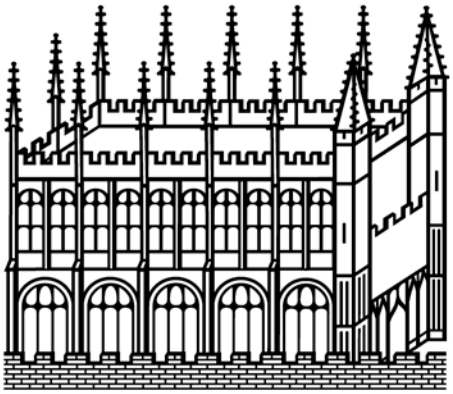

THE HANDMAID;

OR, THE

PURSUITS OF LITERATURE AND PHILOSOPHY,

CONSIDERED AS SUBSERVIENT TO THE
INTERESTS OF

MORALITY AND RELIGION.

FIVE DISSERTATIONS.

BY

THE REV. J. DAVIES, B.D.,

RECTOR OF GATESHEAD, AND MASTER OF KING JAMES'S HOSPITAL,
IN THE COUNTY OF DURHAM:

AUTHOR OF "AN ESTIMATE OF THE HUMAN MIND," &c.

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TO

THE RIGHT REV. EDWARD MALTBY, D.D., F.R.S.

LORD BISHOP OF DURHAM.

My Lord,

The following discourses were delivered some considerable time since, before a literary and philosophical Institution in the south of England; and, with one or two exceptions, were published at the request of those who heard them. Although, however, they were in the first instance called forth by temporary occasions, and connected in some measure with local circumstances, they all relate to subjects of permanent and universal interest; and as such I venture to hope that, comparatively desultory as they are, they may prove in some degree conducive to the great object which they were designed to subserve. My aim in their original delivery, and in now offering them to the public under the sanction of your Lordship's name, in a collected form, was to give a right direction to those pursuits, which of late years have so extensively engaged the more intellectual and reading portion of the general community in this country. Viewing this condition of the popular mind in all its bearings, and under all its

varied aspects, I doubt not that your Lordship will agree with me that it is to be regarded with satisfaction and delight. I am also confident that, in common with most persons of enlightened and comprehensive views, these feelings on your part are not unmingled with anxiety. Not, indeed, that the knowledge of the laws of nature, whether as displayed on the great theatre of the universe, or as exhibited on the more limited scale of our individual and social condition, can in itself have any other than a salutary tendency. But it is to be borne in mind that the knowledge of man here below, at the best, is but comparative. The amount of what he knows, relatively to the vast sum of truth, physical and intellectual, which he knows not, is reduced to a very narrow span; and it would be mere prejudice or affectation to maintain that the remaining ignorance, liable as it is to be blended with the evil passions inherent in our fallen nature, may not, if left unguarded by higher principles, pervert the modicum of the very knowledge, which is possessed, into an instrument of dangerous operation.

The best and the only legitimate method of obviating this possibility, as it has always appeared to me, is not to attempt to lay an embargo upon the free intercourse and extending commerce of the intellectual faculties—not to impede by artificial mounds the spontaneous and vigorous current of mental exertion and scientific research, for it is not only the right but the duty of every

man to exercise and improve his faculties, but to bring the whole of these speculations and pursuits under a sound and healthful influence—to subordinate the whole range of thought, and the whole domain of philosophy and science, to that master principle which is the great and ultimate law of the universe. Nothing but moral and religious excellence can justly be regarded as pure and unmixed good—incapable of perversion or abuse; and the more our literary and scientific pursuits are brought into harmony with the requirements of that principle, the more sound, salutary, and useful, will be the result.

It was under the influence of these feelings that I was induced to prepare and deliver the following Dissertations, and it is with the same view that I have snatched a few leisure moments from the duties of the important and arduous sphere, to which your Lordship's kindness not long since called me, to collect and arrange them afresh. Your Lordship will not find in these pages the great and peculiar doctrines of our religion—the occasion would scarcely have warranted such an exhibition—all-important as I regard these doctrines; but I was anxious, in each of these addresses, unconnected as they are with each other by any tie of consecutive or relative dependence, to make it manifest that no exercise of the mind, whether of the imagination or intellect, could be safely or legitimately pursued except in unequivocal recognition of the authority of that

religion, of which the volume of eternal truth is the text book.

Distinguished as your Lordship has for many years been, not only as one of the first classical scholars of the age, but also as the friend of popular education, and the supporter of every measure which appeared calculated to promote the illumination and welfare of mankind, I have the satisfaction to feel assured that you consider no progress in knowledge—no expansion of the human faculties, either salutary or secure, which is not in accordance with the spirit of that volume, to which the deepest of our philosophers and the sublimest of our poets have delighted to do homage, and of which one of the most illustrious linguists of modern times has remarked, that "it is a book which has God for its author, salvation for its end, and truth without any mixture of error for its subject matter."

I have the honour to be,
My Lord,
With the profoundest feeling of gratitude
and esteem,
Your Lordship's very faithful
and obliged servant,
JOHN DAVIES.

CONTENTS.

THE HANDMAID.

I.

ON LORD BACON'S PRINCIPLE OF INDUCTION.

1. GREAT discoveries in science, and eminent success in extending the boundaries of human knowledge, have generally resulted from the steady and accurate application of some great principle of nature or art, which the investigator, having once clearly established, was enabled uniformly to employ as his guide in all his subsequent researches. This instrument of inquiry, whether it was some fixed law of nature, some universal fact, or some specific method of investigation, was expressed by some single term or brief combination of terms, which thence became associated with the name of the individual by whom it was discovered or most successfully employed, and was considered as peculiarly characteristic of that department of truth, which it so powerfully tended to illustrate.

Thus, to avoid more minute references, in physical astronomy, the principle of gravitation is usually considered as a distinguishing feature, and, in a certain sense, as the very foundation of the philosophy of

Newton. In metaphysics, that the whole mass of knowledge is reducible to ideas of sensation and reflection, may be justly regarded as the groundwork of the whole theory of Locke. In physiology, the doctrine of the circulation of the blood, as discovered by Harvey, has exerted a modifying and commanding influence over every correct view of the functions of the human frame. In chemistry, the law of definite proportions, as unfolded by Dalton, has thrown a new and peculiar light over the whole field of the science. The names given to such laws of action or principles of inquiry may be viewed as so many brief epitomes of the truths they express, or as so many small repositories of the directions they are intended to convey. And when they have become antiquated by time, or are grown familiar by use, it frequently happens that their correct and original signification is in a great degree lost, or that they are conventionally employed, while their appropriate meaning is but very indifferently apprehended.

