender of vice and the rigid moralist. But we do not advocate the obscenities and impurities of the classics. They are blemishes which deform them; but the candid objector must concede that they are comparatively few, and that the literature of the classics is not the only literature obnoxious to this objection. When we are pointed to a literature more free from these blemishes we will be willing to concede to the objector the inference to be derived from his argument. It is undeniable that English literature contains more that is impure—more that is debasing—more seeds of moral pestilence, than are to be found in the whole range of the classics. There is more danger to be apprehended from the single productions of some English authors, than from the whole compass of classical literature.

We would ask any candid opponent of the classics to compare some of the single productions of Lord Byron with the most demoralizing production of the ancients, and then say which is calculated to do more mischief—which will most effectually uproot the foundations of all moral distinctions, and spread a moral pestilence throughout society. And upon what principle shall the student be excluded from classical literature on account of the obscenities and impurities of Horace and Juvenal, of Plautus and Ovid, and yet be permitted to roam without prohi

bition throughout that literature which contains the blasphemies of Byron, the obscenities of Burns, the infidelity of Hume and Paine, and the immoralities of Bulwer? To be consistent, the objector must extend his prohibitions much farther than the classics; for it unfortunately happens that few of the modern classics are free from those very blemishes which have called down upon the ancients this sweeping denunciation. He must reconstruct modern as well as ancient literature, or else debar the student from free excursions into the field of thought, and thus dwarf him in his intellectual energies. And after all, what will be gained by such a course? Are impurity and immorality to be met with only in the pages of literature? Is there no impurity and vice in that society into which he *must* be introduced? Shall we introduce him into that society without the exercise of his moral discernment, to be overcome by the first temptation that assails him? The sturdy oak cannot be reared in a hot house, nor can the man of strong moral discernment be brought up in a cloister. To avoid dangers, it is necessary to foresee them; and to shun the temptations of vice, it is necessary to know something of its insidious nature. As well might you hope to attemper the physical system to the rigors of an arctic winter, under the mild influences of an equatorial sky, as to attempt the formation of a moral character adapted to the actual state of human society, by educating man apart from all possible exposure to the allurements of vice, and confining his social nature to a narrow inch of space. To preserve the youthful mind free from all possible exposure to moral contaminations, is not equivalent to rendering it *virtuous* and confirming it in habits of truth and sobriety. Man should be educated with reference to the part which he is to act in life, and that part is to be performed amidst the corruptions of human society. Imbue the youth early with the pure precepts of scripture morality—accompany him in his first excursions into the field of classical literature—teach him to exercise his moral discernment upon whatever is presented, and to bring the conduct and principles of the ancient heathen to the standard of gospel morality, and you need not fear the immoral tendencies of classical literature. But still we would not advocate the unrestricted reading of the classics in a course of *academic* instruction. Whatever is conducive to pure morality, sound philosophy, and correct taste, can be selected without embodying their impurities.

But the study of the classics in the second place strengthens the discriminating power of the moral faculty by exercise.

The classics confessedly contain some of the noblest exemplifications of human character that the annals of the world can produce. And whether we search for instances of unyielding

fidelity—of devoted patriotism—of ardent love of liberty and a detestation of tyranny—whether we look for examples of stern integrity of character—of maternal tenderness and filial piety, these are, one and all, fully exemplified in the pages of classical literature. By the study of such exemplifications of character as the classics present, the discriminating power of conscience is exercised and strengthened, and we learn to distinguish moral worth and to place a true estimate upon human character. The contemplation of such characters as Aristides, Socrates, and Epaminondas, among the Greeks; or Camillus, Fabricius, and Regulus, among the Romans, must tend to give us a just appreciation of character—to quicken our moral discernment, and to improve our moral sensibilities. The moral sense follows the general law of all our other faculties; it is improved by exercise and impaired by disuse. If it be true that our corporeal and mental powers are improved by exercise, it is not less true with regard to the moral faculty; and it is in such a field as that of classical literature that the proper subjects for its exercise are presented. It is here we find exhibitions of character stripped of all those circumstances which tend to influence and corrupt our moral judgments. Here are no partisan partialities or sectarian prepossessions which tend so powerfully to bias our estimate of human character. The moral sense is left free to act, and to form that estimate which nature and correct moral principle dictate. The characters of the classics are not the least valuable part of ancient literature. They have come down to us recorded in history and in song, adorned with the most exalted virtues of the species, and with their frailties and imperfections worn off by the attrition of ages. Virtue thus embalmed in the works of genius, and associated with all the splendors of poetry and fiction, receives, if possible, a more divine beauty and loveliness from this connection with the productions of the gifted spirits of our race, and is thus attended by every circumstance which can give it a lodgment in the human heart. Literature is never better employed than in bearing testimony to exalted deeds out of the history of the species, and in thus giving an eternity of fame to sublime manifestations of virtue. Thus displaying to the human mind, that though empires may fall and the works of man may perish—though the arm of the Goth and the Vandal may destroy the monuments of ambition and pride and despoil the temple of its beauty—though the gloom of barbarism may quench the lights of civilization; yet virtue rises secure above the conflict of the warring elements of human society and descends to the latest generations. Man is mortal, but his virtues survive him to be again represented by their reproduction in the characters of the living. *“Forma mentis eterna; quam tener*

*et exprimere non per alienam materiam et artem, sed tuis ipse moribus possis.*"\* We do not pretend to represent the classics as a standard of virtue; but they present to the contemplation of the student some of its embodied forms and give him a tangible conception of its nature and beauty.

Such we believe to be the testimony of reason to the moral influence of classical studies. Their general bearing upon the interests of the christian religion may here claim a very brief consideration. In the first place, the study of the classics is the study of that state of society—of those civil and religious institutions—of those ways of thinking and of those principles which prevailed in the world when the gospel system was promulgated. It is the study of that period in the world's history to which reference must ever be had in the interpretation of the sacred volume. It is almost needless to remark how much an intimate acquaintance with heathen antiquity tends to elucidate the numerous references to its manners and customs which are to be found in the scriptures. Much of the phraseology of scripture can be fully understood by him only who has an intimate acquaintance with the antiquities and general literature of the Ancients. Such an acquaintance with the spirit and manners of antiquity must tend to strengthen the confidence of the classical student in the authenticity of scripture from the undesigned coincidences of the writings of the ancient heathen with facts recorded in the sacred volume. Besides, that species of interpretation which is derived from the analogies of language and a comparison of idioms, is fully within the reach of him alone who has a general acquaintance with the whole field of classical literature.

Again, the spirit of the ancient classics is more essentially religious than that of modern literature. It is not ours to inquire into the value of those great discoveries in physical science which distinguished the present age. It is not ours to say how much they have contributed to the arts of life or to the understanding of the great system of nature. But it must be obvious that the constant habit of referring all things to natural causes must have the effect of withdrawing the mind from the contemplation and sense of a superintending providence who disposes of events at his will. Accordingly we find in the ancient classics a more direct recognition of a controlling providence disposing of the events and the affairs of men, than is to be found in the general compass of modern literature. This fact has given to the literature of the ancients a seriousness and a religious spirit which we in vain look for in the literature of nominally Christian countries. Though their religious system was absurd, yet they still looked

\* Tacitus. Life of Agricola.

to an invisible power, the avenger of wrong and the rewarder of virtue. This religious spirit pervades all the literature of the Ancients, and it is fit that this spirit should be imbibed by Christians, for the sanction of all moral and religious obligation is founded in the belief that *God is*, and that he is the avenger of those that do wrong, and the rewarder of them that walk uprightly.

Again, the sentiments and spirit of the classics accord with the scripture account of the fallen condition and depraved nature of man. The Ancients fondly dwelt upon the tradition of a golden age when the Astræan Goddess dwelt among mortals; but when the wickedness of man had banished her to the skies, the deep depravity of the human heart and the necessity for some kind of expiation becomes not only a theme for their poets and philosophers, but is allegorically embodied in their whole system of Mythology. Their philosophers laboured and taxed their intellects for the renovation of human nature; and if they failed to discover the *summum bonum*, it was because the search led beyond the reach of the human faculties.

The traditions of the ancient heathen likewise afford a striking confirmation of some of the most important facts detailed in the scriptures. Their traditions of the primeval innocence of man—of his subsequent wickedness—of his destruction by a deluge and of the subsequent propagation of the human race from a single pair, are all so many confirmations of the truth of revelations. These and similar facts recurring in the pages of the classics, must tend powerfully to strengthen the faith of the student and to inspire a believing confidence in the truth of the facts detailed in the volume of inspiration.

Such is some of that testimony which we have to adduce from reason of the moral influence of classical studies. They illustrate the universality of moral distinctions and display to the mind of the student that uninterrupted train of moral judgments in which the human mind has run from the infancy of time to the present moment. They strengthen the moral faculty of the student by the exercise of his moral discernment, and by presenting to his contemplation some of the finest exemplifications of human character. But above all, they illustrate and confirm the truth of that volume of inspiration in which must be found the sanction of all morality. With the Bible in one hand and the classics in the other, we may expect that manly growth of our moral nature which will withstand the rudest assaults of temptation, not that sickly state of the moral sensibilities which is formed by giving the youth no chance for the exercise of his moral discernment—by shutting him out from the study of man and of human nature as it has ever existed, and which falls beneath the slightest breath of temptation. In order to a perfect

development of our moral nature we must take in the whole broad ground of human character and conduct. In order to pursue virtue and avoid vice, we must understand the nature of both as exemplified in the conduct of men. And that we may attain to the formation of a confirmed, manly, moral character which shall enable the youth to withstand the corruptions of a sinful and degenerated world, virtue and vice, as in the Grecian Allegory, must both have presented their allurements, and the youth must be determined in his course by the choice of his moral discernment. But the Bible should still be the Mentor to guide him; and with the voice of human nature, speaking from the tomb of buried nations, confirming its directions and enforcing its precepts, we need not fear for the issue.

In confirmation of these views, it will not be amiss briefly to direct your attention to the testimony which history bears to the influence of classical studies. The period which succeeded the fall of the Roman Empire until the fourteenth century has been styled the dark ages—emphatically dark, as regarded the mental, the moral, and the social condition of man. That impenetrable gloom which pervaded Europe during this period continued without interruption, except a few glimmering lights emitted from the Monasteries, at that time the sole depositories of ancient learning, until the revival of classical literature. “Before the revival of classical literature,” says Gibbon, “the barbarians in Europe were immersed in ignorance, and their vulgar tongues were marked with the rudeness and the poverty of their manners.—In the resurrection of Science, Italy was the first that cast away her shroud, and the eloquent Petrarch by his lessons and his example may justly be applauded as the first harbinger of day. A purer style of composition, a more generous and rational strain of sentiment flowed from the study and imitation of the writers of Ancient Rome, and the disciples of Cicero and Virgil approached with reverence and love, the Sanctuary of their Grecian Masters.” In the beginning of the fourteenth century, Dante, taking Virgil for his model, gave to the world his immortal poem, and was followed by Petrarch and Boccaccio, who laboured so assiduously for the restoration of classical learning and to disseminate among their rude countrymen the elements of a former period of civilization. Petrarch, who has the reputation of having perfected the most melodious and poetical language of Europe, and in his own day the centre of Italian literature, formed his taste by the study of the ancient classics, and led the way in drawing them forth from the dungeons where they had been hitherto immured, and in holding up their light and glory to the eyes of men. In his earliest youth instead of the dry and dismal works which at that time formed the

general reading, he applied himself to the reading of Virgil and Cicero; and when he first commenced his epistolary correspondence, he strongly expressed his wish that their fame should prevail over that of Aristotle and his commentators; and declared his belief of the high advantages the world would enjoy if the monkish philosophy should give place to classical literature. He was the most assiduous recoverer and restorer of ancient manuscripts that had yet existed. He never passed an old convent without searching its library, or knew of a friend travelling into those quarters where he supposed books to be concealed, without entreaties to procure for him some classical manuscript. He inspired his age, says Sismondi, with that enthusiastic love for the beauty, and that veneration for the study of antiquity, which gave it a new character, and which determined that of succeeding times.

Boccaccio, likewise, who was the creator of a style of prose the most harmonious, flexible, and engaging, was the zealous co-operator of Petrarch in the work of recovering and restoring the classics. He collected a number of Latin manuscripts, and copied with his own hand such as he could not purchase, and with a true love of letters he introduced the study of the Greek to the Italians. He founded in Florence a chair for the teaching of the Greek language, and he himself invited thither and installed as Professor, Leontius Pilatus, one of the most learned Greeks of Constantinople, and procured at his own expense from Greece the manuscripts which were thus distributed in Florence, and which served as subjects for the lectures of the Professor.

These three great men, besides creating that intense ardor for the recovery of the classics which characterized the following century, are the fathers of Italian literature; and, in literary history, the glory of the fourteenth century.

The fifteenth century is characterized by the utmost zeal for the study and restoration of the classics. In no other age, perhaps, was the love of study so universal. The sovereigns of Europe, at this brilliant period, rested their glory on the protection they afforded to letters, on the classical education they had themselves received, and on their intimate knowledge of the Greek and Latin tongues. The Dukes of Milan, Feleppo Maria the last of the Visconti, and Francesco Sforza, the founder of a military monarchy, surrounded themselves in their capitol with the most illustrious men in science and letters, and accorded to them the most generous remunerations and employs of the first confidence. To these may be added the Marquis Gonzaga of Mantua, and the Marquis d'Este of Ferrara, who endeavored to make up what was wanting to them in power, by their active zeal in the cause of letters; and it is said that we might search in

vain in the most learned academies of the present day for men who wrote Greek verse with so much elegance and purity as many of the Princes of Mantua and Ferrara. Cosmo de Medici, also, a wealthy merchant of Florence, who had acquired such a degree of power as to shake the Constitution of the State, accorded in his house an asylum for all the men of learning and artists of the age, converted his garden into an academy, and produced a revolution in philosophy by substituting the authority of Plato in place of that of Aristotle. John of Ravenna, and Emanuel Chrysoloras, a learned Greek, who had come as ambassador into Italy to implore aid against the Turks, but who was eventually detained in that country by the zeal with which his lectures were attended, were the teachers, by whom a passion for Grecian letters was communicated to Italy, which produced that constellation of learned men which illumined the fifteenth century. Among these may be mentioned the names of Ambroggio Traversari, a Monk who afterwards became the head of the famous order of the Camaldoli, and who was one of the most illustrious pupils of Emanuel Chrysoloras, a friend of Cosmo de Medici, and one of the founders of the school of belles lettres and philosophy in Florence; likewise, Poggio Bracciolini, one of the most voluminous writers of his age, and one of the most diligent restorers of the classics. Among the numerous literati who adorned Italy during this period may be mentioned the name of Guarino Veronese, of whom an occurrence is related by literary historians strongly illustrative of that zeal for the cultivation of classical literature which characterized the fifteenth century.

He commenced the study of the Greek at Constantinople, and brought from thence on his return two cases of Greek manuscripts, the fruit of his indefatigable researches. One of these was lost at sea, on the shipwreck of the vessel; and the chagrin at losing such a literary treasure, acquired by so much labor, had the effect of turning the hair of Guarino grey in one night.—“The whole of the fifteenth century was employed in extending, in every sense, the knowledge and resources of the friends of the Muses. Antiquity was unveiled to them in all its elevated characters, its severe laws, its energetic virtues, and its beautiful and engaging mythology; in its subtle and profound philosophy, its overpowering eloquence, and its delightful poetry. Another age was required to knead afresh the clay for the formation of a nobler race. At the close of the century a divine breath animated the finished statue, and it started into life.”\* From this period the classics became the objects of assiduous study,

\* *Sismondi.*

and it is from this period that we are to date the rise of modern literature and civilization.

From that period until lately the classics have been considered a necessary part of education, and the brightest periods of modern literature are those in which the greatest attention has been paid to classical studies. When Polytechnic Schools, which dispense in a great measure with the study of the classics, became the vogue in France, she produced no writers comparable to those of the age of Louis XIV., when our standard editions of the classics were produced. The period when the foundations of that solid vein of English literature which we now possess were laid, was undoubtedly the age of Elizabeth; "when every man who aspired to the character of an educated gentleman, was a finished classical scholar." And it is observable with regard to all the celebrated literary productions of modern times, from the first of them, the *Divina Comedia* of Dante, down to the last, that they are almost without exception formed upon classic models. From these facts, independent of the illustration which they afford of the utility of classical studies, we derive another argument in their favor. The literature of modern times is not a native literature—it is formed in the classic mould, and it is almost needless to remark that some knowledge of the literature and spirit of antiquity is necessary to a full understanding and proper appreciation of our own.

It is thus that the voice of experience concurs with that of reason in proclaiming the utility and importance of classical studies. The darkest period of the church was when the reading of secular books was prohibited to the clergy. When the deepest shades of ignorance brooded over modern nations the classics were buried in the cloisters; and when the social state of man was the most hopeless, it was when he had no access to the humanizing influences of classical literature. But from the period of their restoration there are brighter omens for humanity. It was then that the human mind received that impetus which has carried it on to the light and the civilization of the present day. We have thus adduced a few arguments illustrative of the important influence of classical studies in the developement of the intellectual and moral man. But we do not contend for the exclusive possession of the field of education. We do not argue for the pursuit of classical literature to the exclusion of mathematical, physical, mental, or moral science.

But we do contend that in every system of education, the foundation should be laid in the classics. It is then that the student comes to these studies with a mind disciplined and prepared to grapple with their difficulties, and furnished with all the means necessary to enable him to reap the full benefit of his

labors. It is then that he has laid a broad and solid foundation upon which he may build for life, without meeting with those intolerable difficulties and vexations which, without a knowledge of the classics, must continually impede his progress. And in conclusion it may be permitted to say, in view of what has already been said upon this subject, that the study of the classics furnishes a more varied field of mental discipline—one which is better calculated to a certain extent to develop the whole man, than perhaps any other single branch of instruction whatever. That they bring to the view of the student more important facts out of the history of the species—facts having a most important bearing upon all the great interests of life, and illustrative of the genius of humanity. It is not intended to detract from the merits of mathematical or physical science when we say that the classics cover a field which they can never occupy—a part of the soil of human nature which it is important to cultivate, and to which the study of philology and the classics is alone adapted. The study of mathematics is highly important, but it is a narrow field—in the language of another, “they furnish an infinite line of thought, and always in one direction.” The physical sciences present the mind with truths which are outward, contingent, and phenomenal; whereas philological learning alone leads the mind into the frame-work and contexture of human thought. It deals with the intelligible (the *ta noeta*) of material things, and with the tangible (the *ta aistheta*) of our intellectual nature.