2. In the whole range of knowledge or science, there is perhaps no term more pregnant in meaning—more intimately associated with the sublimest and most varied discoveries in every department of nature, than that of Induction, as employed by Lord Bacon to express that principle or method of research which alone could lead to solid and satisfactory results. It is in consequence of his being the first clearly to point out the absolute necessity of adopting this method as the guide of the understanding, in its attempts to unravel the intricate processes of nature, rather than of any

extraordinary success in his own immediate endeavours to apply it, that he has been universally recognised as the father of modern science,—as the patriarch of the whole family of sound philosophic inquirers. It was in the confidence inspired by the possession of this firm and luminous clue to direct his steps, that he exclaimed, at an early period in the course of his investigations, "Viam aut inveniam aut faciam,"—I will either find the way, or I will make a way to the attainment of knowledge. The way which Bacon thus resolutely expressed his determination to discover, was that of a cautious, comprehensive, and discriminative induction, in opposition to the crude and hasty inferences, or the subtile and fantastic theories, which hitherto had dazzled rather than informed the mind, and, notwithstanding the labour and ingenuity which had been called into exercise, left the intellectual world in a great degree a wilderness. The way of investigation which had been thus opened to the view, was not less remarkable for the clearness of the light which it threw over every step of the inquirer, than for the numberless tracts, into which it was speedily found to ramify. There is, in fact, no region of the physical universe to which it was not found capable of guiding; and it has been the pride and boast of every subsequent labourer, whether he was conversant with the magnificent or the minute—the proximate or the remote objects of nature,—whether he crept among the atoms of earth or expatiated among the luminaries of heaven,—whether he attempted to trace the action of

the most subtile and attenuated molecule or followed the sunbeam in its flight,—to be guided by this one rule, and to bring all his observations and experiments within the dominion of this one principle. It was on account of his firm and invariable adherence to this principle, that Newton, when on a particular occasion he was charged with advancing an inaccurate or unauthorized hypothesis, indignantly replied, "Hypotheses non fingo,"—I do not frame hypotheses.

3. But the object of the present paper is not so much to exhibit the importance and the illimitable range of the method of induction, as very briefly to explain its nature and use in its application to the various pursuits of knowledge. The best mode of ascertaining the nature of this principle, as proposed by Bacon, and of appreciating its legitimate use, is to refer to the author himself, and to observe the manner in which he employs it, both as an instrument of reasoning and of practical scientific inquiry. The great and elaborate work of Bacon, in which this principle is at once proposed and exemplified, is entitled *Novum Organum*,—a new instrument to aid and direct the understanding in the pursuit of knowledge. This treatise, which, considering the circumstances under which it was produced—the originality of the views which it unfolds—the concise, but yet luminous, rules of investigation which it prescribes—and above all, the stupendous results which it was the main instrument of producing, may be justly regarded as the most remarkable production of the human mind, consists of two

books, respectively subdivided into a series of brief aphorisms, each forming, as it were, a link in a chain of close and compact scientific reasoning. He commences with asserting, not only the utter inadequacy of those aids and instruments which had hitherto been employed to assist the understanding, but even their tendency to engender and perpetuate error. He declares the logic which had hitherto prevailed, and which employed the syllogistic process of reasoning as a means of discovering natural truth, to be altogether useless, and calculated only to fill the mind with vague subtilties and abstractions; and as the logic of syllogism, even when wielded by the hand of men of the most acute and penetrating intellect, from the days of Aristotle to those of Bacon himself, had proved itself so inefficient in extending the limits of real and substantial knowledge, he affirms, in the 14th Aphorism, that "the only hope is in a true induction."

From this, it is evident that Bacon intended the *Novum Organum* to be a system of logic, in which induction should take place of syllogism; not indeed that syllogism in itself is a wrong method of reasoning, for in fact it may be justly regarded as the foundation, either in express form or by latent implication, of all sound ratiocinative deduction, but because it had hitherto been employed not as the minister and handmaid, but rather as the adequate substitute, of observation and experiment. It may not be amiss, therefore, with a view of rendering the subject more intelligible, briefly to exhibit the difference between these two

modes of reasoning, as they were respectively regarded by Bacon.

A syllogism is a formula which consists of three terms, the two extremes of which must always agree in the middle, otherwise there can be no just and legitimate deduction. These terms or propositions are technically called the major, the minor, and the conclusion; and the soundness of the last will always depend upon the accuracy of the preceding. As an example of the syllogism in its simplest and most unembarrassed form, I would put the following:

i. That which creates a taste for intellectual pursuits is favourable to the advancement of science.

ii. A philosophical society creates a taste for intellectual pursuits.

iii. Therefore, a philosophical society is favourable to the advancement of science.

Now, the truth or falsehood of the conclusion, in this case, entirely depends on the fact that the lesser or second proposition is really comprised within the first or the greater; in other words, on the assumed fact that a philosophical society is one of those things which do create a taste for intellectual pursuits; and this must be ascertained from sources altogether foreign to itself. It follows, therefore, that syllogism has properly to do only with things which are already known, and, consequently, it is perfectly unavailing as an instrument of discovery; and whenever it is founded on wrong or uncertain premises, it can only lead to false or uncertain conclusions.

It is evident from these remarks, that syllogism, or the logic that employs syllogism as its main instrument, is very much an art which concerns the mere arrangement of terms; and it is astonishing what immense labour and ingenuity were displayed by the ancient dialecticians, and by the scholastic disputers of the middle ages, in torturing it into every variety of form which a keen and fertile imagination could invent; while the whole result, in many cases, was nothing more than an absurd congeries of sophistry and jargon about quiddities and entities, exhibited under every diversity of mode and figure.

Induction, on the contrary, proposes to have to do with things; and, as a mode or principle of argumentation, it may perhaps be correctly defined as a process of reasoning from particulars to a general: a method which requires a scrupulous, accurate, and comprehensive examination of all the cases which come within the range of the subject of inquiry, and from these instances infers the great axiomatic truth, or the universal and invariable law, in which they are found to meet, and which they will be always found to obey. As a familiar example of the inductive, as contrasted with the syllogistic, process of reasoning, we may take the case already employed in the illustration of the latter of these methods. When we wished to prove by syllogism that a philosophical society is favourable to the advancement of science, we assumed the two premises,—first, that a taste for intellectual pursuits is favourable to the advancement of science, and,

secondly, that a philosophical society is calculated to create such a taste,—without any inquiry into the facts which tend to demonstrate such an effect. If, however, the case was one which admitted of any doubt, and I wished to prove it inductively, I should endeavour to collect all the cases, to accumulate all the instances, in which the association of men of philosophical tastes and habits had proved favourable to the advancement of science; I should refer to the celebrated schools of antiquity, the Porch, the Academy, and the Lyceum; I should pass on to the universities and the voluntary associations of modern times; I should bring forward the numerous inquiries instituted, and the important discoveries made under the immediate auspices of these bodies; I should mention that the first draught of the *Principia* of Newton was laid before the Royal Society, and that it was under the influence of that society that this wonderful work was first published; I should state that the scarcely less celebrated and important *Essay on the Human Understanding* arose from a conversational meeting of a few friends, and that it was first designed to be confined within one sheet of paper; I should come down still lower—for it is a principle strenuously maintained by Lord Bacon, that an inquirer after truth is to consider nothing as too mean or below his attention—I should point out our own case, and show how much more philosophical, more scientific, more devoted to intellectual and literary pursuits, the inhabitants of this city in general are become since the establishment of this institution.

When I had accumulated and carefully examined all these cases, and had found that, at all times and under all circumstances, the association of men of intellectual and inquisitive habits had a tendency to promote the discovery of truth and the diffusion of knowledge, I should then conclude, and the conclusion would be founded upon the most rigid principles of inductive or the Baconian reasoning, that a philosophical society is certainly favourable to the advancement of science.

4. This is unquestionably the nature of the principle of induction as proposed by Lord Bacon. Its useful and successful application, however, to the various departments of knowledge,—and there is scarcely any department to which, under suitable modifications, it may not be advantageously applied,—requires much care, attention, and assiduous patience. Bacon, therefore, employs the chief part of the first book of the *Novum Organum* in exposing the various prejudices and futile anticipations, which he calls the idols of the human mind, in contradistinction to the ideas of the divine mind, or those impressions of truth which are stamped upon the various elements and orders of creation. These idols he ranges under the four general classes, which he quaintly but expressively denominates Idols of the *Tribe*, Idols of the *Den*, Idols of the *Forum*, and Idols of the *Theatre*. The first class of idols, or prejudices, he represents as naturally inherent in the race of men, on account of the narrowness and imperfection of their views; the second, as peculiar to individuals, and arising from their peculiar habits and

duction, therefore, as concerned with observation and experiment, has mainly to do with physics; inference, as chiefly concerned with final causes and remote possibilities, more properly belongs to the department of metaphysics.

I will conclude this paper with a very brief reference to that vast and stupendous scheme of philosophical science, which it was the design of Bacon to rear on the principle of induction as its fundamental basis. This general plan, as stated and partly executed in his works, consisted of six parts. Of these, the first was a general survey of the state of knowledge up to his own time. This was accomplished in a most masterly and comprehensive manner in his "Treatise on the Advancement of the Sciences;" a treatise, of which a very acute writer truly said, that every English scholar ought to know it almost by heart. The second division was the "Novum Organum," in which the method of induction was fully unfolded. The third was a brief natural history, which he designed to be the foundation of a true and sound philosophy. This he entitled "Parasceve ad Historiam Naturalem et Experimentalem." The fourth part he called "The Ladder of the Intellect, or the Thread of the Labyrinth," being, as it were, a series of steps, by which the mind could gradually rise to the highest elevations of science. The fifth was denominated by him "Anticipations or Precursors of the True Philosophy," intended only as a temporary exercise for the mind, in its way towards the sixth and last part, which he called "Philosophia Prima," and

which he regarded as the grand consummation of all philosophical and scientific investigations. To accomplish this last, he repeatedly declares that he considered one life as too short; he therefore left it to be completed by the labours of future generations. He was content, as has well been said, to be the prophet of a science which Newton, and Boyle, and Locke, and others of less illustrious name, afterwards appeared to reveal.

I may be allowed, in conclusion, to observe, that I have always contemplated the character of Lord Bacon, as a philosopher, with peculiar satisfaction, because in him the philosopher never forgot the Christian,—reason never failed to do homage to faith, and science was uniformly kept in its place as the willing handmaid of religion. With him, in fact, faith was a safety-lamp to reason; and, thus furnished, he penetrated with security into the deepest recesses of nature, and discovered mines of truth which subsequent labourers have ever since been employed in working without the prospect of exhausting. He was conscious, however, that as the brightest gems owe their brilliancy to the sun, so the noblest truths of science derive their chief lustre from the light irradiated upon them from the luminary of eternal truth.

and meet the same language. The spirit of every one of these modifications of intellectual exertion—whether it be the spirit of poetry, the spirit of scientific investigation, or the spirit of historical and antiquarian research—is considered as the presiding power, as the all-pervading element, as the concentrating force, which guides and controls the faculties of the mind which is devoted to these pursuits.

These remarks may tend in some degree to elucidate the idea, which the "Spirit of Philosophy," as employed in this discourse, is intended to express. It is that living principle, which, next to that of a higher and more sacred character, exerts the most constant and powerful influence upon the mind in which it has been engendered. It is a spring of motion, which is ever ready to act and to urge forward in the pursuit of knowledge. It is a leaven, which diffuses itself with an assimilating effect over the whole mass of the character, and is still more to be recognised in the cast and complexion which it imparts to the operations of the mind, than in the amount of the information which it has succeeded in acquiring; and is so much more valuable than a technical acquaintance with a few of the barren facts of science, as a habit in morality is of greater importance than a set of notional and isolated principles. It is this spirit in man—a spirit in a degree more or less forming an original element of his being—which has kept alive the flame of science in every age of the world, and in minds of happier mould has led to such magnificent results. It was this, which

roused such vigorous, though frequently ill-directed, struggles after knowledge,—which kindled such lofty aspirations, and floated in undefined visions of truth and loveliness and beauty among the sages of the ancient world. It was this, which consecrated with its awful presence, and seemed to walk in mysterious grandeur through the Porch, the Academy, and the Lyceum. It was this, which suggested the silent musings of Pythagoras as he pored over his theory of numbers; which luxuriated in the ideal reveries of Plato; which reasoned in the ethical discussions of Socrates, and traversed the field of science in the boundless researches of Aristotle. It was this, which rose, like an eagle driven from its retreat, and wafted upon its wings a numerous progeny of arts from the Acropolis to the Capitol,—from the rock of Attica to the hills of Rome. It was this, which, after having been revived from its prostrate impotence by the morning air of the Reformation, enshrined itself in the soul of Bacon, and thence uttered those oracles of prophetic wisdom, which Boyle, and Newton, and Locke, and an unbroken succession of congenial spirits, have ever since been employed in interpreting.