# GENERAL INTRODUCTORY DISCOURSE.

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## AN ADDRESS,

*Delivered at the organization of BETHANY COLLEGE, Nov. 2, 1841, by R. RICHARDSON, Professor of Chemistry, Geology, and the kindred Sciences.*

### YOUNG GENTLEMEN:

IN introducing to your notice the Sciences appertaining to the department which has been assigned to me, it seems to me peculiarly appropriate to consider the present condition of the scientific world in general, and some of the leading characteristics of the age in which we live. As the mariner, upon the wide ocean, avails himself of the calm which precedes the gale, to make an observation; to take the altitude of a planet or of the pole; to ascertain his latitude and longitude, and determine by the chart his relative position; it may be well for us, before the busy hours of regular study, to consider the circumstances around us, that we may the more happily, when the favoring gales arise, speed upon our way to the shores of Truth.

We cannot have, I presume, in fewer words, a more graphic description of the distinguishing features of the present era, than in the simple language of the Prophet who, seeing our day afar off in the angelic vision, records that "many shall run to and fro, and knowledge shall be increased." The restless inquietude of mankind, and the increase of human knowledge within the last three centuries, is truly without a parallel in the history of the world, if we except, perhaps, the period immediately succeeding the Fall—that memorable epoch when man, in the youthful vigor of his existence, prolonged his months to years: and, with unseebled energies, first invaded the untracked, untravelled dominions of nature, and brought them into an unwonted subjection to Science and to Art. As the child learns more during the first three years of its existence, than, during the same interval, at any subsequent period, so, doubtless, the infancy of mankind was characterized by a rapidity of improvement in the arts and sciences of human life, which would, in the very nature of things, be unequalled in after times. It was then that the eagerness of curiosity was first gratified with the discovery of some of the

secrets of the universe. It was then that Jabal first pitched the shepherd's tent, or yoked his oxen to the plough to tear the unfurrowed bosom of the earth. Then Jubal, enraptured with the charms of music, strikes the first harp to songs of joy, or breathes upon the pealing organ psalms of praise; while the sturdy Tubal-Cain, armed with fire, penetrates into the rocky recesses where lie earth's hidden treasures, and excavating the mine, mingles the shining ores, and brings from the forge the brazen shield and the glittering spear; or forms upon the ringing anvil the more useful implements of rustic toil.

Doubtless, the increase of knowledge in the first age of the world, may be compared with its growth in the present time as respects rapidity. But here the comparison ends. Even the cause of this rapidity is different in the two cases. Then they learned rapidly, because they knew so little. Now men learn the more, because they know so much. It was then like the sudden rush of waters to fill the empty reservoir—rapid, but transient: it is now the fast rising river, flowing but the more swiftly, the more its waters are increased. The knowledge of the human family then was mainly the knowledge necessary to subsistence and to the immediate gratification of the more urgent passions. Their energy was but the velocity derived from the sudden expansion of the elements of humanity in being first commingled with nature, and was diminished by the very reaction which displayed its power. The force now operative in the world is of a different character—and from a more extensive, more elevated and more constant source. It is rather like the attraction which brings all bodies to a common centre, and which acts with greater vigor and gives but a greater impetus in proportion as they approach that centre. The knowledge of that period was an acquaintance with confused facts. They were ignorant of those fundamental laws and principles of science, so infallible in their application, and so infinite in their consequences, that they furnish unlimited means of investigation, and in communicating knowledge, supply also the power to know. It is to the discovery of the ruling laws of the universe, which, in giving arrangement to science, and order to disconnected facts, has formed a new and bright and spacious world out of a dark and dreary chaos, that we are so greatly indebted;—that we owe so great a triumph over the rude and shapeless materials which were mingled indiscriminately amidst the darkness which in the beginning rested upon the depths of science.

They neither possessed, in those days, the means of retaining possession of what they had acquired, nor were the principles by which their researches were guided, free from inconstancy and

variation. Dependent upon the fading records of oral tradition, or the dim characters inscribed upon the tablets of memory, it was not possible that their knowledge should be either accurate or permanent. Their fields were cultivated only to be again overrun by the thorns and thistles from which they had been redeemed. Their science was somewhat like their navigation, guided by neighboring land, or moving planets, or fixed and twinkling stars most obscurely seen when needed most. Ours is independent of such casual aid, and by the true magnetic needle, whether by night or day, in storm or calm, upon the broad ocean or in view of port, conducts us safely upon our way. With them the sanctuary of Science was but a tent—with us it is a temple. Or, we may say that their progress in knowledge was like that of their wandering tribes upon the level plains of the sunny land which gave them birth. They could come in view of a new location, only by losing sight of their former one. Now, it is rather like the continued ascent of a mountain, and we are so far from losing the prospect we have by a loftier position, that we but see it the more perfectly in proportion as our horizon is enlarged, and we discover its relations to the distant landscape which opens to our view.

In the early ages of the world, mankind were acquainted, as already stated, with facts. They were perhaps better acquainted with many facts than we, and with certain of the arts of life. Longevity gave greater scope to personal observation, and perfected individual experience. There was much, too, in the fresh and vivid impressions which nature, just from the mould, made upon minds unoccupied and unsullied by erroneous systems. An artificial and unnatural mode of culture and education had not as yet blunted the keenness of perception, or perverted the powers of the understanding. The bright and beautiful hours of the morning of human life were as yet undimmed by the mists of that vain philosophy, and the darker clouds of that gross idolatry, which at a later period obscured the very heavens, and veiled in shadow the realities of the former world.

Yet, if we pursue the history of man, we shall find, even amidst the gloomy hours of this later period, some golden moments, when the sun of science poured out, from between the brightened edges of the thick lowering clouds, upon certain favoured districts of the earth, a flood of light, which became itself the more brilliant, as it deepened by contrast the surrounding gloom. It was such a transient gleam, which, falling upon Egypt, gilded the palaces of Heliopolis—the *City of the Sun*—the ancient Thebes; or drew from Memnon's lofty statue a strain of joyful melody; or glared upon the massy pyramids of the Nile. But it quickly passed on across the deep blue waters of the Med-

iterranean, and illuminated for a time the splendid temples of Greece, and the painted porticoes and academic walks of her sages and philosophers; and then flitted away to Italy where the magnificence of Imperial Rome glittered in its golden rays, until at length the shades of evening closed around, and a dark and tempestuous and dreary night of Vandal barbarism, monkish superstition and feudal vassalage overspread the world.

If the present period may be compared with the first age of the world; with the dark ages, it can only be contrasted. How long and dismal were the hours when the gloom of Ignorance and Superstition enwrapt the human race; and not a sound disturbed the sepulchral silence save the hooting of the owl of religious night—the monotonous chant of the sleepy monk in his cloister; or the fierce cry of the beast of prey—the wild shout of the Crusader in his dream of conquered Palestine! Then, indeed, learning forsook the abodes of men, and fled to secret and rocky caves to decipher by the lamp of Truth the parchment records of the past.

But at length appeared the grey dawn of another day in human history, when the light of Literature and Science revisited the earth, and man arose from his lethargy like a giant refreshed with sleep. It was upon that bright morning, when the blushing Aurora had as yet scarce opened with her rosy fingers the golden pavillion of the sun, that Martin Luther offered up to the God of the universe a pure oblation, an accepted worship—an auspicious commencement of the busy hours of that eventful period in which we have the happiness to live.

As it is not the object of the present lecture to trace in accurate detail the progress of the light of science, we will simply observe, in this place, that the era of the revival of Literature was marked by various fluctuations and changes. The newly awakened energies of mind were disposed to spurn control, and to wander free and untrammelled over the spacious fields whose freshness seemed so inviting. It was some time before they could be brought to yield to the bit of due restraint, and consequently the first efforts to cultivate the neglected provinces of nature were rash, irregular and often abortive. A rage for extravagant speculation prevailed, and systems were adopted in every department of knowledge most unfavorable to improvement. A thousand chimeras floated before the opening eyes of mortals. A thousand fancies filled their imaginations, and a thousand vain experiments occupied their hands. It was, however, but the effervescence which indicated the action of new affinities. It was but the fermentation of the elements of society; the process necessary to the production of that richer and purer draught, which, now mellowed and improved by age, is offered to the lover of Science.

It will, young gentlemen, be to you neither uninteresting nor unimportant in the prosecution of your studies to become acquainted with the genius of the past ages of the world. You will thus alone learn to understand and appreciate the influences which have conspired to produce the present state of science. Among these influences, it is for you especially to fix your attention upon the *Inductive System*—the philosophy of the illustrious Bacon, who, coming forward at the very moment when the rapid fermentation of human thoughts and feelings, above adverted to, was likely to issue in the sourness or acerbity of vain disputation, bitter wrangling and universal charlatanry, racked off the brisk and sparkling wine of knowledge into the pure vessel in which its finer qualities have been preserved and improved.

I would not, however, be understood to say that we are thus indebted to the Baconian system alone. In the attempt to exhibit the origin of the present improved condition of science and of society, men have been, perhaps, too prone to refer to a single and special cause. Some have found it in the reaction of the human mind itself, rising up by its native energies against the forces by which it was oppressed. Others have given the credit of the impulse to the Protestant Reformation—the diffusion of the rational and elevating doctrines of true religion, of religious liberty and the right of free discussion. It has by another class been supposed owing almost entirely to the Inductive or Experimental Philosophy, while not a few have derived it from the invention of Printing. But we are not disposed to give the credit of human improvement to any of these agencies exclusively. Each, doubtless, contributed its rill to swell the flowing tide, and there may have been even other tributaries which were unnoticed or have been forgotten. Nay, the larger streams themselves are traceable to innumerable fountains hid in deep and shady recesses. These again have their secret sources into which we cannot follow them. It is not, perhaps, for man to expose the occult springs of human action; to understand the deep workings of the human mind, or to determine with certainty the remote, which are always the true causes of those remarkable events, which, no less irresistible than unexpected, have shaken as with the power of a volcano the very foundations of society; have overthrown the pillars upon which her institutions have been reared, and rendered necessary an entire new-modelling of her institutions. The effect, indeed is obvious: so is the immediate cause—the remote one may be inscrutable. We can feel the earthquake, and see the flames issue from the crater of the volcano, but what it is that occasions the volcano may forever remain a mystery.

It is to some such secret workings; to some hidden impulse; some inspiration, truly divine, if we may judge its character by its results, that we are to attribute the singular fact that no less than three of those astonishing events to which we are wont to refer the improvement of society, occurred, all within the brief space of seventy years. These three events, any one of which would have adorned an age, or marked an epocha in human history, are, the invention of Printing, the Protestant Reformation, and the discovery of America. The first furnished the means of diffusing, as well as concentrating human thought. The second gave liberty to think; while the third was a practical illustration upon a grand scale, of the happy result of expansion of mind; of reasoning from facts; and of energy of purpose. The first, like a polished mirror, collecting the scattered rays of intellectual light, reflected and concentrated them in the brilliant and powerful focus. The second, by the concussion it produced, opened the prison doors, and loosed the bands which Bigotry, Intolerance and Superstition had imposed. Indeed it is hard to fix the boundaries of its influence, for it had such great power that it gave liberty to the *earth* itself to *revolve upon its own axis*—a movement upon which the Pope and cardinals, in the days of *Galileo*, had put an absolute *veto*. It is not surprising, then, that it should have rendered the *very same service* to the political and the scientific world. And who can tell how great an influence the wonderful discovery of the American continents had upon that portion of our race who participated in its immediate consequences? Influenced as man is by example and analogy, this startling and glorious achievement, gave a new inspiration to human hopes; and prompted to attempt new discoveries in science, and the subjugation of new worlds to its dominion. The very thought that there must be a Western World, derived from a variety of facts, was, as already intimated, founded upon inductive reasoning. Who knows but that so splendid an illustration of the safety and certainty of induction when resting even upon an imperfect knowledge of the old world, or upon a few canes floating on the broad bosom of the Atlantic, may have first given to this mode of reasoning proper consideration? Who knows but it may even have suggested to the mind of Bacon the propriety of making it the basis of true science? Be this as it may, certain it is, that there is not in the history of the world a spectacle of greater moral grandeur, or more persevering confidence in the truths of nature and science, than Columbus, in the midst of faint-hearted followers, in an unknown sea, and with a varying compass, stipulating (it was on behalf of every thing dear to man,) that for three days more they should stretch away to the unexplored regions of the West. Happy

experiment! But it was only to verify an induction no less fortunate.

The spirit of adventure excited by success, was not, however, always guided by the same justness of observation or unerring principles of reasoning. On the contrary, it led to a variety of wild experiments, and to an enthusiastic pursuit of vain and imaginative objects. The *Synthetic* Philosophy, in vogue at this period, gave the most unbounded encouragement to this extravagance. It first devised an ingenious theory—a fanciful hypothesis. This being done, it proceeded to build upon it such facts as were collected for the purpose, or which could, by any contrivance, be made to rest upon it. But, founded as it was upon hypothesis, this philosophy could support no structure more substantial, and a thousand airy castles were erected, none of which could afford to Science a secure abode.

The eagerness of theorists to build up their respective systems, led, indeed, to the discovery of many important facts. Vieing with each other, and jealous of each other's fame, they compassed sea and land to collect materials for an edifice which might secure to them a name and a place on earth. But their error was, that their foundation was hypothetical—a flimsy and airy theory; so that the very truths which they discovered, and dug up from the quarries of Fact and Nature, often proved too weighty for their slender foundations, and occasioned the whole superstructure to fall to the ground, and to become not unfrequently the tomb of the builder—a fate, indeed, not undeserved by those who sought to build, with materials which belonged to *Science*, a habitation for *themselves*.

It was in the midst of this confusion that the wise master-builder, to whom we have alluded, Francis Bacon, stood forth, and proposed a system directly the reverse of the *Synthetic* Philosophy. This was that facts should be first carefully ascertained by observation and experiment, and that just deductions should be drawn from these. He advised in short (if we may continue the figure just introduced) that all the votaries of Science should renounce their personal and private interests, and unite together to build a splendid temple to her honour. He taught them to lay a broad, solid and substantial foundation of facts; and, in carrying up the building, to lay no more weight upon these than they were fitted to sustain. He sketched out the just proportions of the superstructure, and laid down infallible rules by which unsuitable materials might be detected. His views prevailed: the work proceeded. It is, young gentlemen, to survey the results that you are now invited. Approach then the noble structure. But while yet in the outer courts of this glorious temple, examine, I pray you, its massy foundations formed of the

hard, unyielding, *primitive* rocks—the unchanging Facts of Nature; and admire the skilful masonry which has so exactly fitted and based upon them those beautiful walls of Truth. Walk round about the edifice; consider its bulwarks; calculate, if you be able, its vast dimensions; and look aloft, if you can without giddiness, to those lofty spires which the genius of a Newton has carried into the very heavens, and embellished with those bright prismatic *tints* derived by himself from the divine *pallet* when he was permitted to dip his pencil in the solar light. Then entering with reverence upon the spacious vestibule, pass through those golden gates opened wide by the ready hands of Diligence and Attention;—but while, within its vaulted chambers, surrounded by the magnificence which Nature and Art have furnished, you offer up the pure incense of a sincere devotion, do not, I beseech you, forget to honour that illustrious Architect to whose genius we are indebted for the plan of so glorious an edifice.

Bacon was the Luther of Science. His system subverted the authority of popes and councils throughout the entire scientific world. Let us congratulate ourselves that no proud dogmatist has, since his day, been permitted to sit in the temple of Science to usurp her place and honours. All the world are now Protestants in Science. They have renounced allegiance to the schoolmen. They regard no one as infallible, and submit to no dictation. Each one studies the volume of Nature for himself. We have universal toleration; full and free discussion; unlimited investigation. We are so happy too as to have amongst the Protestants of Science but few parties. A spirit of union has almost universally prevailed, and all have felt themselves labouring in a common cause. This is one of the best features of the age. Each one contributes as to a common stock his respective share. Each one labors with a common interest to rear up the walls of the edifice, and it is not to be wondered at, that the work is so well performed. Another important characteristic is, that Science has for its object now, the general good of society—the promotion of human happiness. Its tendencies are therefore eminently practical. It leads to a knowledge of things as well as words. It consults utility, and rejects every thing which does not in some way tend to improve, and elevate man in the varied relations in which, by the very constituent elements of his nature, he is involved. Its spirit, in short, is that of philanthropy; of liberality; of candour; of kindness. Oh! long may it reign in the hearts of all who labor in the cause of education, and under its benign influence may they preserve inviolate the bonds of union, and rendering to each other mutual aid and mutual honor, enjoy in its fullest measure, the benefit of mutual prosperity!

I cannot imagine a more striking evidence of the advantages

now enjoyed, than the rapid progress of those Sciences which have but recently originated. During the age of speculation, a science was compelled to wade through the deep morass, the Serbonian bog of obscure hypothesis or dogmatic error, and could scarce at length reach the Terra Firma of truth. And even when the wandering philosophers of the days of T. Bombastus Paracelsus succeeded in gaining the solid ground, they often, like the first settlers of Virginia, in their choice of Jamestown, pitched upon a bad location. The settlement, however, being once made, the roads immediately converge to it as to a central point, and Habit pursues the beaten track which Ignorance or Caprice occasioned. It is not without difficulty that men are induced to change the ancient sites, and hence those sciences which had progressed to some extent before the time of Bacon, could with much ado be new modelled, and placed upon more suitable foundations. Several of the natural sciences, and Chemistry among the rest, suffered much from this cause. Like one whose constitution has suffered from quackery, in early life, an injury which the most prudent treatment in after years can scarcely repair, the science of Chemistry was not only for a long time thus retarded in its growth, but has hardly ever yet been freed, by all the power of the Inductive system, from the effects of the course at first adopted by alchymical and speculative charlatans.

Far otherwise is it with those sciences which have lately come into existence. We have reason to wish them joy of being born at so propitious a period, when they have been suffered to grow up with goodly nursing according to Nature's laws, and to attain to such maturity and perfection in so short a time. Among the most well favoured of these, we may mention Phrenology and Geology which have sprung up within an incredibly short space, and in the blooming vigor of youth have obtained a place among their venerable elders, grown grey with age and wrinkled with care.