If such, then, have been the operations and results of this powerful principle in the intellectual constitution, it is obviously of primary importance to the interests of literature and science, in all their higher and more philosophical departments, that it should be cherished and universally diffused. Indeed, I consider an institution, like that to which we belong, as an

apparatus constructed mainly for the purpose of evolving and radiating this ethereal essence; and, in proportion as it is elicited, it will be found to re-act with a correspondent effect upon the instrument by which its energy has been excited. I am persuaded, therefore, that the most efficient and direct method, not only of raising the character, but also of promoting the success of a society of this description, is to endeavour to imbue the minds of its members with the genuine spirit of philosophy. With an eye to this object, I shall endeavour, in the progress of this address, to exhibit some of the leading and most distinctive characteristics of this spirit, and then suggest some of those means by which it appears to me that it may be most successfully cultivated and diffused.

1. One of the first and most necessary elements in the constitution of the truly philosophical spirit, is, *Originality and Independence of Thought.* By these qualities of mind, I do not mean that inordinate love of paradox,—that restless pursuit of novelty,—that morbid disposition to exhibit well-known and familiar truths in strange and grotesque combinations, which are so liable to be mistaken for them. Such a habit of mind evinces narrowness and weakness, rather than amplitude and strength. It has been observed of the celebrated Bishop Warburton, that he read books not so much for the purpose of knowing what others had said, as of finding what they had left unsaid. And of Aristotle it was remarked by Lord Bacon, that he appeared to have the same passion for conquering the

world of literature and science, as his pupil of Macedon had to reduce the world of political and military power by his arms; and hence he commenced the establishment of his own intellectual dynasty by the destruction of all his predecessors and competitors. I need hardly say, that nothing can be more alien to the spirit of genuine philosophy than this tyranny of individual opinion. To neglect what is important because it is already known, and to search after what is trivial or impracticable because it appears to hold out the chance of a discovery, argues a proud and empirical, rather than an original and independent mind. It is to abandon the mountain, whose bosom is enriched with the precious ores, in order to dig up the rubbish which forms the materials of a mole-hill.

True, however, as all this is, it must at the same time be maintained, that the ethereal principle, of which we are now treating, is of a nature too subtile and too penetrating to flow with undisturbing tranquillity over the surface of received opinions. Its movements are marked by too much of vigour and resoluteness of purpose, to yield to every current which may happen to cross the progress of its investigations. It is possessed of an expansiveness and elasticity too great to be compressed into an exact proportion with the engines of prescriptive authority. He, whose mind is deeply impregnated with this spirit, regards himself, not as the subject of intellectual bondage, but as the citizen of a free republic, in which it is his right, his privilege, nay, his duty, to think; and hence, into

whatever department of literature, science, or art, he may be led by inclination or by circumstances to direct his steps, he does not feel himself bound to walk with scrupulous exactness along the paths which have been already trodden, but, aware that the same objects present themselves under different forms and aspects to different spectators, he has his eyes open to every novelty and variety of scenery which may claim his attention. As the poet, every time he looks upon the face of nature in its endless diversity of views, finds something to fill him with fresh admiration and delight, something new to surprise him, something beautiful to enchant him, or something magnificent to elevate his conceptions, and thus opens to himself inexhaustible sources of imagery and illustration; so the man of science, if his mind be really alive to his subject, and intent upon the perception of its peculiarities, however trite and familiar may be the study in which he is engaged, will seldom fail to discover some property or relation, some analogy or coincidence, some practical use or application, which had hitherto escaped his observation. And we all know how much greater is the pleasure as well as the benefit derived from one of those results, whether it be the solution of a problem or the analysis of a complicated passage of an ancient writer, which have been elaborated by our own unaided exertions, than is experienced when the very same results are found ready to our hands in a key, or a translation, or a history. In the latter case, the impression is slight and transient, and supplies no new

materials to the inventive faculty; whereas, in the former, the truth or the fact ascertained becomes a fixed element of the mental constitution, and is still less valuable in itself than the habit of thought which it produces, and the multiplied combinations which it may suggest.

In surveying the progress of scientific discovery and philosophical truth, we shall find that those who were most successful in extending the boundaries of human knowledge, were remarkably distinguished for a habit of original and unfettered thought. And it was doubtless the want of this habit, and not any inherent defect of faculty, which laid science prostrate, as under a stroke of paralysis, for that long and dreary period, usually denominated the Middle Ages,—a period during which ancient Night, with all her family of hallucinations and disorders, appeared to have revisited the earth. Throughout the whole of that cheerless era in the history of the human mind, the pulse of intellectual life seemed to have been suspended; and the symptoms of vitality only displayed themselves in an occasional convulsive effort of the powers, over which the wand of philosophical enchantment had cast its enthralling spell. It was then universally felt and distinctly recognised, that the farthest possible limits of natural knowledge and truth had been already fixed in the writings of antiquity; and hence, men ceased to consult nature herself for the purpose of resolving their doubts and instructing their ignorance, but deemed it more suitable to their pretensions to have recourse unto

those whom she had made her principal confidants. The philosophy of Aristotle, backed by the theology of the Pope, arose like a gigantic form upon the verge of a distant horizon, and awed their sinking faculties into a sense of acknowledged impotence. Hence, the test of learning was not, whose mind was best furnished with knowledge as it came forth fresh from the inexhaustible magazine of nature, but who was the greatest adept in the prescribed jargon of the schools. The measure of mental capacity was taken, not from its application to the sublime phenomena of the visible universe, but from its aptitude nicely to adjust itself to that imaginary circle which had been already drawn around the sciences. He was deemed the greatest philosopher, and stood the best chance of being canonized as a seraphical or angelical doctor,—not who could think most profoundly and reason most justly upon the palpable facts of nature, but who could comment with most eloquence and argue with most subtilty upon substantial forms and second intentions.