The ancient sciences, however, have not failed to participate largely in the benefits of the improved systems; Chemistry and Mineralogy, as well as Medicine, have been carried to great perfection in modern times. The splendid discoveries of Priestly, Davy and their European fellow-laborers and the great improvements which have been introduced into the laboratory by them, and by our own Silliman and Hare, have elevated Chemistry, both as a science and as an art, to the most distinguished eminence. To such an extent, indeed, have discoveries and improvements been carried in every department of human knowledge, that almost the whole territory has been explored. Hence it is, that what remains can be entered upon with such facility.

The traveller does not now need to climb the precipitous mountains of Ignorance, or ford the rapid streams of Folly which formerly obstructed his progress. He moves swiftly upon the railroad of unimpeded thought, or floats securely in the barge of truth upon the graceful aqueduct or through the deeply excavated tunnel, and smiles at the rugged peaks and foaming floods which now only minister to his fancy or amusement. Modern sciences have the greatest advantage, since the ancient ones have preceded them and cleared the way. They have only as it were to choose their location. They have not now to fell the forests, but simply to plough, to sow, and to reap an immediate and an abundant harvest.

It is then, young gentlemen, under the auspicious circumstances to which I have endeavoured to direct your attention, that we have the happiness to commence our labors. With regard to the sciences assigned to this Chair, I doubt not they will be to you most interesting. Mutually related to each other, and each one forming in itself a delightful subject of study, they give order and harmony to the immense variety of objects and influences which every where present themselves in the vast domains of Nature; and are no less useful in their practical application to the necessary arts of life, than pleasing to the mind in the singular revelations which they supply.

*Chemistry* is one of the most sublime, important and extensive of the sciences. Entering into the elements of things, it considers the reaction of the particles of inorganic matter, and embraces, in fact, the whole phenomena of Nature, there being but few changes which do not at least in some of their causes or effects, fall under its notice. Every effect, indeed, or change which occurs in inorganic bodies, and which is not purely mechanical, is chemical. It takes, therefore, the widest range and presents to view the most interesting subjects of contemplation.

*Mineralogy* is also of great extent, for it considers the characters and relations of every substance which is not organized or the immediate product of organization. It is a science which boasts the highest antiquity, being coeval with the creation of man, and the discovery of the pure gold of the land of Havilah, where, we are told, was also the bluish and translucent onyx, and the bitter but fragrant bdellium.

*Geology*, on the contrary, is, as already intimated, a modern science. Intimately connected with Mineralogy, it takes a more extensive range, embracing not only the various substances which enter into the composition of the earth, but their arrangement also, and the changes which they have undergone. It has been rendered especially interesting by the evidences of the former condition of the globe which it derives from the arrangement

of the earth's materials, and the singular organic remains imbedded in fossiliferous rocks. It is not indeed so extensive as the science of the Astronomer, to whom it is matter of amusement to sport with worlds and their satellites. But we shall have no reason to complain of want of room, for it is at least as wide as the world in which we live. And while the Astronomer ascends to the attic story of our old fashioned family mansion—the earth, to wander among the stars or perhaps to lose himself in the cloudiness of the milky way; the Geologist, on the other hand, rummages the cellar, and discovers in its deep and rocky recesses secret stores of ancient treasure (though in earthen vessels,) and casks of the old and mellow wine of knowledge, of which even the Astronomer when he descends from his lofty position, is not unwilling to partake.

We may say of Geology, indeed, as of the city of God.—Its foundations are in the lofty mountains. So deeply are they fixed in the solid granite, that the earthquake itself, so far from disturbing, serves only to reveal more fully their firmness and stability. And lifting itself on high to the level of Chimborazo or Himalayeh, it exhibits in legible characters upon the massy pillars of its portico, the ancient and authentic records of a world of which Columbus never dreamed.

But, gentlemen, it is not the object of this general and introductory discourse to give you a special account of these sciences. To this we shall in future address ourselves. We have now been endeavouring to fix your minds upon the present state of science and the peculiar character of the age. We find this one of incessant activity—of running to and fro—of deep research—of true philosophy—of superlative regard for facts—of practical improvement and useful knowledge. Can we then better conclude our remarks than by briefly considering the corresponding obligations it imposes upon us? It requires then, in a word, a spirit precisely in accordance with its own. Energy of character; laborious study; the love of truth; careful observation, and a desire for beneficial knowledge, should now be characteristics of all the lovers of science. There is nothing more admirable in the Baconian system, than the state of mind which it requires; and that humble spirit of inquiry; that patient induction of facts; that modest firmness of conclusion, to which it leads. These have been noble traits in the investigations of those lofty and illustrious men, the Newtons, the Lockes, the Davys, the Hershells, who have adorned the world, and the lustre of whose names emblazons, with its brightest glory, the escutcheon of Science. While, then, our infant institution will seek to imbibe the spirit of the age to which it owes its birth, and to adapt itself to the present wants and circumstances of society, it is to be hoped that her

Alumni will, with a laudable zéal, second her efforts, and endeavour to carry out into practice a plan of education so highly approved by the community.

Be assured, young gentlemen, that it will be your highest happiness in after life, to have improved your youthful hours and opportunities. It is in the spring time of life that the seeds of future usefulness and honor must be sown and cultivated. And while the agriculturist may sow his fields, and yet another reap the product, the dilligent student has the pleasing reflection to encourage and sustain him in his labors, that he toils for himself, to promote his own—his truest interests; and that no envious hand; no revolutions in society; no adverse circumstances whatever, can deprive him of those rich fruits—those intellectual treasures which he has laid up within the imperishable store-house of the mind.

And may I not add, inasmuch as moral culture is to be made one of the distinguishing features of this Institution, that it is especially in the attainment of this species of education, that the secret of future success, and eminence is to be found. Morality is the ground upon which any one must stand, if, like the ancient geometrician, he would move the world with the lever of Science. It is Virtue which breathes into Science a living and a life-giving spirit. It is a remarkable fact that if you search the records of history, you will scarcely find among those who have benefited the world by true Science, by splendid discoveries or useful inventions, the name of a single infidel, skeptic, or sensualist. These glorious achievements were reserved for those who paid regard to the claims of morality and religion, and who, like Newton, among the multitude of books before them, studied, with the greatest application, the Bible. This illustrious man "could not rest, says Brougham, from his immortal labors in setting forth the system of the universe, without raising his mind to the contemplation of Him, who weighed the mountains in scales and the hills in a balance." He it was who declared that the business of Physical Science is "to deduce causes from effects, till we come to the very First Cause," and that "every true step made in Inductive Philosophy is to be highly valued, because it brings us nearer to the First Cause." Be it then ever remembered, that the chain of induction is not yet complete until it will reach from earth to heaven, and is linked with Hope of future joy, that anchor to the soul which is securely fixed within the veil, that, but for a brief interval, hides from our view, the audience chamber of the palace of the universe. The results of science are indeed interesting and every way gratifying to the intellect, but it is virtue and morality which must warm the heart. The processes of the Chemist will end in empty air; the diamonds of the Min

eralogist will exchange their brilliancy for opacity and darkness, the laws of Geology will be found to be written on tables of stone; but elevation of principle; sterling integrity of soul; noble and generous affections; a life, governed by the laws of the Author of Nature inscribed upon the heart, and consecrated to the good of society and the improvement of the world, will never fail to invest the character with imperishable lustre, and lead their possessor to a knowledge of that science which is superior to all others—the Science of Happiness.



## AN ADDRESS,

*Delivered at the organization of BETHANY COLLEGE, November 2d, 1841, by W. K. PENDLETON, Professor of Natural Philosophy.*

GENTLEMEN,

IN appearing before you, I feel that I am introducing myself to the best hopes of the rising generation,—to spirits ardent with the fires of youth, and aspirations and energies unfolding and expanding with the fervour of their own passions. As such, allow me to welcome you to these shades of science and literature, here amid the deep retirement of nature's hills,—and, as the peculiar province of the duties assigned to me—introduce you particularly to that department of science, over whose mysteries it is my privilege to preside. But in doing so, I cannot forbear to admonish you of the importance of the step which you have taken in entering these academic halls. The span of each individual's history on earth, like the mighty circle of time, is made up of smaller divisions or epochs, differing in the times of their recurrence and often in the importance of their events, but yet, so marked and definite, that the most casual glance back upon the stream of the past, cannot but fall upon them, standing forth as so many stern dispensers of our destiny, and claiming our observation, whether they excite the sweet consciousness of a blameless life or the remorseful pangs of misdirected energies and wasted powers. But it is the order of Providence in most cases, wisely to conceal these epochs from those whom they are to affect, till they have passed into history;—yet, as in the physical man, infancy, boyhood, manly prime and decrepit age mark the successive stages of his career, from the cradle to the tomb, so in the intellectual and moral or social man, there are a few great and prominent eras, traced so deeply and intelligibly in the history of all, that we are at no loss in assigning them a period and setting a value upon their importance. Had we the means of solving the problem, what has been the influence for time and eternity, upon all persons who have ever entered as students, the walls of a college, of such a privilege,—it could then be seen how extensive and far reaching in its consequences, such a step must of necessity be to every young gentleman who takes it. But in the absence of such data, we may be permitted to consider for a moment, some of the reasons that make it impor-

tant, and, indeed, render it the most interesting, as well as the most critical period of the journey of life. Much the larger portion of you now before me, are, for the first time, separated from the homes which gave you birth, and the ever watchful and solicitous guardianship, of those whose every aspiration and hope are concentrated in you—and for the first time in your lives, many of you, perhaps, are thrown upon your own resources for a character, the formation of which you have now to commence. It would be needless for me to dwell upon the importance of this step, since the concurrent experience and observation of many generations have long since decided it to be the directing influence throughout life. The habits acquired and the principles imbibed at this period, like the presiding constellation in the Astrologer's superstition, follow us through every stage of our being, and often, despite our best resolutions and efforts, control and determine our destiny for time and eternity.

But it is not enough that we resolve upon forming habits and cultivating principles, such as will guide us successfully and honourably through the devious and seductive paths of a world every where beset with the snares of temptation and vice. We must do more—we must diligently and earnestly practise all that an enlightened conscience may dictate and daily and hourly accustom ourselves to the most rigid and economical distribution of our time and energies. Man is a being born to high aspirations and a noble destiny. Immortality is stamped upon his god-like image, and the first breathings of intelligence, lift his hopes upwards. Endowed with the noblest powers for improvement and quickened into effort by an instinctive love of knowledge, which swells with his growth, his first observations and deductions are made in that kingdom, some of whose laws it is the peculiar province of the department of science assigned to me, to unfold. The five avenues of sensation, all open from the moment of birth, let in from the boundless supplies of nature, constant and unremitting streams of simple ideas, rich with all the beautiful variety of colour and form, and the most delightful and harmonious commingling of music and song with the delicious odours and perfumes, that spring from every flower and shrub, with which the lavish hand of Nature has embellished this, her beautiful and magnificent garden. Man is thus by his Creator constituted a natural philosopher. The first moment he puts forth his hands and feels the boundaries or surfaces of solids, and begins to measure, by his touch and by his sight, the size and figure of the things around and about him, he is making observations and imbibing truths, which stand first in the foundation of the elegant and beautifully elaborated edifice of natural science. But the curious excitement produced by a succession of objects new and

wonderful, so absorbs and enchants the youthful mind, that its faculty for classification and arrangement lies dormant, whilst observation, ever on the wing, ranges over the wide and varied field of natural phenomena, noting with a curious but unskilful eye, its beauties and wonders, its motions and changes, till wearied with the pursuit, the mind falls back upon itself and begins the task of recalling its previous impressions. Memory, rich with the stores of future knowledge, is now summoned to give its aid,—but the boundless variety and multiplicity of its treasures seem but beautiful confusion. The mind struggles in vain to grasp so much loose and unarranged material, and thus of necessity is compelled to arrange, to classify, to generalize. All the varied phenomena are now looked at in their relations, and arranged according to their similitudes. This is the commencement of science, for science is nothing more than “knowledge orderly and methodically arranged, so that the observations and discoveries of many, may become attainable by one.”

This, gentlemen, may be supposed to be the period at which you have arrived; but as the happy power of a ready generalization falls to the lot of but few, and even to that few, only after matured judgment and long and laborious study, it is just here that the assistance afforded by the labour and research of those master spirits, who have signalized themselves and blessed posterity by their genius and learning, becomes a most necessary means to your progress. To the labours and discoveries of these it will be my privilege to introduce you, so far at least; as they relate to that branch of science, usually designated Physics or Natural Philosophy;—and here it may not be improper, before we enter into any detailed investigation of the importance, practical and speculative, of this interesting chapter in the great volume of nature, to give in general terms, the idea intended to be conveyed by the expression, Physics or Natural Philosophy. And in order the more clearly to do so, it may not be uninteresting to read to you, the whole table of contents to this mighty book, in which is contained all that man may know by his unassisted reason, that is, apart from Revelation.

In the process of observation then, of which we have been speaking, we are investigating that chapter, which stands first in the order of nature—viz: the chapter of Natural History, or that which gives the particulars or history of things. This chapter is again divided off into three grand divisions, called kingdoms of nature, under which, is arranged, respectively, the history of Animals, Vegetables, and Minerals. But in our study of these, we are unavoidably called to consider their motions, the changes in condition which are continually going on amongst them, and innumerable phenomena, produced by principles and

powers, of which, in their origin and extent, we are mostly ignorant, at least so far as reason can enlighten us. The study and development of these principles, which we call general truths or laws of nature, constitutes another and distinct chapter in nature's volume, called Science or Philosophy, that is, the reason of things. These general truths or laws are subdivided into four great heads or classes, Physical, Chemical, Mental and Vital, corresponding to the peculiarities of the objects observed in the kingdom of nature. Thus, when in our study of Natural History, we observe in the creature, man, certain evidences of a principle, not discovered to be possessed by any other animal, and see that its operations are guided and determined by laws, we have the foundation for the science of mind or Metaphysics; or when in the animal or vegetable kingdom, we mark the regular and unbroken progression, from the young offspring to the full grown animal, or the small and scarcely observed germ, to the mighty and majestic tree, we soon see, that there are certain laws or principles by which the whole is ordered and directed, and thus we begin the philosophy of life, and so of the other two divisions, Chemical and Physical; in the one we observe the laws which govern the attractions, repulsions, union and separation of atoms; in the other the similar changes or phenomena, going on amongst bodies or aggregates of atoms. But these divisions are again cut up into parts. Thus, for instance, under the general head of life, we have Animal and Vegetable, Physiology, and under these again respectively, Zoology, Anatomy, Pathology, Medicine, etc. and Botany, Horticulture, Agriculture, &c. But we leave these minor divisions to other hands and turn to that, which more immediately concerns us, viz:—Natural Philosophy, or Physics.

Natural Philosophy or Physics, then, is that science, which teaches us “the laws that govern every phenomena of Nature, in which there is any sensible change of place, being concerned *alone*, in the greater part of those phenomena, and *regulating* the remainder, which originate from Chemical action and from the action of life,”—and it is distinguishable from Chemistry, with which it would seem in many cases blended, by remembering that the latter deals with atoms, the constituents or elements of things, whilst the former takes cognizance, only of bodies in the aggregate.—But whilst this distinction seems so marked, we would caution you against the idea, that any one department in Natural Science is entirely separate and distinct from all others. There are, it is true, great and prominent landmarks, by which we, in our divisions, made for the convenience of study, distinguish them, but in their details and in their more contiguous parts, there is often so much similarity, so much dependency, the con-

lines of one so gradually sinking into the dominions of the other,—

“Shade unperceived, so softening into shade,”

that it is next to impossible to say where the one ends or the other begins. In fact, there is no such thing as a separate and independent science, any more than there is a separate and independent animal function. They are all, but parts of one stupendous whole, and all necessary to the beauty and full proportion of the edifice. Indeed there is no independent and isolated operation in Nature. All the infinite variety of her works, no matter in what form they may be presented to us, no matter in what complex and often inexplicable combinations they may be involved, yet, from the tenderest flower that lifts its head to the light, to the forest monarch, stretching far and wide its vigorous branches,—from the subtle and almost undiscoverable fluid that struggles through the attenuated frame of an animalcule, to the strong and nervous pulsations, that drive the current of life, through the system of the stout and vigorous monarch of earth, all is but the harmony of one universal nature, operating through a few simple laws, and thus by the most beautiful and wonderful cosmical adaptations and arrangements, controlling this, to us, complex and mysterious fabric.

It has been justly remarked, by a distinguished Philosopher, that “the man, who understands the four words, Atom, Attraction, Repulsion and Inertia, in all their bearings and relations, understands the greater part of the phenomena of nature.” This seems at first sight, a reduction almost too great for our credence, yet it is just, and we need but a moment’s reflection to convince us, not only of its truths, but of the great value and importance of science, that can thus in four words reveal to us all the principles that rule and control the boundless complications of Nature. Yet we must not imagine because these principles are so few and apparently so simple, that their application will be in all cases easy; nor indeed, their influences always evident and defined. It has required the untiring researches of philosophers, from the time of Bacon till now, to trace up Nature to these, her primordial laws, and in order to be master of any one department of Science, we must begin at their conclusions, and go back over their footsteps, till we too, have become conversant with the train of reasoning by which this sublime simplicity is discovered. It will not be enough, that we simply know or hear these truths;—we must take Nature as we find her, and apply the rule to her phenomena in all their variety, and by a rigid induction test the principle to see whether it be true. This is the true Baconian mode of reasoning, and it has accomplished more for science than all the wild and visionary hypotheses ever invented by the imagination of man, from the days of Grecian philosophy, down

to the revival of learning, in the 15th century. Previous to the publication of the "Novum Organon" of this master genius, who has been not inappropriately styled "the Priest of nature's mysteries," the world was full of the most vague and absurd notions of things, that the wildest fancy could imagine. The great master of Grecian philosophy, Aristotle, by a sort of enchantment, that seemed almost fatal, had so completely bewildered the paths of philosophy, and by his pointless and senseless jargon about "occult qualities" and "imaginary essences," so refined and etherealised the simple and beautiful operations of nature, that it was next to impossible to tell what was or was not philosophy. The wonderful and instructive lessons every where written on the broad pages of nature, were overlooked in the deep scrutiny for the "occult," whilst the simple yet sublime deductions and conclusions of a more rational school, were utterly neglected and unobserved in the refined speculations on intention and remission, proportion and degree, infinity, formality, quiddity, individuality, and innumerable other abstract notions, with which the great and the learned of the land employed their powers.

Such were the sublime questions that engaged the heads and pens of these "Seraphic Doctors," as they were sometimes called, and such the curious notions with which they contaminated the pure foundation of nature, even down to no very remote period from our own times. From the 12th to the 15th century, during which period science and truth seemed alike banished from earth, the dogmata of Aristotle held a supremacy, almost universal over the literary part of Europe. But happily perhaps, for the present state of science, the little learning that was then in the world, was confined to monks and religious recluses, and was by them imparted to but few, so that the long night that had been gathering over Europe for so many centuries, was now thickening to perfect darkness and the deep ignorance and void of the human mind, consequent upon the entire extinguishment of even the semblance of Philosophy, left it open for the reception of the bright truths that were destined so soon to flash in upon the darkness. The dawn of a brighter era seemed breaking forth in the revival of the old Pythagorean System of the universe, by Copernicus, about the beginning of the 16th century, and notwithstanding the angry threatenings and heavy thunderings of the Vatican, it rose higher and higher, as the mighty minds of Galileo, Kepler and Gassendi poured forth their energies in removing the obstructions, that prevented the beams of the full day. But the old prejudices in favour of hypothesis, yet clung to the mode of reasoning and trammelled in no small degree, the progress of truth; and even when conclusions founded upon observations and facts, were arrived at, their authors were restrained by the

tyranny of popery and superstition, from boldly and fearlessly giving them to the world. Such was the case with Copernicus and Galileo. On two occasions was the latter summoned before the inquisition to answer for his heresies and confess his errors, and twice was the venerable Philosopher, despite the convictions of his own observations and reasonings, compelled by the terrors of the inquisition, to renounce his belief in the motion of the earth on its axis. But, to his enduring honor, it is recorded, that when on the latter occasion, he had bent his hoary head before the confessional and to the brutal tyranny of ignorance, made the renunciation and confession required, he rose from his knees, turned from the haughty cardinal, and, filled with the spirit of a sublime philosophy, stamped his foot upon the earth and exclaimed, "Still it moves." But whilst this distinguished philosopher was doing much in Italy, by his discoveries and inventions towards dispelling the darkness, that then brooded over science; it remained for the genius of Bacon, in England, to step forth, and in its giant strength, shake the pillars of the old and venerated temple of error, within whose mazy and interminable labyrinths, the strongest minds had so long wandered and struggled in vain for truth, till the whole fabric tottered beneath his arm and fell, with all its antiquity and all its learning, "a grave and solemn folly."

But to return from this digression.—We were pointing out the manner in which we should study nature and test the laws, which the researches of Philosophers have given as canonical, and in order to do so, we found that we must go back and retrace their steps, that we may see whether the connection between the facts of Nature and the conclusions of Philosophers, be unbroken. This will involve us necessarily, in the details of the particular branch, we may happen to be prosecuting, and this again will throw us upon our fund of previously observed facts. But as many of the operations of nature require an accuracy of experiment and observation, in order to detect the laws by which they are controlled, that is seldom attained by the unskilful, and as the developement of the law is made, in most cases by unfolding the fact, it requires but a small fund of previous observation to enable the student to prosecute his inquiries, in the various departments of Physics—the lecture-room illustrations and the lucid statements of the text books, supplying all that is requisite to a clear and general comprehension of this interesting branch of Natural Science. We would now, with your indulgence, barely mention the minor divisions of Natural Philosophy, briefly describing the province of each, and then proceed to give a few evidences and examples of their importance, practical and speculative, to the human family and to yourselves, that are to be, perhaps some of you, the future dispensers of its fortunes.

The most casual glance at objects, as they exist around us in Nature, cannot fail to detect in them, marked and definite differences, both as respects their character and condition;—and, as would naturally be supposed, Philosophers have made these differences, the foundation of their classifications and arrangements. Every thing in the universe is either in a state of rest or motion, and the laws, by which these two conditions of matter are produced, are classed under the two general heads of Statics and Dynamics. Statics, from a Greek word (*statike*) signifying rest, has reference to that class of forces, which produce rest or equilibrium, whilst under Dynamics, (from *Dunamis*, force or power) are considered the forces, which produce motion. But at the same time that these classifications, formed upon the conditions of matter, deserve a good share of attention; there are certain others, which have been made with a reference to the peculiar character or nature of that matter, as presented to our senses, much more convenient and useful; and as the doctrines of Statics and Dynamics are necessarily involved in the consideration of the phenomena of each class, it has been found convenient in most cases, not to consider them separately. The classification to which I allude and which is not only the best and most convenient, but which is now almost universally adopted, is founded upon the most obvious differences and analogies; and indeed, may be said to be the classification of Nature herself, since it is determined by the manner, in which she has marshalled her hosts of operative agents—the solids, the fluids and the imponderable substances. That department, in which are explained the peculiarities of state and motion among solid bodies, is called Mechanics. Under it, the laws of motion are discussed, and the mechanical powers investigated, machinery generally examined and explained, and numerous other topics, connected directly or remotely with these, introduced to illustrate and exemplify, in their various combinations and relations, the few laws, that form the basis of the whole department of Mechanics.

Under the division, which is appropriated to the consideration of the phenomena of fluids, come several departments. First,—Hydrodynamics, (from the Greek words, *Udor*, water and *Dunamis*, force) which is again divided into Hydrostatics (water at rest or in equilibrium) and Hydraulics (water in motion.) Under these will be considered the laws which regulate the pressure, motion and force of water, and the applications which are made of it, to machinery and the various useful contrivances, which have been invented for the convenience and comfort of man. The second department, under the general head of Fluids, is Pneumatics or the phenomena of the air; and the third Acoustics or the phenomena of sound and hearing. Under Pneumatics,

will be considered, the elasticity of the air, the phenomena of atmospheric pressure in connection with pumps, the steam engine and various other Mechanical contrivances, by which this vital fluid has been made the source of innumerable blessings to the human race. Acoustics will lead us to the consideration of the phenomena of sound, the manner in which it is propagated, and the laws of its reflection—the principles of Music, &c. This concludes the chapter on the laws and phenomena of Fluids, and leaves us prepared to enter upon the consideration of that interesting department, in which are developed the laws, that control imponderable substances—a department in which we find as much to excite our admiration and wonder, as in any one in Nature. Under this head will be examined, the laws of imponderable substance; 1st, under Heat or Caloric, 2nd, Light or Optics, 3d, Electricity; 4th, Magnetism and Electro-Magnetism, and 5th, Galvanism. Under the first head, of Heat or Caloric, whilst we may give you the various ingenious and speculative opinions, as to its nature, we can promise to teach nothing with certainty, beyond its effects, and the laws by which it operates and is operated upon. This is indeed, all that science has ever been able to develop, in regard to Light, Electricity, Galvanism or Magnetism. The nature and essence of none of them is known, and because we have no means of proving, that they have even the most obvious attribute of matter, weight, we class them under the head of imponderable substances. But whilst the essence of these wonderful and pervasive agents in nature, is to philosophy, a something, yet unknown, the truths which have been discovered and developed in regard to them and their operations, have been well attested and confirmed, and are such as to render them most interesting, and in many respects, highly useful branches of science. The Solids, Fluids and imponderable substances, we mentioned as the three great divisions, which nature has made, in marshalling her operative agents, and under each, we have noticed the minor divisions, which Science has established for the convenience of study; but there is yet another department, belonging to the division of Solids, which has not been mentioned, because it is always and properly treated as a separate and distinct branch of Science. I allude to Astronomy, or that science, which treats of the distances, motions, magnitudes, &c., of the heavenly bodies.

We have thus, gentlemen, hurried you over this wide and extended field, only pausing to note its greater and minor divisions, and to take a bird's-eye view of its extent and variety, in order that in the beginning, we may see the end and thus be the better prepared to direct our foot-steps with certainty and assurance, whilst we may be engaged in studying and exploring each division, in all its details and particulars. This is the task, upon

which, you are now about to enter, and whilst you may have many a toilsome hill to climb, and often dry and arid wastes to traverse, yet the fresh flowers that every where meet your gaze on the one, and the cool fountains that occasionally spring up in the other, will render your toil sweet, and your journey pleasant.

But in this age of Utilitarianism, it may be enquired, of what practical use is all this parade of Science? Of what good does it possess us, and to what beneficial result does it all look? And as it is intended, that its study shall occupy no small share of attention in this institution, professing as it does, to be devoted to the promotion of the general good and amelioration of mankind, both for time and eternity, it may be expected that we should pay some attention to such questions. With a view, therefore, of meeting all objections, that may originate, either in ignorance or from prejudice, we shall consider, 1st, the actual practical advantages and benefits, which science is continually affording man—2nd, the pleasures, with which, as a positive good, the pursuit of science fills the mind, and lastly, the influence, which it is calculated to exert upon man, as a being, destined to live eternally hereafter—and in doing so, we shall confine ourselves, of course, to that department of Science, which it is our peculiar province to examine. The only sure and infallible test of human advancement, is history, and to it alone, therefore, we will appeal, as to the benefits, which science has bestowed upon the human race, since it awoke, like a giant from his slumbers, after the long night of the dark or middle ages.—And here allow me to remark, as the practical advantages of science are found in the arts—that all art is but the perfection of science, and that when we look at the beautiful and ingenious machinery of every variety, that almost every where meets our observation, we behold in every instance, a speaking-proof of the power of Science. From the common grist and saw-mills, that meet our gaze at almost every bend of our little creeks and rivers, to the most extensive and complicated machinery of the large Factories, that stud our cities—from the smallest engine, that by its simple appendages, drives the saw through the massy timbers of our forest, converting huge and misshapen logs, into the most useful material in all departments of mechanics, to the majestic steamer, that sweeps the seas from one continent to another; all are but manifestations of that wonder-working influence, Science. Yet, we walk and breath in the midst of these benefits and conveniences, and scarcely ever dream of the toil and study, by which they have been bequeathed to us. When some Antiquary tells us of the rude arts of the olden time—or when we dig into an Indian mound, and, along with the bones of some departed artificer, discover, in the sharpened stone, the rude substitute for our axe and saw, with which he performed

his labour, we wonder how it was possible for him even to fashion his canoe for the waters, and perhaps congratulate ourselves upon our superior advantages; but we think not of ascribing to Science the praise. Yet when we look around us and reflect upon the source of our greatest advantages, we cannot but see that it is to Science, that we are indebted for them all. When we go into our large Factories and see wheel after wheel revolving, in harmony and order, and effect following effect, with unerring certainty, at each successive turn, we know that the finger of Science has been there—or when we turn from the crowded City and descry on the blue waters, the white canvass, swelling in the breeze and driving before the wind, the stately ship—safe, amidst breakers and rocks—again we know, that the genius of Science sits at the helm and pilots her on. There is indeed nothing, we may safely assert, now known and valued in the arts, that has not been discovered or applied and perfected by Science. It is true, that in the natural order of things, the Arts must have preceded Science, because the natural wants and cravings of man would prompt him, first to seek their gratification, by whatever means his own or the experience of others might suggest;—but his inventions and discoveries would stop with his necessities, and his knowledge be at best, but empirical.

Such was the limit of Art, during the dark ages, and from this point, began the influence of Science, and its march has been and is still onward. There is perhaps no nation on earth, that has derived more benefit from the inventions and discoveries of Science, than Great Britain, whether we consider her on the narrow isles of the triple kingdom, or as spreading abroad the arm of her dominion, to her tributary colonies; wherever her influence and her wealth are seen, there may be seen also, the triumph of Science. As late as the 13th century, England had comparatively no commerce, and it may be inferred, from the Statutes of the Oxford Parliament, that no cloths were exported and barely enough made, at that period for home consumption. From the accession of Edward III, wool was the principal article of export and source of revenue, (Hal. ch. IX, p. 476) at which time, the fine manufacture of cloths, which had been before unknown in England, was introduced by that Monarch, taking advantage of the discontent among the manufacturers of Flanders, to invite them over, as settlers in his dominions, and from this period may be dated the birth of English commerce, and to the Science of Flemish manufacturers, may be properly attributed its origin. But one great lever in commerce was yet wanting, in order to enable England to extend her trade and increase her wealth. The ignorance of Astronomy and Geography, which, at that period, prevailed all over Europe, and indeed the world,

imposed an impassible barrier to the intercourse of nations, and, whilst the field of commerce was thus limited by a general ignorance of the art of navigation, the necessary stimulus to push forward inventions and improvements, was also wanting, and thus for a long period, the simple and slow agency of the common wheel and loom was all that the most extensive manufactory could boast of. But the growing necessities of the time, called loudly for the invention of some means, by which navigation and commerce might be improved and extended. Meanwhile, Astronomy had begun to turn her curious and steady gaze to the heavens, and experiment and observation, to bring their influence to bear upon the vexed and difficult question. The mariner's compass is discovered—the true motion and form of the earth conceived, and bold adventurers are on the mighty ocean, in search of new continents. Sea after sea is explored, and island and continent visited, till the commerce of England is only limited by her power to produce. The improvement in navigation and the extension of commerce, as they were the offspring of energy and enterprise, directed by Science, so in turn, they became the source of new powers and new agencies, by which the knowledge of their authors was enlarged and their wealth increased. The experience and the improvements of the whole human family, were by a mutual intercourse, revealed to each member, and the advancements of all, made to subserve the interests and uses of each, and thus by a sort of action and reaction, one advancement in Science produced another, which in its turn drove forward the first, till both were pushed to the utmost extent to which the power of the improvement or discovery, enabled man to carry them.

But the spirit of Science ceased not its quickening influence here. It still hovered over the interests of man, pouring fresh light upon his path at each successive step and guiding him, with unerring certainty, to discovery and truth. The development of the mechanical laws was daily giving rise to new improvements and inventions in machinery, and the perfection to which clock-work had been pushed by the experiments and calculations of men of Science, became the means of perfecting and introducing one of the happiest conceptions, that ever benefitted the human race. I allude to the inventions of the spinning jenny, by Richard Arkwright, a man, it seems, of no education, who had been stationed by the community to shave certain dusty beards, in the Northern part of England, at half penny a piece. "To such end," remarks an anonymous German writer, "by forethought, accident and arrangement, had Richard Arkwright been by the community of England, and his own consent, set apart. Nevertheless, in strapping of razors, in lathering of dusty beards,

and the contradictions and confusions attendant thereon, the man had notions in that rough head of his; spindles, shuttles, wheels and contrivances plying ideally within the same; rather hopeless looking, which, however, he did at last bring to bear. Not without difficulty! His townfolk rose in mob around him, for threatening to shorten labour, to shorten wages; so that he had to fly with broken washpots, scattered household, and seek refuge elsewhere: Nay, his wife too, as I learn, rebelled; burnt his wooden model of a spinning wheel; resolute that he should stick to his razors rather; for which, however, he decisively, as thou wilt rejoice to understand, packed her out of doors." Such was Richard Arkwright—and such the conception, which has since contributed so much to the interest and wealth of his nation, as well as the convenience and comfort of the human family, generally. But notwithstanding this happy invention was first conceived by him, illiterate as he was, it is more than doubtful, whether it would ever have been anything more than a mere dream, an invention in embryo, like the wild visions of the ingenious illiterate, who vainly hope to discover the perpetual motion, had not the assistance of Science been called in to adjust the proportions and arrange the details, according to the fixed and immutable laws of Mechanics. Such assistance was found in the scientific mechanics, Cay and Atherton, and by their hands was perfected, the wonderful invention, which has, by reducing the expenses of manufactures and giving employment to industry, sent clothing and comfort to the shivering offspring of poverty and want.

It is difficult to estimate the real value of such discoveries, and still more so, very often, to trace all the hidden links between their conception and their perfection, and thus determine exactly, how much is due to the assistance of Science and how much belongs to what the world calls chance. Yet when we see a machine, involving in its construction, laws of friction and gravitation, strength of material and adjustment of powers and forces, and various other considerations, which we know, Science alone can reveal to us, and which, it has been the work of years to measure and determine, we are at no loss to attribute thus much to her, and conclude with certainty, that her hand has been at work, either in executing the plan, or giving laws for its adjustment.—We have said, it is difficult to estimate the real value of such discoveries, and who can tell it in all its extent. The facility with which, by the invention of Arkwright, cotton could be manufactured, created a demand for the raw-material, which neither England nor her colonies could supply. But the demand must be answered and the rich glebe of the Carolinas—of Alabama, of Mississippi, and the whole South must be upturned, and

the fields whitened by the valuable staple, in order to meet the calls of the manufacturers. But in order to do this, population must be supplied; civilization must be extended and enterprise awakened. Surplus population is thus removed; inoperative power employed and energies put forth and exerted, that before, lay profitless and dormant. But the round of its influence does not stop here. The product of the South must be transported to the factories of England, and the stately merchant-man must be built and manned to do it. Thus the revolution of Arkwright's invention, in England, drives enterprize into the South, fells the primeval forests of Nature; upturns the silent glebe; whitens the grey earth with the rich product of the planter; drives the gallant merchant-man, with proud and swelling canvass, across the waters and gives commerce and wealth to two great and growing nations. But time would fail us to elaborate and illustrate this argument. Other inventions and discoveries, equally claim our notice and admiration.

The invention of the steam engine by Watt, and its application to navigation by our own illustrious Fulton, in 1803, both men of profound mechanical Science, have diffused their influence throughout all the ramifications of society and formed a new era in national advancement. The awkward and sluggish keel boats, that thirty years ago, barely dragged their clumsy bottoms through the waters of the beautiful Ohio—by the light which these improvements have thrown upon navigation, have now been lifted from the waters, as things for contempt—and the mighty Mississippi and her tributaries, even amid the darkness of unsubdued nature, lighted up by hundreds of steam-boats, shooting like meteors, along their waters. Enterprize, which formerly often made the stoutest heart to quail, and the firmest nerve to tremble, are now undertaken by the merest boy, and successfully prosecuted. Journeys, which before seemed the labour of a life time, are now the source of frequent pleasure and recreation. But the genius and science of the great Fulton, stopped not at the invention of the steam boat. He was not content, till he had also made a channel for it, even through the forests of our interior; and now by the genius and enterprize of one man, guided and directed by science, we have rail-roads and canals every where intersecting our rich and fertile country; the stern and solitary silence of the wild old hills, is broken by the deep and noisy groanings of the labouring engine, and the simple country-man filled with astonishment and awe, at the mighty prodigy, that is bringing comforts, before unheard of, to his door, and diffusing in a thousand ways, the necessities and conveniences of life; calling into action dormant energies and unlocking the latent treasures of the earth. These are a few of

the great and inappreciable benefits conferred upon man by science, and they are but a few. Innumerable other contrivances are constantly ministering to our daily comforts and indeed necessities, which science has either brought into being or perfected. But we must pass from the consideration of the practical advantages of science, to that of its pleasure.