It is the natural effect, indeed, of the display of extraordinary powers in the case of a few individuals, to produce a feeling of diffidence in those who are less eminently endowed or less favourably circumstanced, and therefore of willingness rather to tread in their steps than to attempt to strike out a new path, or to push forward the progress of inquiry. I recollect to have read a statement of a distinguished foreign critic, that when he was engaged in editing some piece of classical literature, and had in the mean time received

a dissertation of Bentley, bearing upon the same subject, he was so completely overwhelmed with the prodigious erudition and acumen which it displayed, as to have been obliged for some days to lay aside his own work, under a feeling of utter hopelessness, arising from a humiliating sense of his disparity; and I confess there have been instances, in which I have strongly participated of the same feeling. Upon this principle of the effect of overpowering and indiscriminate admiration, it has been remarked by those who were competent to form an opinion upon the subject, that the immense superiority of the French over the English mathematicians in the course of the last century is to be explained. Upon the latter, the discoveries of Newton produced such a dazzling impression, both on the ground of proximity and national predilection, as to deprive them, for a considerable period, of the power of conceiving that any further progress was to be made; and they appeared tacitly to acquiesce in the conviction, that he had reached the ultimatum of human excellency and attainment. They were content, therefore, to leave the science at the point to which he had been enabled to carry it. But the mathematicians of France, viewing the British luminary at a somewhat greater distance, and through an atmosphere, which, in some degree, chastened and subdued the splendour of its beams—availing themselves of its light, without being blinded by the intensity of its blaze, have pushed forward their investigations into regions of discovery and demonstration into which Newton never penetrated.

When we think of the monuments of genius and varied talent left behind them by the ancient philosophers of Greece and Rome, however ill-directed their inquiries as related to physical truth, we cannot be surprised, that in ages of ignorance and superstition they should have been considered as the depositaries of all that was to be known; nor that men should have regarded it as the highest order of attainment to be deeply and familiarly conversant with their works.

But after centuries of darkness and imbecility had now rolled away—after ingenuity had wasted its resources in weaving the web of sophistry, logomachy, and subtilty, there was a new era to be ushered in. The human mind began to re-assert its native liberty of thought, and to throw down the puny barriers which had been raised against its progress. Then we may truly say, in reference to science as well as to theology, there were giants in the earth. Then it was, that Copernicus, Kepler, and Galileo arose in all the strength of original and independent thought, to demonstrate the laws of motion, and to establish the true theory of the universe. Then, especially, it was, that Bacon appeared—a man, in whose bosom the spirit of genuine philosophy found its home and its resting-place. It is interesting to hear this noble, ardent, and intrepid searcher after truth exclaiming, as he looked around him upon that wilderness of darkness and error, through which so many had wandered and gone astray, "Viam aut inveniam aut faciam." If there was any feature

more decidedly characteristic than another of the mind of Bacon, it was that of which we are now treating. And in that prescient view, which he took of those revelations of science and truth which were speedily to be unfolded upon the world, we may conceive him to address the ghosts of antiquity as they hover around him—

> There are more things in heaven and earth
> Than are dreamt of in your philosophy.

I might enumerate a long list of others, renowned in the annals of the various departments of literature and science, whose important discoveries in their respective fields of investigation, were the result of a determination to examine every object in the exercise of their own perception, and in the light of their own reason. In illustration of this remark, in addition to those who have been already mentioned, we might refer to the names of Des Cartes, Leibnitz, and Hooke, in mathematics—of Harvey and Hunter, in physiology—of Black, Cavendish, and Davy, in chemistry—of Locke, Reid, and Brown, in metaphysics—and of Adam Smith, in the theory of political, commercial, and international economy—men, who not only had minds to grasp all that their predecessors had taught, but, through the kindling energy of their faculties, struck out new lights, which have taken their permanent position in the firmament of truth, as so many fixed stars to illumine and guide the footsteps of those who undertake to traverse the same tracks. I forbear to mention those bright luminaries of theology, who, contemporaneously

with the revival of literature, were instrumental in drawing out the fair form of Christianity from beneath the deep incrustations under which for so many ages it had lain concealed, because the discussion of their merits belongs to a higher order of inquiry. In a patient, vigorous, original, and independent cast of thought, as applied to the sacred philosophy which they investigated, it may, however, be safely affirmed, that they were scarcely left behind by those who occupied the foremost rank in the march of secular science.

2. Another distinguishing characteristic of the spirit of philosophy is a *Sincere and Ardent Love of Truth.* The desire of knowledge in some of its endless modifications is a natural and instinctive feeling of the human mind. The understanding, in its various faculties of reason and judgment—of memory and association, is as much qualified and adapted for the reception of truth, as the organ of vision is for receiving the undulations of light, or that of hearing the impressions of sound. This remarkable adaptation of powers evidently involves a design on the part of the great Author of our being that these faculties should be put forth and directed to their appropriate objects. In different individuals, indeed, this craving after knowledge and wisdom is found to exist in very various degrees. Some there are who can look around upon the glorious theatre of wonders, in the midst of which they are placed, without the slightest disposition to acquaint themselves with its diversified scenery of principles, relations, and events. They pass over the stage of

life as so many automatic figures—exhibiting few other symptoms of life and spirit than a series of motions and sensitive perceptions. In them the noblest class of ideas—those, which Locke has rightly denominated ideas of reflection, appears to be almost entirely wanting. In them there seems to be no internal world of thought, in which the scenes of the external world of observation are re-acted, shifted into new positions, and contemplated under new aspects—in which the impressions received from without are analyzed into first principles, cluster into elective combinations, or ramify into remote and delicate associations, and thus become generalized into science, or consolidated into maxims of experience. In such persons the phenomena of mind are almost entirely confined to the immediate operations of the five inlets of perception, and the ideas which are forced in through these apertures are smothered by the narcotic influence with which they have to contend, as a light is found speedily to sicken and die, when it has been plunged into an atmosphere deprived of its principle of combustion. What organ may be wanting or remains undeveloped in such cases—whether it be the organ of acquisitiveness or the organ of retentiveness, it is not for me to say. The phenomenon of emptiness, however, is clear and unquestionable. Others there are, whose minds are differently constituted—partly as the gift of nature, but still more as the result of cultivation and discipline. To these it is scarcely more congenial to inhale the incense of the morning air, or to catch the first streaks of light which gild the eastern moun-

tains, than it is to imbibe the lessons of instruction and to contemplate the resplendent scenery, which the world of knowledge and science presents to their view. In such cases the germ of intellect displays its tendencies for the most part in the first stages of its developement. The curiosity of childhood foretells the vigorous research and application of youth, and the studies of youth afford a pledge of the solid acquirement or the mature philosophy of manhood. The mere process of attaining knowledge, indeed, especially in the more abstruse and complicated departments of inquiry, is in every case attended with much difficulty and labour. I scarcely think it desirable, if it was possible, it should be otherwise. Vigorous and continued effort is not less necessary to intellectual energy and hardihood, than bodily exercise is to physical strength. But in minds that are happily formed or skilfully trained, the unavoidable exertion and occasional tedium attendant on such pursuits are soothed and more than compensated by the pleasure with which they are associated.