Were I arguing this point with Philosophers, I would need no other proof of the pleasures to be derived from the study of Science, than the fact, that by Science, we are enabled to know that, which we did not know without it. The desire to know has been, not inappropriately styled by a distinguished Philosopher of our own country and age, "the soul of the soul of man," and there is perhaps, no more universal principle of mind, than this desire. It belongs alike to the sage and the simple, the learned and the illiterate; though in many cases it differs widely, as to its objects—and it is wise that it is so. One individual turns his eyes into the bosom of the earth and, with a curious, and unwinking gaze, looks at the internal structure of the globe; descends into the mine and lingers long over the various strata, that form the firm layers of the earth; pauses with intense interest to scrutinize the various formations, in which he hopes to find Nature's own stereotype of her history, and, in the end, speculates on the Anatomy of some antediluvian skeleton, which he has picked up in the deep bosom of the earth;—another turns his observations towards the heavens, and roams over the infinite fields of space, tracing the fierce course of Orion, or holding solitary converse with the silent harmony of the starry universe; another, not content with the observations of his own unassisted powers, fixes to his eye the microscope, and is absorbed for hours, with the busy, bustling republic of animalculæ, that people a drop of water; whilst another shoulders his mattock and digs into the flinty mineral for knowledge; but in all and with all, it is the same principle that operates—the desire to know, or what we usually call curiosity. The gratification of a principle so universal, must therefore, be a most fruitful source of pleasure. That the study of Natural Philosophy is calculated to afford this gratification to the highest degree, is evident from the fact, that it reveals to us the principles and laws, which from their constant recurrence, in our daily walks and avocations, most frequently excite our curiosity.

But the desire of knowledge is not more universal, than the possession of it is delightful. It fills the mind with the richest treasures of enjoyment, and makes the desert place to blossom, and the wilderness to bloom as the rose. In the deep solitude, it is company, and in the bustling world, it is power; a treasure, that adheres to one, in every hour of adversity, and is his

consolation and his strength. So sung the Roman poet:—

*Felix, qui potuit rerum cognoscere causas!*

and so testifies the experience of every Philosopher. Who is there, that can walk forth in a starry night, with the gem-set canopy of the heavens above him, and not ask himself, what means all this magnificence? Whither are tending all the hosts of the heavens, and by what power are they held firm in their courses? Do they move without order—without laws to govern them—or are they a mystery—a maze without a plan? Such questions press themselves, with intense interest upon the minds of the reflective and contemplative—and even in the absence of Science, to answer them, excite the most pleasing sensations of wonder and awe. But how is our enjoyment heightened, when by the assistance of Science, we are enabled to extend our discoveries, infinitely beyond the range of our unassisted senses, and thus, not only enlarge the field of our observation, but also, trace the causes—detect the laws—measure the distances, and calculate the motions of the most erratic luminary in the heavens. With the lights, which Science throws upon Nature, our minds need never be idle. The richest and most inexhaustible mines of pleasure are ours, and wherever we tread, our path-way is radiant with instruction and interest. To the ear of the Philosopher, the wild surge of the ocean is but the swelling harmony of Nature, and the deep thunder, that rolls in majesty through the heavens, a sublime illustration of the principles of his Science. But I must not detain you longer, in attempting to prove, that, which is a necessary consequence of our organization. Indulge me in a few remarks, on the influence of Science upon man, considered as a being, destined to live hereafter, and I shall have done.

Many good and pious persons, even in the present day, look with suspicion upon the Physical Sciences, as subversive of faith in Revelation, and are therefore opposed to the study of them. The habit, say they, of ascribing a Physical cause to every phenomena in Nature, is calculated to produce scepticism, and in the end, infidelity; and in support of this singular position, they urge, that such has been the real consequence with some of the most distinguished men of Science, in the world. But the shallowness and fallacy of such an objection, must be most evident to any one, who will for a moment examine it. It is true, that some distinguished Philosophers, in the Physical Sciences, have been sceptics—but on the other hand, it is equally true, that much the greater number of the brightest geniuses, that have shone in this branch of Philosophy, have been firm and zealous believers in Revelation,—and the same logic, that would make the study of Physical Science, the cause of infidelity in a La Place, would also make it the cause of the most unwavering faith

and piety in a Newton, and if any difference, perhaps with the more force, in the latter case, since it will not be denied, that to Newton were revealed more of the mysteries of Nature, than to La Place. But an argument which proves two positions, diametrically opposite, must be fallacious, and therefore proves nothing. We must then conclude, that the cause of scepticism is not to be found in the study of the Sciences, and look for it in some other source. It is true, that the discoveries of Science have been forced into the service of infidels, and made to act a most pompous and menacing part in the field of discussion—but this is a perversion of their teachings, and no argument against the propriety and usefulness of their study. The Bible itself, has some times been assigned as the cause of scepticism, by persons who could find no better excuse for their infidelity; and the Saviour of the world was crucified by those, who were most conversant with the miraculous manifestations of power, by which he attested his pretensions. Yet no man, in his senses, would contend, because a few outlaws in the kingdom of morals and common sense, assign the Bible, as the cause of their infidelity, that therefore, it should not be read and studied,—or because our Saviour was crucified by those, who had witnessed most of his miracles, that the natural tendency of them was to prove him worthy of death. Such positions strike us, at once, as absurd. Yet there is as much logical connection in the one case as in the other.

But what does this objection amount to in the abstract? That it is dangerous to know, that there is a Physical cause for the various phenomena of Nature; in other words, that it is dangerous to know the truth—for surely none will deny the fact, that Nature does move by laws, fixed as the everlasting hills. When resolved into its elements then, this objection serves more to weaken, than to strengthen the authority of Revelation, for it manifests a morbid sensibility, in regard to investigation, that belongs only to error, and is doubtless a relic of the old popish doctrine, by which the mass were not only excluded from the study of the Sciences, but also forbidden the free and untrammelled use of the Bible. But the days of such puling philosophy are now drawing rapidly to a close, and the general diffusion of truth is putting to the blush, many of the affected solemnities and mysteries of error. The march of the Sciences is onward, and whilst the ten thousand benefits which they are constantly conferring upon the human family, continue to speak their value and importance, it is vain and idle to oppose their course.

But what is the real tendency of that course? Is it to debase or to elevate? To destroy our confidence in the supreme ruler of the Universe, or to enlarge our conceptions of his power and

wisdom, and thus add veneration and admiration to redoubled confidence and hope.

Undoubtedly, if the better to know and more clearly to apprehend the unsearchable nature of His power and goodness, be to enhance our faith and devotion, then the deep search of years devoted to the Philosophy of Nature by which we discover her hidden wonders and learn "to look through Nature up to Nature's God," must be most admirably fitted to the end desired. Nor will the discovery, that all the phenomena, which we witness in the course of our observations and investigations, are controlled by *laws*—serve in the least, to weaken, either our faith in a Supreme Governor of all—or our admiration of his power. For, whilst we discover these laws and note their influences, we are warned, that they too are under a superior control, and in fact, are but the mere agents, by which the God of the Universe operates in performing his wondrous and unsearchable plans—and the beautiful simplicity of the principles, by which he has been pleased to execute his will, instead of exciting our indifference for its author, magnifies, in the highest degree the sensation of awe and astonishment, with which we contemplate Him, through his works.

Shall we not then, gentlemen, conclude in the language of a distinguished Philosopher and Statesman, "that the pleasures of Science go hand in hand with the solid benefits derived from it; that they tend, unlike other gratifications, not only to make our lives more agreeable, but better; and that a rational being is bound by every motive of interest and duty, to direct his mind towards pursuits which are found to be the sure path of Virtue as well as Happiness."

## INTRODUCTORY LECTURE.

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*Delivered at the organization of BETHANY COLLEGE, Nov. 2, 1841, by A. CAMPBELL, Professor of Mental Philosophy.*

### PREAMBLE.

BESIDES a general superintendency of the education and morals of the youth of this institution in the various departments of it, the philosophy of man in its higher and more sublime branches has been made the special duty of the Chair assigned to me. In the discharge of these high and weighty responsibilities, I promise myself, not only much assistance, but much pleasure in the able and faithful co-operation of my fellow-laborers in this great and arduous undertaking. All, I think, who have attentively heard the learned and eloquent addresses of the professors that have preceded me, will doubtless conclude, that I do not promise myself, nor the community, too much from the ability and zeal with which they are entering upon the discharge of their official duties. I have only to regret, on the present occasion, that the protracted indisposition of one Professor present, and the unavoidable absence of another, have deprived us of the pleasure of hearing them also on the subjects of their respective professions.

Anticipated, as I have been, in much that has been submitted to you, gentlemen, in the previous lectures, I do not now arise to address you in a formal introductory lecture on any one branch of science either within or without that extensive range of subjects that come within the proper precincts of my special charge. With some reference, however, to my own department, I will immediately invite your attention to a few fragments of the history of philosophy, and to some fundamental facts and truths in mental and moral science as introductory to some notices of that system of education about to be prosecuted in this College.

The philosophy of man, I have said, in its higher and more sublime branches has been made the peculiar subject of my cultivation and didactic labors. The branches of this philosophy are indeed almost as numerous as all the other departments of human science. The reason is that man himself is the philosophy of the planet on which he resides, and perhaps of that solar system of which it is a part. This terraqueous globe with all the appurtenances thereunto belonging, was as evidently created and furnished for man, as was the palace of the Thuilleries, for the

monarch of France. It is all rational and intelligible to him that contemplates it in this point of view, but to no one else.

Viewed as the predestined nursery, school, and residence of man, as an animal, intellectual and religious being; as pre-arranged for the development of his person, for the formation and perfection of a character worthy of himself and of his position in the universe, there is the wisdom and the benevolence of an infinite intelligence manifesting themselves in all its parts, in all its modifications and adaptations. Hence all the sciences directly or indirectly terminate on man. Many of them indeed are exclusively devoted to him, and all of them touch some point in his constitution or circumstances that give them all their interest and importance. There is not a single science, taught or studied, but because of its bearings upon man, upon the conditions or contingencies of his present or future existence. The first philosophers were indeed, to a single man, mental and moral philosophers. They speculated upon the mental and moral constitution of man, upon the Divinity that gave him birth and upon his present and future relations to the intellectual and moral universe. And never did they stray away into the other fields of creation but with a reference to some accident or attribute of man.

## MENTAL PHILOSOPHY.

Few terms have experienced a greater variety of fortunes than the term *philosophy*. Its inventor, the celebrated Pythagoras, some five centuries before the Christian era, while establishing his College at the Italian Crotona, boldly denied to mortals the possession of wisdom, and claimed for the wisest of mankind no higher honor than the mere *desire of it*. This desire of wisdom he called *philosophy*, and modestly enough assumed to himself the title of Philosopher. He was not only the first born of philosophers, but also the founder of the name.

No sooner, however, had Pythagoras discovered the transmigration of souls, and established this new and strange doctrine, than, in the judgment of many, he became a *demon*—a *knowing one*, as some of his successors chose to be designated. Thus, before the author of the Metempsychosis had himself transmigrated, the *profession* of wisdom, rather than the *desire* of it, began to be regarded as the true definition of the term *philosophy*.

But wisdom itself among the Greeks early began to be distributed into various departments of learning and science, and these were again classified under distinct heads of wisdom and know-

ledge; and thus in a few years the term *philosophy* was constrained to represent them all.

The versatility of the ancients, as well as their powers of invention, have been fully equalled by the moderns. Hence our acceptance of the term *philosophy* is as equivocal and latitudinarian as theirs. We have not only natural, mental, and moral philosophy; but we have the philosophy of language, as well as the language of philosophy; the philosophy of history, as well as the history of philosophy. We have, indeed, the philosophy of grammar, logic, rhetoric, eloquence, and of theology itself. We have the philosophy of every thing, and the philosophy of philosophy into the bargain.

Philosophy, we have said, in the days of her youth was modest and unpretending; but no sooner had she advanced in years and in public admiration, than she assumed a loftier tone and enjoined a more profound homage on the part of her worshippers. Now she speculates with equal confidence on the finite and the infinite—on things celestial and terrestrial. She delights to handle the themes of infinite space and an endless duration. She sports with physics and metaphysics—with abstract natures and the quintessences of all manner of entities—and develops the nature of gods and men. Placing her foot on the summit of all human experience, she rears her aspiring head far beyond the centre of the heavens, and discusses the theogony of its inhabitants, the cosmogony of the universe, and the arcana of eternity. At this giddy height she dares to trace the infinite lines of liberty and necessity, and constructs new measures for ascertaining the root and ramifications of all manner of designs and motives, good and bad, that spread themselves over the illimitable regions of universal being.

But she assumed too much—she soared too high, and could not long retain her hold on human admiration. Finding her impotency by the aid of all manner of hypothesis to unfold the phenomena of Nature, she sought to conceal her weakness under the mask of oriental science and scholastic learning. Now she delights in mysteries and mysticism. If she had not the power of bringing light out of darkness, she now displays the no less admirable quality of bringing darkness out of light. She prides herself in cabalistic terms and Eleusinian mysteries. She tells of the *Chronoi* and the *Eons*, of the Demiurgic and Pleromatic beings who partition Divinity and Creation among themselves, and inspire the Universe with all the jarring and antagonistic principles with which it abounds.

In one word, the Pythagoreans and Aristotelians, the Platonists and the Gnostics, the Epicureans and the Stoics, the Materialists and the Spiritualists, the Realists and the Nominalists,

filled the human mind with darkness and confusion, and the world with mythology, scepticism, and libertinism; till the very name of Philosophy, like that of Gnostic, disgusted every lover of true wisdom and morality. Never were the words "*empty and deceitful*" better applied than by Paul to the self-confident and haughty philosophy of his day.

The philosophy, since his day, usually called "scholastic," was no better than the oriental science of the Gnostics. By its speculations on essences, hypotheses, and predicaments, it sought to explain the whole system of Nature, and reveal all its phenomena. During her reign, night, dark night, from her "ebon throne," spread a deep and melancholy gloom over the face of heaven and earth—of things temporal, spiritual, and eternal. Scarce a single discovery aided the progress of civilization during the long and inglorious career of the Aristotelian and Scholastic Philosophy. If some advances in true science were made by a few such men as Roger Bacon, Flavio Gioia, Copernicus, Galileo, Kepler, Tycho Brahe, &c. &c., they were all errorists from the false philosophy of the age, and had strayed away into the paths of true science.

But, as Goethe said, it was reserved to Sir Francis Bacon to draw a sponge over the table of human knowledge, and to strike out a new path to science. Bacon substituted facts for hypotheses, observation and comparison for conjecture, induction for imagination, and attributes and properties for the abstract essences of things: and though not the first who reasoned inductively, became the founder of the Inductive Philosophy. Since the publication of his *Novum Organum*, in 1620, within two centuries many more new discoveries, and some of them of the greatest importance, have been vouchsafed to the world, than during the despotic and universal sway of Aristotelianism for almost two thousand years.

No true philosopher—no wise man in the mysteries of Nature, Providence, or Redemption, ever now thinks of discovering the philosopher's stone, the perpetual motion, or the abstract essence of any thing; or of looking into the penetralia of Nature's sanctuary, or of scanning the hidden ways of God to man. We seek out the laws of Nature by her operations, as we seek for the principles of human character in the works of man.

True philosophy blushes not to avow before all the pretended sages and wise men of the world, her ignorance of three chapters in the universe, fraught though they be with sciences of the greatest curiosity and interest to man. These three chapters treat of the *origin* of things, the *nature* of things, and the *end* of things. When interrogated concerning the original commencement of any thing, of its abstract nature or essence, or of the final destiny

of a single atom of the universe, she modestly and candidly lays her hand upon her mouth, and in profound silence intimates her total inability to answer any such questions. Hence the three questions, What am I? Whence came I? Whither do I go? lie wholly beyond all the pretensions of sane philosophy.

After a long and violent controversy between Philosophy and Common Sense, they have at length amicably adjusted their differences, and entered into a solemn league and covenant never to be dissolved, of which the following seven items are of superlative importance:—

1. They have mutually pledged themselves always to reason from what they do already know, to what they do not know.

2. That they will always, and only, employ the five senses in ascertaining *sensible* facts; and receive the testimony of any two or more of them as infallible, when it can be shown that they are in good health and in favorable circumstances to ascertain the facts in question.

3. That the internal sense of consciousness will always be regarded as a faithful and competent witness of the mental and moral facts of the inner man, as the five external senses are of the material and external facts and events of the outward man.

4. That they will never form a science or build a system either on hypothesis or *a priori* reasoning.

5. That they will never affirm any thing to be a law of nature which has not been ascertained by the observation and classification of facts, and of such a number and character as to leave no doubt of the universality of the facts and of the principles developed in them.

6. That they will always receive the testimony of other persons who simply declare what they have seen, heard, or learned from their own experience, when that testimony is free from suspicion of fraud or fiction.

7. That the assent to every proposition shall always be proportioned to the evidence in favor of its truth and certainty.

Since the ascendancy of the Inductive Philosophy, all men of true sense and true education have acknowledged the several articles of this contract to be just and reasonable; have consequently acquiesced in them, and in every discussion of any question properly scientific, they have pledged themselves to be governed accordingly.

It is nevertheless to be regretted that the inductive mode of reasoning is greatly in advance of the practice, and that it has not found the same popularity in the study of the intellectual as in the analysis of the material system. Hence the sciences usually called Physical, have, within two centuries, progressed

in a tenfold ratio, compared with the march of the Mental, the Moral, and the Religious. Whether this fact be owing to the greater interest we take in matter than in mind—in earth than in heaven—in time than in eternity—or to the greater difficulties in the way of psychological and anthropological science, we have not leisure, nor is it important to our present object at this time, to discuss. The fact is public and acknowledged, and we have only to endeavor to correct public sentiment on this most vital department of human education, and to persuade mankind to give that pre-eminence to mental and moral science which their superior importance demands.