The present system of things is exactly adapted to such an order of mental constitution. It is calculated in a remarkable degree to call forth the faculties of man in every line of philosophical inquiry. Like most of the gratifications of sense, the pleasure of knowledge was obviously intended to be the reward of the labour of pursuing it. I know of nothing in the nature of things, which could have precluded the possibility of acquiring knowledge spontaneously and without the tedious process of application and protracted study. I

know of no reason, if infinite wisdom had so willed it, why man might not have had senses keen and penetrating enough to perceive what we now regard as the profound mysteries of science, at a glance—why the astronomer might not have seen, without the long and complicated process of mathematical demonstration, the whole mechanism of the solar system, with the same clearness and accuracy as he sees the movements and rotations of the bright artificial spheres which traverse the range of an Eidouranion—why the chemist, without the labour of analysis, might not have penetrated into the very essence of any material object, and separated the most attenuated ether into its distinct component parts—why the physician, without a lengthened course of instruction and experience, might not have had such an immediate insight into the several departments of the mineral and vegetable world, in relation to the structure and habits of the human frame, as to know their effect upon it without any previous trial. The profoundest science, it has been well remarked, is nothing else than a remedy for bad eyes; and we can assign no cause, but the wise purpose of the great Author of our being, why our most comprehensive and enlarged knowledge might not have been the result of sensitive observation rather than of arduous and difficult investigation. Under such an economy, however, it is obvious that we must have been deprived of one of the purest and sublimest of our pleasures—that which arises from the exercise of our own minds in tracing the laws and relations of the universe.

The spirit of philosophy, as well as of every other pursuit, is most strikingly and unequivocally displayed, when the object of exertion or research is prosecuted mainly for its own sake—when there is as little admixture as possible of any extraneous motive or influence to divert the attention from the pure and concentrated love of the thing itself. Hence it has been found that the noblest and most successful efforts of the human mind have been put forth under circumstances, which left it most free to its own unfettered meditations, or even threw a damp of discouragement over its energies. It was in a time of blindness—in a season of retirement from the conflict of evil days and evil tongues, that *Paradise Lost* was composed. It was while the iron mace of Romish orthodoxy was suspended over his head, that Galileo illustrated by his discoveries and telescopic observations what appeared to Cardinal Bellarmine and his associates the enormous heresy of the central position of the sun. It was with no other immediate prospect of reward than the frowns of the philosophers and universities of Europe, that Newton and Locke prosecuted their lofty aims, and in the solitude of their own minds provided the materials of thought, of knowledge, and of instruction, to generations yet unborn.

In these and other similar, though less splendid, instances, the love of science and truth proved paramount to every earthly consideration, and the labour of investigation was felt to be emphatically its own reward.

3. A third characteristic of the spirit of philosophy is the habit of a *Constant Reference to General Principles.* Some of the greatest anomalies in theory, and of the most disastrous evils in practice, have arisen from a narrow, partial, and confined view of things. The particular phenomena, both of the natural and moral world, are too numerous, diversified, and complicated, to form either the materials of knowledge or the rules of conduct. To serve these purposes they must be grouped into classes—they must be stripped of their peculiarities—they must in a manner lose their individuality, and be contemplated as exemplifications of some great comprehensive law of nature. In their isolated state they resemble the varied colours of the sunbeam, separated by prismatic action, and exhibiting a tinctured view of the object from which they are reflected; but blended and united in the universal fact to which they belong, they are like the same colours restored to their state of combination in the bright and pure ray of light. It is this enlightened reference to great first principles, which forms the chief difference between the man and the child—between an advanced state of knowledge and civilization, and the condition of unreclaimed and untutored barbarism. It is this which mainly distinguishes science from art—professional sagacity from empiricism, and the principles of universal grammar from the conventional technicalities of speech.

The prosecution of scientific knowledge is indeed nothing else than the investigation of general laws in

their varied bearing and application. In this process of inquiry, the great fundamental principles of nature are becoming still simpler, fewer, and more comprehensive, and the most complex phenomena are found to resolve themselves into their obvious and unquestionable results. Give the natural philosopher and mathematician his few grand postulates—his physical gravitation and inertia—and he will account for the whole machinery of the planetary system. He will give a clear explanation of the past, and utter a confident prediction of the future. Give the chemist his supposed elements, and he will form from these substances—themselves possibly compounds of elements still simpler—the whole mass of matter in all its diversified combinations. Give the geologist his formations, and the botanist his classes, and they will easily reduce every appearance within the range of their sciences into an accordance with the principles they assume. Throughout the whole range of literature and philosophy indeed, and amidst the ordinary transactions and pursuits of human life, this habit of mind is indispensably necessary to a correct estimate of things. It is the want of this, which occasions so many obstinate prejudices—so many false and unfounded associations, in the minds of the more ignorant and uninstructed part of mankind. Such persons are frequently found to combine together in the imaginary relation of cause and effect things, which have not the least necessary connexion with each other. They are continually in the habit of mistaking juxta-position for causation—

sequences in the order of time for consequences in the order of natural effects. A train of events, whether painful or pleasurable, occurring in immediate succession to each other, become linked in a mind, which has not been accustomed to an enlarged and philosophical view of things, with a tenacity of mutual adherence and association which scarce any effort of reason—any subsequent light of demonstration or conviction—can thoroughly disengage. Of this incongruous concatenation of ideas, I have an indistinct recollection of a remarkable instance stated to have occurred at an early period in the history of Iceland. Soon after the arrival and favourable reception of the first Christian missionaries in that remote island, it is said that a violent and destructive eruption took place from one of its volcanic mountains. Upon this a general assembly was convened, for the purpose of investigating the cause of this dreadful disaster, and it seemed to be the universal opinion that it was a punishment inflicted by the anger of the gods on account of the new religion, which the strangers had just been allowed to introduce. The latter event appeared to them to stand connected with the former in the order of a direct and obvious consequence. It so happened that the assembly was held upon a rock of indurated lava, which had been poured forth in a former eruption. One of the chiefs, whose mind had been accustomed to a somewhat wider scope, and was more deeply imbued with the philosophy of common sense, observing this circumstance, and perceiving the absurdity of the conclusion, to which

his associates seemed to have come, triumphantly asked—if the admission of the foreign religion had been the cause of the recent catastrophe by kindling the indignation of the gods, what had excited their wrath, when that torrent of fire issued forth, upon the conglomerated remains of which they were now standing.