“The proper study of mankind is man;” but man is related to every thing in the universe, and it is impossible to become profound in the science of man without a general acquaintance with that universe of which he forms so prominent a part. Atoms and elements, principles and laws, scattered over the face of universal nature, or incorporate with any of its organizations, enter into the constitution of man, either as a physical or moral being, and form a component part of his peculiar personality. In sketching out the proper landmarks of human knowledge and the proper subjects of human study, a due regard must then be had to this important fact. Every science in the world affects man in some one point of his nature, because his nature in some one point touches every separate and distinct system in nature. True, indeed, the whole universe comprehends but two grand systems; but these are systems whose component parts are subordinate systems. Our bodies belong to the one, and our spirits to the other. The outward man, all material, directly or indirectly sympathizes with, and is affected by, external and material nature, not only as developed and distributed in the three kingdoms—animal, vegetable, and mineral, but as existing in all the great laws, elements, and cosmical arrangements of the solar system: consequently, high attainments in all these departments of science greatly advance man in the knowledge of his nature

While we distribute nature into mind and matter, and arrange our sciences accordingly, it must not be presumed that we can either clearly apprehend or define the one or the other. It is, however, I believe, generally conceded amongst the learned that we know about as much of mind as we do of matter. Though ignorant of the essence of either, we know some of the properties and attributes of both. That they are distinct and essentially different, is, however, most evident to those of an unbiassed judgment, and of a sound discriminating intelligence. There are, indeed, some great points of difference between these two creations which are very perceptible, and which ought to be

clearly and forcibly propounded to those who are studious to comprehend them. Of these, however, we shall select but one at present; and even this much we should not now attempt; were it not that it comes directly in our path. If fully developed in all its bearings, it is, in our judgment, all-sufficient to establish the essential difference between these two systems. It is this:—

*Mind is active—Matter is passive.* Philosophers have written so much of the *vis inertiae* of matter, that some of them have inferred that matter has a *vis* as well as an *inertia*. The *vis*, however, belongs to mind, and the *inertia* to matter. Every atom of matter in the universe is naturally and necessarily passive and quiescent. Motion is no attribute of any material thing. Matter can exist without it. Motion is, therefore, a mere accident of matter.

When, then, we set about proving two systems in one universe, we commence our philosophic proof just at this point. Matter in motion is a sensible demonstration that there is a God—a clear invincible demonstration that there is a Great Spirit and a spiritual system independent of every thing we denominate matter; animating, governing, and controlling it in all its movements and changes. This view of the universe enables man not merely to perceive, but to *feel* by his outward senses, and by his internal sense of consciousness, that there is a Spirit in the universe, and a spirit in himself of an unearthly and immaterial mould and temper. Thus, as Paul said to the Athenians, “We *feel* after God” and find him; for we move and are moved by him, as well as live in him. We also feel a spirit in ourselves. When, then, we attempt to reason on this subject, we commence with something at rest and inquire into the cause of its motion. To exemplify in our persons the fact that the impelling power is not material, we observe that our bones are quiescent till moved by the muscles. These muscles are themselves moved by the nerves; these nerves are moved by the brain, and that brain is moved by a volition from a spirit which is itself both passive and active—passive in sensation, but active in volition. I will to move my hand, and it moves. But the motion of the hand is effected by the intervention of animal machinery, by muscles, by nerves, by brain, by mind. Now whether this volition move ten pounds or ten thousand, depends entirely upon the animal machinery with which the mind is furnished. The volition is the same in the giant and in the dwarf: the machinery is different. The moving power, the force, is exclusively in the will. Hence I affirm the conviction that all power is in the will, and that every motion in the universe, however extended the series of agencies, is to be traced to an intelligent First Cause.

Yonder falls a mountain into the sea. The immediate cause

was a torrent; but how came the torrent? In the earth there are certain elements of power, all in a state of perfect quiescence. There lie stores of nitre, sulphur, electricity, hydrogen, water, &c. &c. In the heavens, too, there is a sun, a radiating centre, from which emanate certain undulations or rays, the principles of light and heat. These act upon the atmosphere, and the atmosphere acts upon the earth, pregnant with fire and flood, and tempest. Exhalations rise, imbued with all these hitherto dormant and quiescent principles. They are put in motion. The sulphur, nitre, electricity, water, &c. &c. are on the wing. They meet in the upper regions. A war ensues. The lightnings flash—the thunders roll—the clouds assemble—the tempest rises—the torrent breaks upon the mountain's top, at whose base an angry sea has raged for ages. Surge upon surge undermines its broken pillars. It is shaken—it totters—it falls, and is engulfed in the dark deep caverns of the fathomless abyss beneath.

Now when this desolation is surveyed by the enlightened philosopher, and traced through a long series of causes operating as distinct agents; yet, conjointly, he ascertains that the power of every agent was the effect of a cause extrinsic of itself, and that cause was the effect of another, and another, and another, until he reaches the last agent within his vision, and that is resolved into the sovereign will or mandate of the Great Spirit. So that all the laws, impulses, and powers of nature are resolvable only and always into the simple fiat and volition of its Creator.

Man has in himself a consciousness and an evidence of this system of spiritual agency. His body, though composed of organs voluntary, and involuntary as respects the direct and positive influence of his will, is nevertheless subjected to his will: for by means of the voluntary organs he exercises power and dominion over the involuntary. His whole frame is thus subjected to the supremacy of intellect and volition. Thus in tracing the operations of his being, he discovers that in him there is something called spirit that thinks and feels and wills and acts by means of the animal machinery of his system. But this spirit, though *in* this body, is no part of it, but above it, distinct from it, and acting out its volitions through its instrumentality. Thus every man who can look into himself, may feel as well as perceive the supremacy of mind over matter, of spirit over body, and that every action and movement of the whole body is an effect of a simple volition of the mind.

Now it is the same law of motion that pervades the spheres as well as the atoms of creation. The movements of worlds, and the smallest particles of which they are composed are alike the effects of intellect and volition. He that can doubt whether chance or intellect marked out the orbits of all the planets pri-

mary and secondary, with all the comets, of seventy-five millions of suns, is not to be reasoned with on any subject whatever. The motion of worlds as well as the actions of men are demonstrably the result of enlightened volition—of volition, guided by wisdom and knowledge.

But we shall no further at present argue the certainty of a spiritual system, but proceed forthwith to that department of philosophy which treats of mind and its peculiar phenomena.

Sciences are sometimes improperly classified into natural, mental and moral. There is no such contrast in fact. All true Sciences are natural. They are all founded in nature and discuss the various phenomena of nature, whether it be material, mental or moral nature: for nature is just as moral and spiritual as she is material. Now as nature, so far as known, has but two systems, the spiritual and the material, all Sciences respect these two. Sciences then are not properly called natural and mental, inasmuch as mind is just as natural as body, but they are all material or mental. They all respect matter or mind.

Mental philosophy is our special province at present. It is indeed an extensive field, and hitherto very imperfectly cultivated. It comprehends the physiology of the human mind, the phenomena of its moral powers, its social powers and its religious powers. It contemplates all the human faculties, and discusses the duties devolving on man as an individual, domestic, social, and religious being. It, therefore, includes ethics, politics, and theology, according to the dicta of our most distinguished masters, and regards man in all his intellectual, moral and religious powers, relations, obligations and susceptibilities.

If indeed such be the immense area of mental Science, we need not wonder that it is so far in the back ground. Besides there are peculiar difficulties at the very threshold of every attempt to form a complete outline of the science of mind. The subject is not only the most recondite and abstract in its nature, but that very subject is the instrument by which we investigate it. Mind is both the agent, the instrument and the subject of the science. The mind works, and it works by itself, and it works upon itself. If it be difficult for the eye to see itself, for the ear to hear itself, more difficult it is for the mind to see itself, analyze itself, comprehend itself. Yet this is indispensable to a complete and perfect system of mental and moral science. And being so it is not to be regarded as superlatively marvellous that some Philosophers have considered the difficulties as insurmountable, and have given up the attempt in despair.

Others, however, of a more sanguine temperament, and of more inductive and speculative habits, have alleged that by observation and reflection properly combined a system of mental

science, if not absolutely perfect, yet nearly approximating to it, may be ascertained and established. They allege that as by looking at our own eye in a mirror, by analyzing the living eyes of our neighbors, and by sometimes dissecting the eye of the dead, we can arrive at a correct theory of that admirable and wonderful organ; so may we by taking notice to what passes in ourselves as well as by a minute attention to the developements of mind in others, obtain a very correct view of the mysterious operations and capacities of that most sublime of all earthly creations.

While we should not with the first class fold our hands in despair, and abandon the pursuit of a perfect system as an utopian project; and while we cannot entirely acquiesce with the second class, inasmuch as we cannot apply the dissecting knife to the human mind, dead or alive; we nevertheless must think that a system sufficiently approaching perfection for all useful and practical purposes, may be ascertained, provided only that we are willing to receive a little supernatural assistance, especially in those parts of the system in which human reason feels her own peculiar impotency in the undertaking.

Aristotle, Socrates, Plato, Zeno, Epicurus, Seneca, Cicero and indeed all the Grecian and Roman schools pre-eminently failed in every attempt at forming a system of mental philosophy and moral science. And when we consider the absolute sway under which the first of these renowned names held the world for 2000 years, we will learn without much surprize that even in Christian Nations little or no advance was made in these departments of Philosophy till since the revival of literature and the publication of the *Novum Organum*.

The labors of Descartes, Locke, Hutchison, Adam Smith, Reid, Stewart, Thomas Brown and many others of these schools contributed much to the advancement of mental philosophy during the last century, not by furnishing a complete or perfect system, but by their analysis of former systems, their expositions of the defects of the ancients, and by their own new theories, collisions and debates. Still, however, as a whole, not one of these systems, can in our opinion, be adopted as a complete and perfect text book in any department of mental Science.

As to that branch of mental science usually called "Moral Philosophy," whose object it is, says Dugald Stewart, to "ascertain the general rules of a wise and virtuous conduct in life, in so far as these rules may be discovered by the unassisted light of Nature, that is by an examination of the principles of the human constitution, and of the circumstances in which man is placed," I have on another occasion, attempted to demonstrate to be a baseless speculation, unworthy of the name of an inductive Science.

The late work of George Combe on "Moral Science," just now issued from the New York press, based on phrenology, has most signally failed in an attempt to base a perfect system of morals on those views of the human constitution propounded in this new philosophy. That shrewd, profound and distinguished phrenological philosopher, who has so greatly elevated and improved the speculations of Gall and Spurzheim, and given them a more scientific and Baconian form, than any of his predecessors or contemporaries, has nevertheless fully demonstrated that how ever much the nomenclature of mental science has been improved by himself and his predecessors in their phrenological speculations, the science of morals is as baseless on his hypothesis, as in that of any of the defenders of the old philosophy.

Without discussing either the abstract or comparative merits of phrenology as an inductive science, or as a system of mental philosophy, we may in all truth and candor concede its superior pretensions to an improved nomenclature, and to a more simple, rational and scientific classification of the human faculties, above all its competitors for public favor. That its definitions of the animal instincts, of the perceptive and reflective powers and of the moral sentiments, apart from its theory of cerebral developements, are the best that have yet appeared in any system of mental or moral science, and such as to give it a very strong claim on the attention of all lovers of true science, will moreover be generally conceded. When, too, we think of the vague generalities and indistinct definitions of sensation, perception, memory, judgment, reason, imagination, and the moral sense, &c., &c., with which our best and most popular systems abound, we cannot but think that the study of mental and moral science, if it have not already been, must eventually be greatly advanced by the learned labors, researches and discoveries of Gall, Spurzheim and Combe. And although, from the recency of the doctrine of cerebral congeries and developements, some errors and mistakes of its masters and disciples may have subjected the new science to the indignant scoffs of the votaries of more ancient and popular theorists; still there are so many redeeming facts and demonstrations in its history as may well propitiate from all lovers of true science, a more candid, and protracted examination of its various pretensions than some of our more pretending and plausible contemporaries seem disposed to award it.

A degree of obscurity and incertitude in the minds of its most sanguine and able advocates does yet remain on some of its alleged developments and manifestations. Even this, on the admission of its claims to an inductive science, may long, nay,

always, continue. Perfection of knowledg in any one science has never yet been the attainment of mortal man. Still less, may it be expected in one of the most mysterious of all the subjects of human consideration.

Alike indifferent to approbation or disapprobation from either school on account of an avowal which a conscientious regard to truth contrains me to make, I must acknowledge the conviction that the old and the new science of mental and moral philosophy are equally at fault in their attempts to deduce from their own premises a system of natural religion and moral philosophy either worthy of God or of man. Paley and Spurzheim, Butler and Combe, Reid, Stewart and Brown with all the phrenologists are demonstrably equidistant from the equator of truth, when they attempt to make man either religious or moral from any lights contained in, or deducible from, their respective theories, developments and demonstrations. They may expose each other's errors, laugh at each other's follies and wanderings from the path of sober induction and logical conclusion; they may accuse each other of a too refined spiritualism, or of a too gross materialism; but when it comes to the Herculean task of demonstrating from their respective theories, what man ought to be, and what he ought to do, as a rational, voluntary and responsible agent in the pursuit of the high ends of his destiny, they are equally constrained to exclaim *hic labor hoc opus est*, a labor and a toil to which their powers are wholly inadequate.

I am no special advocate of the old philosophy or of the new. I choose rather, so far as their congruity will admit, to be an eclectic. Still one cannot but smile at the various ingenious missiles by which the rival leaders of the respective systems assail each other. The old school denounces the new as *materialists*, and the new returns the compliment, by denominating them *idealists*. The old say that the new school necessarily tends to infidelity and the subversion of the Bible; the new school reprehends the old as seeking to transmute the laws of nature and to annihilate the essential characteristics of the human constitution through a blind devotion to long consecrated traditions. For my own part, having on a former occasion attempted to shew that moral philosophy on the principles of Paley, Stewart and Brown is not an inductive science, when called upon I feel myself under equal obligation on some proper occasion to shew that Mr. Combe's new moral science is as much an assumption, a flight of imagination, as the schemes of those whom he so ably repudiates. This, however, is a task which I am not now called upon to impose either upon you or myself. Still I ought perhaps to offer a single specification in illustration of my meaning.

If prudence be the queen of all the virtues, justice is certainly

the basis of them all. The justice of God is indeed the only guarantee of the Universe. Now a clear indication of the justice of God is essential to a proper view of justice among men and equally essential to the moral government of ourselves and of the world. Any system, therefore, that either makes no account of the Divine Justice, or propounds an inadequate conception of it as the basis of the social system and the social duties, is not only manifestly inadequate to direct, but wholly impotent to govern the actions of men. This is my first and leading objection to Mr. Combe's system of moral science, as it is to that of Paley, Bishop Butler and many others of that school.

Butler and Combe are authors of no ordinary stature. Such men are not to be met with in every City or in every State. Their phrenological developments, though I have not seen either of them or their image, give them large causality, but still larger comparison. They are men of gigantic strength of reason, but admirably great in reasoning analogically and by comparison. This needs no other proof than "Butler's *Analogy*" and "Combe's *Constitution of Man*"—works indeed of great and lasting merit.

But it must be observed that arguing from analogy, and not only illustrating but sometimes reasoning by comparison, while it is generally more clear, and always more fascinating, than any other style, is nevertheless liable to great abuse, and in the hands of persons constitutionally *sophistical*, (of which there are never wanting numerous instances) often fatally erroneous and seductive. In this style, indeed, Butler and Combe are generally as fortunate as they are eminent. In reference, however, to the point under consideration, they equally fail in supporting their peculiar systems of moral science.

Butler, indeed, at one time admits the defects of his argument from analogy while writing of this very point before us—the Justice of God. He admits that the justice of God is not fully displayed, nor perfectly executed in this world. This admission is fatal to moral philosophy founded on analogical reasonings. Mr. Combe saw this, and made it the occasion of stating his new system. If indeed vice often triumphs here, and virtue goes unrewarded; if the good man is frequently poor, oppressed and unfortunate, while the wicked man prospers in his way, is independent and happy, where is the proof that God is just. To prove it from the Bible is to give up the cause of the moral science of the schools and to confess that it affords no adequate conception of the Divine justice. Now if it appears from all that is seen in nature and in providence, that God's ways are not equal in the dispensation of justice among men, how can any one affirm from all that is seen or known that it will be otherwise hereafter in another world! And what on this hypothesis comes of the foundation of natural religion and moral science!

But how does Mr. Combe overcome the difficulty which the Bishop admitted?—By denying the fact, or what is just tantamount, by assuming that justice is fully executed here—that virtue is always adequately rewarded and vice fully punished. We shall quote the passage—“Mr. Robert Forsythe in his work on moral science has stated the objection to Butler’s line of argument in strong terms. “If, says he, God has established a world in which justice is not accomplished, by what analogy, or on what grounds do we infer that any other world of his creation will be free from this imperfection. Butler would answer, because justice is an attribute of the Divine mind! The opponents however reply:—How do you know it is so? We know the Deity only through his works; and if you concede the justice is not accomplished in their administration, the legitimate inference is, that justice is *not* one of his attributes, at least the inference that it is one of them is not logical;” “to this difficulty,” says Mr. Combe, “it is of great importance to moral science to find a valid answer, and the most satisfactory to my mind would be one that shows that the Divine Ruler actually does execute justice here, and that therefore we are entitled to infer that he will be just hereafter; and such, accordingly, is the argument which I respectfully propose to maintain.

Mr. Combe in commendation of this view of the subject, observes that this is the “right clew to the moral government of the world which removes many perplexities out of the way.” It is obvious, then, that he bases his moral science on the proposition “*that God actually does execute justice here*”—that here virtue is always fully rewarded and vice fully punished; for if they were but partially remunerated, justice would not be executed.

Now is this the fact? If it be, his moral science stands firm: if not, it falls to the ground. His proofs and illustrations we shall quote, so far as to give a faithful representation of them. To explain certain anomalous appearances and to prepare the way for his proof he lays down the following:

“The laws which regulate the action of inanimate matter operate purely as physical influences, independently of the moral or religious character of those whom they affect. Thus if six persons be travelling in a coach, and if it break down through insufficiency of the axle, or any similar cause, they will be projected against external objects according to the impetus communicated to their bodies, by the previous motion of the vehicle; exactly as if they had been inanimate substances of the same texture and materials. Their virtues or their vices will not modify the physical influences which impel or resist them. The cause of the accident is simply not the displeasure of God against the indi-

vidual men for their sins, but the physical imperfection of the vehicle. — If one break a leg, another an arm, a third his neck, and a fourth escape unhurt, the difference of result is to be ascribed solely to the difference of the mechanical operation of the coach upon their bodies, according to the difference of size, weight and position, or to a difference in the objects against which they are projected; one falling against a stone, and another alighting upon the turf. The whole calamity in such a case is to be viewed simply as a punishment for not attending to the physical laws: for neglecting to have a coach sufficiently strong." Yet this punishment indicates "no displeasure of God against the individual men for their sins." He that got his neck broke, and he that fell upon the elastic turf ought to be equally thankful to God, inasmuch as neither the particular virtue of the one, nor the particular vice of the other, was at all contemplated in the transaction. Thus we are taught that the punishment of violations of the physical laws springs not from the displeasure of God, consequently the rewarding of obedience is equally without his approbation. Can that, then, be a display of the justice of God that is neither a token of approbation nor disapprobation! Can that be punishment which indicates no displeasure? Or that reward which gives no evidence of approbation?

This circumstance, it will be remembered, is brought up either to illustrate or prove that justice is fully administered in this life. A physical law is broken and it is punished. Six persons broke the law, and only one of them had his neck broke. But *A* that fell upon the turf and *B* that was dashed upon the rock, broke the same law. Why then, the inequality of their punishment! Where does the justice appear! As they were equal in violating the law, ought they not to have been equal in suffering the penalty. But Mr. Combe would say they are equally thrown out of the coach, and that was the full penalty for going into it, and what happened to them after they were thrown out, occurred by mere accident and was not punishment at all—no token of the displeasure of God! Where then is the justice still? For it may be supposed that *A* who fell upon the turf weighed 200 lbs, and *B* that fell upon the rock only weighed 120 lbs. Now it was the extra average weight of *A* that broke the axle, and involved *B* and the others in the calamity, and yet he fell upon the turf and suffered no pain whatever.—Is this justice? or is the whole offence expiated merely by the fall without any regard to the effects of the fall upon the individuals? If the mere fall upon the earth be the punishment of the physical law, what other law is honored by the respective effects of that fall upon the individuals? Here the philosopher falters.—Justice is not administered in the case. The most innocent man of the six suffers the greatest

calamity, and the most guilty the least. A most fatal exemplification of the proposition that no one can violate any law, physical, organic or moral, without suffering the penalty annexed to the transgression of it: and equally fatal to the assumption that justice is fully executed here. It will not do for Mr. Combe to say that this is not precisely the case he made out, for his illustration admits of such a variety of incident as I have supposed, and such a one happens as often as any other.

But we shall hear him exemplify his argument by a transgression of the organic laws.

"If," says he, "we labor too intensely with our minds, we exhaust our brains, impair digestion and destroy sleep. We soon render our brains, which are the organs of the mind, incapable of action: and finally we are visited with lassitude, imbecility, palsy, apoplexy and death." Here again are five punishments of the same species of transgression, it may be in five or more distinct persons. Where, in this case, is the equality? One suffers lassitude, another imbecility, another palsy, another apoplexy and another death. And yet there is no displeasure in all this—and still it is a punishment for the violation of the organic laws of our own system.

But we must have another case from the third code of laws as an example of violations of moral law. The propensity of acquisitiveness, which, like all the propensities and appetites, is blind, he places in five distinct attributes—without intellect, with intellect, without morality, with intellect and consciousness, but without benevolence, with intellect and consciousness and benevolence to guide its actions. He instances the results in each of these cases.—Acquisitiveness in an infant or an idiot without the guidance of intellect, gathers trifles, things of no value; controlled by intellect, it acquires good property, valuable articles. Without morality, it takes the property of others—with morality, so far as mere moral justice is concerned, it requires property; honestly, but for selfish purposes—but guided by benevolence, veneration and the higher moral impulses, property is acquired for benevolent ends and distributed to the great good of society and to the happiness of the donor.

The results of each of these movements of acquisitiveness are according to Mr. Combe, the reward of obedience and disobedience to the moral laws under which man is placed by his Creator. These are the examples, or at least a fair and full sample of the cases chosen by himself in demonstration of the proposition that *justice is executed in this world*; that here virtue is fully rewarded and vice fully punished. Any other rewards or punishments than these, belong not to phrenology or moral science as based upon its expositions of the constitution of man. The Bible, Mr.

Combe intimates, may indicate other results; but moral science as based on his philosophic theory of the physical and moral constitution of man, affords no countenance, nor support to such a view of the subject.

I have time at present, only to state two leading objections to this system of moral science. Doubtless others will occur to those who are pleased to bestow upon it a full examination.

1. It is at war with the radical, and, I believe, almost universal conception of justice;—that it should be discriminating and not wholesale—that every individual should not only be rewarded and punished for obedience and disobedience, but according to obedience and disobedience.—The predominating error in this theory appears to be that mere reward and mere punishment are substituted for adequate reward and adequate punishment. This is a capricious and whimsical sort of justice. But it is all that can be expected from a general system. Indeed the grand defect in Mr. Combe's theory, is, that it excludes a special providence, and the whole system of special rewards and punishments in the ratio of obedience and disobedience. It admits of great inequalities of talent, capacity, fidelity, and allows of great inequalities of virtue and vice, and, excepting the inward state of the feelings, dispenses the same rewards and punishments to all—nay, frequently permits the comparatively innocent to suffer, while the hardened, more reckless and daring sinner escapes. The moral universe with Mr. Combe is one great eight day or eight thousand year clock, which after it was wound up by its maker, was permitted to run on without any interference on his part, till the weights run down. In asserting that a general system is the only one which phrenology teaches, Mr. Combe is certainly correct; but that very assertion, when fully comprehended, most satisfactorily demonstrates that a correct and true system of moral science can never be grafted on the science of phrenology, any more than on the metaphysical system which now waxeth old and is ready to vanish away.

My second objection to Mr. Combe's phrenological moral science is;—By asserting that justice is executed in the present world, he not only asserts that which contradicts very general experience, but also denies the possibility of future rewards and punishments at all. The rewards and punishments being adequate and complete in this life, there is nothing to reward or punish hereafter. So far then as the moral science of phrenology is concerned, there is no future reward of virtue, no future punishment of sin. Who does not see that if God has so executed justice in this world, as to reward and punish adequately in all his moral administrations; if every transgression and disobedience has here received a just recompence of reward, there is nothing to reward, nothing to punish after death. The account

is exactly balanced at death and every man retires from the drama of life just as he appeared upon the stage at first.

Phrenology, then, like the old philosophy, ends with the grave. The animals that perish, and man, "the lord of the fowl and the brute," alike leave this world out of debt and out of credit. Such a system is not adapted to the wants of humanity—the organs of hope, and of caution have no adequate objects on earth suited to animate or restrain man according to the exigencies and conditions of his present existence, according to the longings and aspirations of his nature.

Both the old philosophy and the new alike fail in animating virtue and restraining vice. They have no consolation for the afflicted, no oil of joy and gladness for the broken and dejected in spirit. They have no bright scenes of future bliss, no heart cheering visions of infinite and eternal good for those who are ready to perish under one or more of the thousand nameless ills and evils of this life. Nor have they arguments or restraints to curb the violence of human passion, to subdue and tame the lions and tigers of the human heart. They fail in furnishing a correct theory of human life, in presenting a perfect standard of human action, as they do in authority, in obligation and in motives adequate to all the demands and conditions of humanity. Hence, no one has been reformed from the waywardness of folly, no one has been reclaimed from the paths of vice and iniquity, and constrained to tread the paths of righteousness and life by all the arguments and inducements of all the systems and schools of moral suasion in all the languages and ages of the world.

These systems and their authors take no account of the catastrophe that has befallen humanity. They assume that man is now in that same state of nature in which God originally made and placed him. They contemplate neither a preternatural nor a supernatural condition of human nature. Their best reasonings are full of doubt on man's origin, nature, relations and destiny. Concerning moral obligation and the chief good there have been innumerable theories, sects and discords. Even, now, notwithstanding all the plagiarisms on the Bible, and comminglings of revelation and philosophy, the wisest and greatest masters of the Christian schools of moral science, are divided on the very elements of moral obligation, the criterion of virtue, the soul of moral science. The whole body of ethics, whether Christian or heathen ethics, is a dead carcass without a clearly ascertained and fixed moral obligation.

Here we have the celebrated Grotius and Dr. Samuel Clark and other Rabbins, learnedly descanting upon the "*eternal fitness of things*" from which to abstract the essence of moral obligation. There we have the ingenious Cudworth, Butler and Price eloquently and plausibly expatiating on the charms and beauties of

heaven-born virtue, thence eliciting the remote elements of all voluntary obligation, affirming that a single glimpse of the divine beauties and loveliness of virtue is itself all-sufficient to woo the affections of the human heart and to control the waywardness of human passion.

Lord Shaftsbury and Dr. Hutchison in another niche in the Pantheon of the virtues, affirm that the roots and grounds of all moral obligation are found in the moral sense itself; and this moral sense, sometimes less learnedly called conscience, is, with those doctors, a sort of instinctive principle which naturally abhors evil and delights in good—others have traced all moral obligation in its ultimate principle to the desire of happiness—others, to the sovereign will of God, and some, with Voltaire, Diderot and D'Alembert found it all in custom. Their doctrine is, that "all ideas of justice and injustice, of virtue and vice, of glory and infamy are purely arbitrary and dependent on custom."

Upon the whole, the provisions of moral philosophy are not adequate to the wants of humanity. We are thus placed under a happy constraint to look for a clearer and more intelligible standard of duty; a higher and a holier authority to enforce, and stronger, more enduring, and more animating motives to impel to action; more vivid, sublime and soul-enrapturing scenes, to inspire our hopes and fears, than Philosophy, either mental or moral, knows any thing of. The Bible, alone admirably corrects what is erroneous, and supplies what is wanting in every point where human reason and human science fail. The civilized world, if there be such a one, are just but being convinced of the momentous fact, that the most splendid schemes of moral culture, based on moral philosophy, without the teachings and sanctions of the Bible, are but splendid cheats, and sublime abortions. The sons of true science in all Protestant Christendom are but awaking to the all-important fact that the Bible and its evidences, the Bible and its precepts, the Bible and its promises, the Bible and its threatenings, the Bible and its awful, fearful, and glorious sanctions is the only rational, complete and perfect text book that can be with perfect safety and with any reasonable ground of hope adopted in any school, high or low, which contemplates a rational and moral system of education.

In strongly affirming this conviction, we do not disparage either mental or moral science. The present crisis demands, and a good education requires, an intimate acquaintance with the best human productions on the animal, intellectual, and moral powers and capacities of man. So far as these productions develop or apply the true principles of mental and moral science, without presuming to originate them, so far they may be used advantageously, in the hands of proper instructors, in accomplishing

youth to fill the most useful, responsible and honorable stations in the world.

Even the detection and the exposure of the errors of those systems is an essential part of a good education at the present moment, in advancing the progress of civilization. The correction of a single radical error, for example, in such works as Combe on the "Constitution of Man;" in Watts on the "Improvement of the Mind;" in Butler's "Analogy;" in Lord Brougham's "Natural Theology;" Babbages ninth 'Bridgewater Treatise;' and in various other such works of great literary and scientific merit, would be to every student and lover of true science, a very important and a very acceptable service.

To illustrate this last suggestion by another reference to Combe's "Moral Science" and "Constitution of Man," I would remark that these works, so far as they respect the physical and intellectual constitution of man, so far as they treat on the constitution of nature, as adopted to that physical condition of man, are, in my judgment, worthy of being read and even studied with considerable advantage to the students and lovers of true science. Now the points on which Mr. Combe, in my judgment, errs, may, even upon the principles suggested in the works themselves, be demonstrated to be aberrations from his own premises and analogies. His capital mistake, as it seems, is that he takes for granted *that man is now, what he always was*—that he has never fallen; and that therefore the disorder and mal adaptation of his moral faculties as connected with his animal appetites and propensities, are as much the creation of God now, as the first man was. And yet it would require, methinks, but a moderate effort of his liberal ideality, to find such a perfect head, such an harmonious supremacy of the intellectual and moral faculties, as to have made moral perfection as natural to man as imperfection now seems to be. If idiocy, on his premises, be the result of a falling off in the intellectual development, in the mal organization of certain portions of the brain, on the same principle then, why may not moral imbecility in the whole species, be resolvable into a similar falling off in the due development of those organs which he has figuratively called the moral powers, but which in fact are but the physical instruments by which the mind operates. If, moreover, a good or a bad organization in the inferior powers be, as he avers, transmissible for many generations, what principle, in his own philosophy, forbids that the same law should not hold good from Adam till now, as respects the superior organs of the human system.

But to return:—If the art of living well cannot be deduced from those sciences, there are at least two arts of great importance which essentially depend upon them, or perhaps rather, are mainly

to be deduced from them:—these are the art of teaching and the art of reasoning.

Of the art of reasoning, as dependant on the proper analysis of our powers of acquiring and communicating knowledge, as emanating directly from the science of mental philosophy, we cannot now speak. A few remarks on the art of teaching, as deducible from the premises already before us, must close our present address.

Of the mental and moral philosophers of the last century, none are more deservedly reputable than Stuart and Brown of Edinburgh. According to them, the supreme advantage of mental philosophy is, the aids and facilities which it affords to the projection and establishment of a proper system of education. Hence any important change in the philosophy of human nature has given birth to a corresponding change in the systems of education. An improved philosophy of man, will, of course, introduce an improved system of education. The old and the new school of mental and moral philosophy very remarkably concur in affirming “the most essential objects of education are the two following:—First, to cultivate all the various principles of our nature, both speculative and active, in such a manner as to bring them to the greatest perfections, of which they are susceptible; and secondly, by watching over the impressions and associations which the mind receives in early life, to secure it against the influence of prevailing errors; and, as far as possible, to engage its prepossessions on the side of truth.” It is only upon a philosophical analysis of the mind that a systematical plan can be founded for the accomplishment of either of these purposes.\* So affirms the most distinguished incumbent of the Chair of mental science in the University of Edinburgh. And yet Stuart farther observes that so late as the close of the last century, he did not know that in any language or country, “an attempt had been made to analyze and illustrate the principles of human nature, in order to lay a philosophical foundation for the proper culture.” Since the commencement of the present century, however, some such attempts have been made.

Our College has been founded with a special reference to these facts. It is the offspring of a deep and long established conviction that the theory and practice of education are yet greatly behind the onward progress of the age, and that to improve education and to adapt it to the philosophy of human nature, is, of all human means, the most likely to improve and reform the world. We have, therefore, entered upon the arduous task with a firm resolution, to make, as far as ascertained, the true science

\* Stuart's *Elements of the philosophy of the human mind*. Vol. 1, page 14.  
Cambridge Edition—1833.

of human nature in all its powers, speculative and active, not merely the basis, but the rule and measure of that course of instruction which shall be prosecuted in this Institution. As light to the eye and music to the ear, so should education be adapted to the physical, intellectual and moral powers and susceptibilities of man.

In the present improved state of human knowledge, a better definition of education may, perhaps, be given, than even that of Dugald Stewart. With us the chief object of education is not the acquisition of knowledge. It consists not in mere literature and science. Many of those greatly learned and scientific men of the most distinguished schools were fit neither for the present world, nor for that which is to come. Their great learning disqualified them for heaven or earth.

With us education has primary regard to the formation of habits, more than to the acquisition of knowledge; more in teaching a person the use of himself than in teaching him to use the labors of others. We define education to be *the development and improvement of the physical, intellectual and moral powers of man, with a reference to his whole destiny in the Universe of God.*

We contemplate man as coming into the world without an idea and without a habit, preadapted for such a world as this, but having every thing to learn, and having in his constitution elements and principles that prompt him to look beyond the confines of both time and sense, for the complete development and enjoyment of his own mysterious and wonderful being. Not only the whole constitution, but the whole destiny of man, must therefore be contemplated in every scheme of education adapted to the wants and wishes of humanity. The human constitution must be considered not only in reference to all its parts, but also to their relative importance. His animal constitution must, indeed, be taken into the account, because the *sana mens* is found only in *sano corpore*, but it must be held subordinate to his intellectual, and both of these to his moral nature: for as his moral and social nature is his chief honor and his chief happiness, the expansion and cultivation of these attributes and capacities of his constitution will always command the supreme regard of those competent to the delightful task of instructing and training man in full harmony with his whole destiny in creation.—And when we speak of the whole destiny of man, we comprehend his relations to society, both now and forever; his exact position in that Universe of which he is both so humble and so conspicuous a part.

Under the Divine government, which is that of both general and special laws, every defect in education meets with a corresponding chastisement. Is physical instruction and training ne-

glected? Is the child allowed to grow up ignorant of the physical and organic laws of its own being; and allowed to transgress them without admonition? Some fatal functional or organic derangement, or a premature decay of the whole system, is the immediate penalty. Is the cultivation and training of his intellect neglected? Mental feebleness and general incompetency for the business of life, is the inevitable consequence. But is moral culture neglected? The result is still more fatal, because it involves the whole ruin of man, body, soul and spirit, and of his whole interests, temporal, spiritual and eternal.

When according to the best statistics within our reach, we subtract the victims of defective or bad education from the mass of those fashionably called the liberally educated, the proportion lost is of a fearful magnitude, compared with the portion saved to society. Almost three-sevenths of that class die under thirty years of age, the prey of disease and physical irregularities, which a few timely lessons might have prevented. Or they fall a prey to vicious and licentious habits of life, which soon despatch them to the grave. Two-sevenths of the remainder, who may live to advanced age, are public nuisances to society, because of the blighting and pestiferous influence of their flagitious example to youth. Of the remaining two-sevenths the more honorable posts of society are filled up; and their duties discharged with more or less honor to themselves and advantage to the community.

Now there is neither physical nor moral necessity for such a state of things. Let education be only in harmony with the present philosophy of human nature; let it be what the most perfect analysis of our constitution says it ought to be; let it embrace the whole man, and the whole range of his powers of doing and enjoying good; let it communicate sound instruction, enforce good examples, and practise moral training by all the appliances of language, science, art, according to the best models, under the supremacy of the moral sentiments and the moral obligations of our nature, and society will be blessed with a superior order of men, with men of a brighter intellectual and moral polish, of greater force and energy of character, of greater power to advance the various interests of the community, to promote the glory of God, and the lasting good and happiness of mankind.