To the same habit of partial and contracted speculation are to be referred the numerous prejudices, superstitions, and false associations, arising from remarkable coincidences in the events of life or in the phenomena of the heavens, which take so firm a hold upon the popular mind, before it has been yet expanded by reflection and furnished with general principles. It is the business and one of the chief benefits of a sound and enlightened philosophy, without overstepping those limits which candour and modesty prescribe, to burst in sunder these links of groundless and arbitrary connection—to separate and decompose these aggregations of discordant elements—to dispel these mists and to chase away these phantoms of intellectual obscurity, and to exhibit every scene of rational contemplation in the order which nature hath fixed, amidst the daylight of celestial truth.

Such an enlightened recognition of general principles is necessary in every condition of life and in every line of pursuits. It is important to the man of literature and science in order to prevent the growth of that spirit of narrowness and exclusiveness, which is so apt to be engendered by too devoted an attachment to one

department of knowledge and to one modification of intellectual exercise. It is necessary to the poet in order that he may rise to those noble and elevated conceptions, which exhibit in a state of ideal combination all that is sublime in nature—all that is great and dignified in the highest order of humanity—all that is powerful and comprehensive in intellect—all that is intense in emotion—all that is tender in sympathy—all that is lovely in benevolence—all that is heroic in achievement—all that is interesting in the developement of every latent germ of human thought and feeling and character. These are the genuine elements of poetry; and it is on account of its being required to exhibit the qualities of human nature upon a scale of greater elevation and abstraction, and in a state of closer approximation to the imaginary model of perfect and consummate excellence, that Aristotle pronounces poetry to be more philosophical than history. The immediate business of the latter is to pourtray man simply as he is, and to display every minuter shade of his character and conduct, as modified by circumstances and regulated by passing events: whereas the former aims at the loftier task of displaying him to the view as he ought to be: and hence it is privileged to endow him with qualities, and to invest him with perfections, which lie scattered and dispersed among the universality of the human species. To the painter as well as the poet to generalize his ideas is indispensably necessary: for, as it is remarked by Sir Joshua Reynolds, he is not to content himself

with the representation of any particular object; but he is to select the varied features of elegance and loveliness and grace which are observable in the individuals of nature, and to combine them together by his plastic hand into one form of superlative and matchless beauty.

Nor is it superfluous to the historian, whether he be a writer or reader, that he should raise his mind to the contemplation of general principles. Without such an intelligent survey of the great and primary elements of man's nature, and of the recondite springs and motives of his conduct, the historian becomes a mere chronicler, and his work, as was once emphatically said, an old almanack, in which the curious may find an accurate date of events, but the philosopher can trace no deep and comprehensive views. History supplies the means and the materials of a large and protracted experience, and when it is written with judgment, and perused with discrimination and reflection, it is eminently conducive to the acquisition of sound and enlightened wisdom.

To the professional man, whatever may be the more immediate object of his pursuit, this habit of mind is more peculiarly necessary, as it may preserve him from that narrowness and technicality of notions, which too exclusive an attention to any one branch of science or art is apt to produce. It has frequently been observed, that those, whose duties or inclinations have led them to direct their thoughts and researches to particular departments of investigation, almost invariably betray

their habits and predilections in the prevailing current of their ideas, and the distinguishing complexion of their phraseology. Their pursuit becomes a mould, into which their mind is gradually cast, and all those faculties which cannot be forced into a conformity with this model, are either distorted from their natural place and bearing, or lie torpid, powerless, and inefficient. Hence arise those extravagant estimates, which the professors of different branches of literature and science often form of their own peculiar studies, and the contempt which they express for those of others. Hence it is, that science is so frequently degraded into an art, instead of art being elevated into a science. Hence it was, that the mathematician, at the conclusion of an epic poem, coolly inquired—"What does all this prove?" Hence it is that the critic, who deems it the only thing for which it is worth while to live, to restore an ancient reading of Euripides, or Sophocles, or Shakspeare, feels such unutterable surprise, that any one should be so unwise as to spend his days in poring over numbers, and his nights in gazing through a telescope. Hence it was, that the musician, mentioned by Cicero, endeavoured to explain the nature of the soul by comparing it to a harmony; and that one of the most illustrious lawyers of the present age is said to have employed himself, while a student in the Temple, in converting a popular ballad into forms of statute law. This last department of study, indeed, is generally considered as having a peculiar tendency, unless counteracted by the liberalizing influence of an

enlightened philosophy, to produce that habit of mind which all pursuits of an exclusively professional character are calculated to form.

To obviate such an effect—to call forth the noble faculties of the soul into a full and unimpeded play of operations—to disengage the mind from the trammels of professional technicality and mechanism, without disturbing that fixed and resolute concentration of effort, which is essential to great and pre-eminent attainment—to impart a tone of energy to every feeling, and of expansion to every thought, there must be a rich infusion of that spirit, which issues from the fountain of true philosophy, circulating throughout the whole system, and rousing into vigorous and well proportioned action every organ of the intellectual frame. This, like the electric or galvanic fluid, will run through every nerve—swell every muscle—quicken every pulse, and animate every torpid fibre. So far as it is in active exercise, it will render the whole mass of the mental character, instead of a congeries of disjointed and ill-adjusted faculties, one compact and well-balanced system of life, vigour, and intelligence.