Such is the great and benevolent end proposed in the erection of this new literary and moral institution. For which reason we have selected a rural location, because more favorable to health, to morals, and to study, than the associations of either town or city.

Without going into a specification of a complete course of study, we shall for the present, only say, that it is designed to keep pace with all the improvements of this rapidly progressive age, in

every branch of education; and to have to meet and cluster here all the advantages requisite to the full development and improvement of human nature, according to the present advanced state of literature, science and civilization.

On one point only we shall farther speak with a clear and definite emphasis. It is agreed, almost universally agreed—in Europe and America—that intellectual culture without moral, is rather a misfortune and a curse than a blessing to every society. We shall therefore place moral worth and moral excellence of character in the highest place, and make every thing subordinate, as but a means to that sublime and lofty end. In every department in this institution a supreme and sovereign regard shall be paid to the formation of a pure and irreproachable character.

We are peculiarly favored with means, we humbly hope, adequate to that end. Our Trustees in regular attendance, and the Faculty of this Institution are all of one mind on this subject. They will cordially co-operate in this and every other great object, favorable to the true interest—the improvement, the health and the happiness of all the youth of the College. The young gentlemen now in attendance, so far as good recommendations can assure us, are well disposed to submit to such a course of instruction and training, intellectual and moral, as will further the great objects contemplated in the erection of this Seminary. We therefore commence under auspices every way favorable in all these respects. And under that blessing of heaven, without which all human efforts are unavailing, we do hope to achieve for ourselves, our friends, and the community, great and good results to be held in long and grateful remembrance.

But before I sit down, I have a word to say to the students, now in attendance.—Young gentlemen, it has fallen to your lot, I hope it may prove to every one of you one of the most fortunate events of your youth, a subject not only of present but of future congratulation; I say, it has fallen to your lot to become the first fruits of Bethany College. I cannot express to you in ordinary terms the deep solicitude I feel for your individual improvement and for your general advancement in literature, science and moral excellence. I always knew that I was placing myself in a very responsible attitude to the community, in attempting to establish a new literary and moral Institution, adapted to the wants and wishes of this community—to man as an animal, intellectual, moral being, destined to a transient and active life here, and to an endless life hereafter. But deep as this sense and feeling of responsibility was in the commencement and progress of this undertaking, it has become much deeper and more oppressive since, than before your arrival. When I look around

me here and see so many young gentlemen convened from North to South, from East to West, sent from their homes, from the immediate personal attention, oversight and guardianship of their parents, and entrusted to our care and protection; having your health, general education and moral culture entrusted to our direction and management, I feel more than ever penetrated with a profound and unerring sense of my own responsibility, and that of the Faculty and Trustees of this Institution. I feel honored, indeed, with the confidence your parents and guardians have reposed in myself, as well as my co-adjutors, in confiding your destiny so far into our hands. I can only say that our wishes and intentions to promote your thorough education, in the full import of that term, so far as the time of your continuance here will allow, do not only concur with their views and expectations; but that our best efforts, and most assiduous attentions shall be called forth to promote your thorough and substantial improvement, honor and happiness in every way in our power, so far as a faithful and conscientious regard to the duties of my office can avail to that end.

Much, indeed, will depend on you for the future success of our endeavors. You stand to this Institution in the same relation that the first born of a family does to all his junior brothers. The younger members of the family look up to him for a model of what they ought to be. If his example be a good and happy one, the parents will find it comparatively an easy task to govern the whole household; but if his be an adverse and unfriendly one, it will increase their troubles an hundred fold. You will then regard yourselves as about to exert a very great influence in forming the character and in giving a favorable turn to the manners of this Institution. We shall all feel ourselves greatly indebted to you, should you, as we fondly hope you will, co-operate with us in this most useful, commendable and noble enterprize. You will also perceive that this very circumstance will exact from the Faculty of this Institution a very strict attention to the whole details of your behaviour in every department of your conduct. They cannot but perceive and feel the responsibility that devolves upon them, in reference to the examples and habits that are to be formed this first year of our existence. They must see to it that good examples are established at the very beginning of our career, and therefore a very strict attention to this part of the duties of their office and to your demeanor is to be expected. We are aware that the too lax discipline of this age, domestic, scholastic and ecclesiastic, will impose upon us and upon you in the outset a greater degree of vigilance and effort than under more propitious auspices would have been necessary. A due allowance on our part, and on yours, must therefore be made in reference to

these circumstances, and in a little time the wheels of our whole literary and moral machinery, well oiled, will perform their regular revolutions without a squeak or a jar.

Allow me, young gentlemen, to add that such is my confidence in the good sense, good intentions and good feelings, as well as in the zeal and abilities of my fellow laborers, to promote your true interests here, and such are my hopes and anticipations of your devotion to your studies and to the formation of good habits, that I do flatter myself that we shall make not only a good and propitious commencement; but that we shall rapidly advance to a high and honorable standing amongst the literary institutions of our country and the age.

In accomplishing all our views and desires, much, very much, I again repeat, must in every view of the case depend upon you. Should this Institution speedily become what we desire and intend to make it, it will be eminently through your instrumentality during your collegiate course. And, gentlemen, may I not say in conclusion, and in anticipation of the high destiny of Bethany College, that it would be to you through life and in the zenith of its fame, a pleasing reflection that you helped to lay the foundation of its good fortune and high renown by such a course of study and behavior, as not only secured to yourselves stations of great utility and honor, but which also elevated your *alma mater* to a rank and an influence that made her an honor to the age, and a blessing to the world.

ERRATUM.

Page 5, 16th line from the top, supply the article *the* before moral faculty.

Same page, 21 " " " " supply the same before *means*.

Page 10, in the note for *ceux* and *cieux*.

" 13, 17th line from the top, for embodied, read imbibed.

" 13, 3d line from the bottom, for *dia* read *diu*.

" 14, 20th line from the top, for *had*, read *has*.

" 15, 1st line from the top, for *nature* read *virtue*.

" 15, 23d line from the top, substitute *Horace* for *Homer*.

And in the next line, substitute *Homer* for *Horace*.

Page 15, 16th line from the bottom, for *John* read *James*.

" 16, 2d line from the bottom, insert *the* before *classics*.

" 18, 23d line from the top for *even*, read *ever*.

" 21, 13th line from the bottom, for *distinguished*, read *distinguish*.

Page 23, 7th line from the top, for *degenerated*, read *degenerate*.

Page 37, line 22d from top, for *erer* read *even*.

" 39, add *s* to *Himmalayeh*.

" 48, line 23d from top, for *foundation* read *fountain*.

" 76, line 25th from top, for *attributes* read *attitudes*.

" 78, line 33d from top, for *requires* read *acquires*.

**BY-LAWS**  
**OF**  
**BETHANY COLLEGE.**

**THE Faculty shall be composed of the President and Professors; a majority of whom, at any regular or legally notified meeting, shall constitute a quorum; and at all meetings of the Faculty the President, when present, shall preside.**

**The President shall exercise a general superintendence and control over the Institution.**

**A Secretary shall be chosen, who shall keep a faithful record of the proceedings of the Faculty; which, at all times, shall be subject to the examination of the Trustees.**

**The regular meetings of the Faculty shall be held on the first Monday of every month during the session. Special meetings shall be called by the President at his discretion, or upon request of any one of the Professors; of which due notice shall be given to the Faculty by the Secretary.**

**The collegiate year shall commence on the 1st day of September, and terminate on the 4th of July following.**

**Students who remain at College during the recess, shall be under the control of the Faculty, and may have access to the Library, subject only to a charge of twelve dollars for boarding, washing, &c.**

**Each Professor shall have a general charge or oversight of the Students, and especially when in attendance upon his department; subject in all cases, however, to the superintendance of the President.**

**It shall constitute a part of the duties of each Professor to keep a regular account of the absence of each member of his class, the degree of his attention and proficiency, and of his general demeanor, and report the same at the monthly meetings of the Faculty, to be forwarded by the Secretary to the parent or guardian of the Student.**

**Each Professor shall make a monthly report to the President—exhibiting the days and the subject of lecture and examination, and the time occupied by each respectively.**

**It shall be the duty of the President to prepare and lay before the Trustees at every annual meeting, a consolidated report, founded on the monthly reports of the Professors—exhibiting, 1st. A concise and clear statement of the heads of the lectures or subjects of instruction delivered or taught by each of the Professors during the year. 2d. A statement of the number of times which any Professor shall have failed to lecture or attend his class on the regular days appointed for such purposes, the time occupied by each Professor in the delivery of his lectures and the examination of his classes, and the number of times each Professor shall have failed to make his monthly report.**

**The College Hall shall be opened every Lord's day morning for religious worship and instruction, to be performed by respectable ministers of various denominations; and it shall be the duty of all Students to attend worship either there or at some other place.—**

Ministers of the gospel, and pious young men of indigent circumstances, preparing for the ministry in any of the religious denominations, shall be permitted to attend College without charge of tuition.

No Student shall be guilty of non-attendance on school, inattention to the exercises prescribed, misbehaviour, or any indecorum in school.

No Student shall permit any disturbing noises in his room, or make them any where within the precincts of the College.

No Student shall introduce, keep, or use within the precincts of the College, weapons or arms of any kind, or gunpowder, or keep a servant, horse, or dog.

Riotous, disorderly, indecent, or contumacious conduct of any Student shall be punished by any of the modes hereinafter mentioned, at the discretion of the President, Professors, or Faculty.

Habits of expense, of dissoluteness, of dissipation, of playing at games of chance, of profane swearing, or of any immoral or useless indulgences, obstructive to the acquisition of science, or otherwise pernicious in their influence, shall be subject to any of the punishments hereinafter prescribed. And every Student who shall, within the precincts of the College, introduce, keep, or use any spiritous or vinous liquors, or any cards, dice, or other implements of gaming, shall be subject to like punishment.

Any Student violating or contemning any order of the President or Faculty, or insubordinate to any lawful sentence pronounced against him, shall be deemed guilty of contumacy, and punished at the discretion of the Faculty.

Smoking segars, or any other use of tobacco, is at all times strictly forbidden within the College precincts.

Injuring or defacing in any manner whatsoever, by writing or otherwise, the buildings, fences, gates, trees, shrubbery, &c., of the Institution, is strictly forbidden; and any Student so offending shall be subject to fine and punishment at the discretion of the Faculty.

Playing at any games, or indulging in any unbecoming conduct on the Lord's day, shall be regarded as disorderly conduct, subjecting the offender to the action of the Faculty.

The use of musical instruments is interdicted before dinner, after 10 o'clock at night, and on Lord's days.

No Student shall be permitted to absent himself from College without permission from the President.

Every Student shall deposit with the President, or some one of the Faculty, if his parents or guardians require it, all the money, checks, bills, drafts, and other available funds, which he shall have in his possession, or under his control, in any manner intended to defray his expenses while a Student of Bethany College.

In like manner, if requested, he shall deposit with the President, or some one of the Faculty, all the funds he shall receive while a Student of Bethany College, for the purposes aforesaid.

At the end of the first half session he shall deposit enough to pay the expenses of the second half, or balance of the session; and if any Student fail to pay in advance the last instalment of his expenses, as herein required, and shall be in default ten days, the President shall report him to the Faculty, that proper measures may be taken to compel performance, and, if necessary, to punish the defaulter.

When the Student shall deposit any funds with the President, or any of the Faculty, he shall take from him a fair receipt, stating the amount deposited and the several purposes to which it is to be applied; and the person with whom he deposits shall disburse the same by payment and settlement with the Treasurer for his College dues, and in payment of such necessary personal expenses and pecuniary advancements as he may authorize or deem necessary—acting for the time as guardian over his pecuniary affairs. And at the end of each session, or when required, he shall render an account of his disbursements, and pay over the balance, if any. No Student, thus depositing, shall contract a debt or make any purchase without the written permission of his Bursar; and for every thing purchased by him he shall forthwith pay the cash or draw upon his Bursar, except upon license from the President as hereafter provided.

The President of Bethany College shall be, and is hereby empowered to grant licence to Students of this Institution to contract such debts as he may think proper, in the manner contemplated and authorized by the first section of the Act of the General Assembly, regulating and restraining the terms on which credit shall be allowed to Students, passed on the 1st of March, 1838.

Any Student contracting any debt forbidden by the provisions of the Act aforesaid, shall be subject to punishment at the discretion of the Faculty.

The bell shall be rung every morning throughout the collegiate year at dawn. The Students shall rise at this signal, and assemble in the rooms for general meeting, to attend on worship, at such hour as the Faculty may determine.

It shall be the duty of the President to keep a general supervision of the internal management of the Steward's Inn.

On matriculating each Student shall sign his name in a book, to be kept for that purpose by the Secretary; in which shall be stated his age, the name and residence of his father or guardian, under a caption in the following words, which shall be distinctly read to him before he signs his name, viz.—‘After having carefully read the Rules and Regulations of Bethany College, I subscribe myself a Student thereof; and promise to be punctual, orderly at worship, recitations, and all the College exercises; to be diligent in study; to be strictly moral in language and conduct; to be respectful to the Officers of the Institution and courteous to my fellow-Students; and that I enter the College with a desire to reap the benefit of its instruction, and with a determined resolution to conform to all its laws and regulations.’

The dress of the Students shall be uniform and plain—shall be of a dark grey, or black color—at a price not exceeding six dollars a-yard—and the coat shall be made single-breasted, and the collar bound round with braid, and a star worked in black silk on each end of it: Provided, that a Student may be allowed to wear any clothes which he may have had when he matriculated; and in Summer any cheap light garments approved by the Faculty. It is also recommended by the Trustees that the Kentucky Jeans be selected as the cloth for common wearing apparel.

The punishments shall be—1st. Reproof by a Professor, or by the President, privately, or in presence of the class of the offender, or of

the whole school, or dismissal from the class during the day. 2d. Rustication, dismissal, and expulsion. The first may be executed by the President or any one of the Faculty. The second shall require the action of the Faculty; and in case of expulsion the sentence shall not be final till confirmed by the Trustees.

Rustication shall be a suspension of College privileges, and removal from the precincts to some retired place, designated in the sentence of rustication, for a term not less than one, nor more than four weeks.

Dismissal shall be a discharge and removal from the College, and entire severance of all College rights and privileges for the balance of the collegiate year during which such sentence may have been pronounced.

Expulsion being a sentence of reprobation, shall be a cancelling of all College honors, rights, and privileges forever; and no Student who may have been expelled from this or any other Literary Institution, shall, during the continuance of such sentence, ever be permitted to enter the precincts of this College.

Upon the infliction of any of the second class of punishments, it shall be the duty of the President promptly to inform the parent or guardian of the Student, of such sentence.

It shall be the duty of the Steward to visit the rooms of the Students at least once-a-week, for the purpose of seeing that the servants do their duty, and that the comfort of the Students is sufficiently attended to.

The Steward shall furnish the Students with clean sheets and pillow-cases at least once-a-fortnight, and with clean towels at least twice-a-week.

It shall be the duty of the Steward to have the rooms of the Students well swept and ventilated every day, and to take such other means for promoting the comfort and health of the department as the President may require.

The Steward shall be required to furnish to the President a list of such Students as may be absent from any meal, and of those who do not appear till half an hour after the bell has been rung.

The Steward shall not be required to furnish meals for Students who are not in the dining room within half an hour from the ringing of the bell—unless good reason can be shown for such absence.

From the 1st of September to the 1st of March following, the hour of breakfast shall be from 7 to 8 o'clock; of dinner, 1 o'clock; and supper, 6 to 7 o'clock, as the Faculty may decide. From the 1st of March to the 4th of July, the hours shall be 6 to 7 o'clock A. M., 1 o'clock, and 6 to 7 o'clock P. M., as the Faculty shall determine; at which hours the College bell shall be rung, and the dining-room opened.

When any servant about the Steward's Inn, from bad habits or misconduct, shall be deemed by the Faculty unfit to remain at Bethany College, it shall be the duty of the Steward to dismiss such servant; and upon failure to do so, upon proper notice, he shall be liable to fine at the discretion of the Faculty.

The Steward shall be responsible for the cleanliness of the tenements and grounds in his occupation, and shall cause the sweepings and offal from them to be daily removed to such places as may be de-

signed by the President or Faculty. If he fail herein he shall be fined for each offence at the discretion of the Faculty.

The practice of keeping or raising hogs within the precincts is forbidden; and any one living within the precincts and violating this prohibition, shall be liable to a fine of not less than one, nor more than ten dollars, for each hog or pig kept within the precincts more than 24 hours, to be assessed by the Faculty.

The Steward shall not furnish luxurions fare to the Students; but the fare shall be plentiful, plain, served neatly, and well dressed—of good and wholesome viands—and in all its details conformable to such rules as the Faculty may prescribe.

The Steward shall furnish boarding, lodging, washing, fuel, and one candle for every two Students till bed hour; also, proper attendance of servants for domestic and menial duties, and attendance upon the immediate vicinage requirements of Students; the details of all which shall be regulated by the Faculty; for all of which his compensation shall be one hundred dollars for each Student per collegiate year. The clothes to be washed for each Student shall not exceed nine pieces in Winter, and twelve in Summer, per week; and whenever the washing shall not be done in proper manner, the Faculty may authorize the Students to have it done elsewhere, and deduct the price thereof from his board.

Students entering College after the commencement of the collegiate year, shall pay board only for the time unexpired, at the yearly rate.

If at any time the Steward shall fail to comply with the rules herein before prescribed, or with such as may hereafter be prescribed by the Faculty, there shall be such deduction made from the amount of board allowed him as the Faculty shall judge proper.

The Faculty shall have power from time to time to prescribe regulations of police, not inconsistent with the laws of the land or the enactments of this Board; which regulations shall be submitted to the Trustees at their next succeeding meeting, and shall be in force till disapproved by the Trustees or repealed by the Faculty.

The President, in connexion with the Professor of each department, shall decide upon the course of studies, the times to be occupied in lecturing and examining, by each and all the details connected with the studies, &c. of the Institution; and shall report such arrangements as may be adopted to the Board of Trustees at their next meeting thereafter.

Any person residing in the vicinage of the College may be permitted to attend College studies, boarding at his residence, subject to such tuition fees as the Faculty may think proper.

A. CAMPBELL, *President.*

W. F. M. ARNY, *Secretary.*