But to no member of the community is that enlargement of mind, which is the result of a clear and distinct recognition of general principles, more important, than to the statesman and legislator of the land. Of him above all others is it required that he should rise above the littleness of partial, local, and merely temporary considerations. In his mind there should be nothing of the narrowness of system or the rashness of empiri-

cism. His business is not to apply a law, which has already been instituted, but to draw forth a law from the first principles of his science. His rules, in order to be adapted to human nature, must be drawn from that nature itself, in its fixed, genuine, and invariable character. In order to this, he must be possessed of a profound acquaintance with it in its first elements, and as it may be modified by the endless combinations of circumstances with which it is surrounded. He must look before and beyond the present moment. He must be guided in his measures not by the fluctuating opinions—not by the clamours and caprices of the multitude, but by an enlarged and comprehensive view of what is calculated to be ultimately beneficial. In his capacious and enlightened mind, the past, the present, and the future must meet together in friendly consultation, in order that the impetuosity of the second and the adventurous blindness of the third may be guided and controlled by the hoary-headed experience of the first; and thus his laws will not be the superficial enactments of a factitious and shortsighted policy, becoming antiquated with the occasion which called them forth, but the elemental parts of a constitution, which will prove itself true to human nature amidst all the changes and evolutions of its earthly history.

These appear to be the leading and most distinguishing characteristics of the "Spirit of Philosophy;" and it remains that I should only rejoin a few remarks

upon the means by which it may be most successfully cultivated and diffused.

I. Among the first and most effective means of enkindling and diffusing a philosophical spirit throughout the community, is that of frequent mutual conference upon subjects of literature and science among its members. I need hardly remark how much more elevating and ennobling—how much more worthy of our intellectual nature and capacities—such an interchange of thoughts and ideas would be, than those topics of frivolity and inanity, if not of more exceptionable character, which too frequently form the subject-matter of social communication. The spirit of philosophy and science, like that of every other department of human enterprise and pursuit, must have been originally roused into activity, and must be preserved from sinking into stagnancy and decay, by the commingling energy and excitation of congenial and kindred minds. Every kind of power must have an appropriate object upon which to act, in order to be productive of salutary effects. Thus it is that mind, in order to display its energies to any advantage, must blend its conceptions with the associate operations of other minds. Hence, some of its mightiest efforts have been wasted, because there was no reacting influence to measure and direct their force: some of its brightest radiations have been lost to human sight, because there was no suitable medium from which they could be reflected in their genuine colours. Some

have supposed that the beams of the sun itself owe all their brilliancy and intensity to an electric atmosphere with which it is surrounded, and that if that medium of transmission should fail, that blazing orb would be reduced to an opaque and frigid mass. Thus, doubtless, has it happened, that many a spirit which was naturally adapted to blaze forth as a luminary of the highest order in the intellectual world, has been smothered into obscurity, and frozen into rayless torpidity, through the want of a genial atmosphere in which its energies could glow and shine*.

It is an historical fact, which bears with a strong evidence upon this view of the subject, that men of distinguished talent and attainment have generally appeared about the same time—thus marking out so many distinct eras of light and illumination in the progressive chronology of the world. They have not risen in regular and solitary succession above the horizon, but have burst forth at intervals in a galaxy of encircling splendour. In the history of every civilized country, there has been some period or other which might be considered as the golden age of genius—such as the age of Pericles in Greece—the age of Augustus at Rome—the age of Leo X. in modern Italy—the age of Louis XIV. in France—the age of Elizabeth or Anne in our own country. At these respective epochs in the history of the human mind,

* Φωνᾶντα συνετοῖσιν· ες
Δε το πὰν ἑρμηνεων χατισει.

PINDAR, *Olym.* II., 152.

philosophers and poets, historians and critics, appeared, not in a state of remote dispersion over the face of the expanse, but in groups of clustering brilliancy, like the gems of varied lustre which bespangle a monarch's crown. The faculties of man are doubtless substantially the same in all ages: we therefore account for that extraordinary confluence of talent which burst forth upon the view at these respective periods, upon the principle of association, and by referring it to that ascendant power which a few master spirits in an age possess to draw others in their train—to imbue them with their own taste—to illumine them with their own light—to enkindle them with their own fire, and to nerve them with something of their own strength. Hence the incalculable advantage of well-conducted institutions, in which, by collision and mutual communication, the latent sparks of intellect may be elicited and made to concentrate into a flame. It was before a society, formed under royal patronage for the cultivation of philosophy and the arts, that the discoveries of Newton were first placed; and it was under the auspices of the same institution that they were first published to the world. It was, moreover, as has been already remarked, whilst a few friends were assembled in his chambers for the purpose of philosophical communication and discussion, that the first germ was conceived of the immortal work of Locke. I know of nothing, therefore, which is better calculated to keep alive and to diffuse, as well as to awaken in the first instance, the true spirit of philosophy and science, than

that system of intellectual intercourse which a society like that to which we belong affords an opportunity of carrying on. It is thus that—

> Speech ventilates our intellectual fire,
> Speech burnishes our mental magazine,
> And thought's exchange, like the alternate push
> Of waves conflicting, breaks the learned scum,
> And defecates the student's standing pool.

II. The next thing which I would mention, as eminently calculated to invigorate and enlarge the mind and to train it to an original, comprehensive, and philosophical cast of thought, is the habit of frequent and varied composition. To peruse the writings of others, even upon subjects of considerable difficulty and abstruseness, if the mode in which they are treated be luminous and interesting, and the mind have been adequately prepared by previous knowledge and instruction, is a work of comparative facility and indolence. It may be prosecuted with satisfaction and delight by those who are strangers to all the severer exercises of the mind. It is as different from the process of original and independent composition as that gentle motion of the frame, which is experienced by one who is conveyed in a vehicle, amidst a scenery all beautiful and enchanting, is from that spontaneous exertion of muscular power—that elastic play of limb, in which health and strength delight to put forth their energies.

In reading or hearing, the mind has only to yield itself to the current, and if the theme be congenial to its taste it will be pleasantly and almost unconsciously

carried along amidst enamelled banks and flowery landscapes. The ease with which a never-ceasing stream of ideas is transfused into it from without produces a soothing illusion for the moment, which makes it forget that they are not its own. But when it undertakes to embody its sentiments in writing, it feels itself to be at once thrown upon its own resources. It then learns to measure its own strength and to calculate the real amount of its capabilities. Its ideas, which before floated in nebulous and undefined confusion, are then to be reduced to a fixed and palpable order, and to be put to the test of a rigorous and accurate investigation. This has an obvious tendency to foster a habit of reflection and self-knowledge—the most important of all others in the process of mental discipline. And if the mind's estimate of its own powers be at first humiliating and mortifying, and its unfledged attempts come short of the standard which pəsodoɹd sɐɥ ʇı to itself, it affords by so much the better pledge of future expansion and strength. It evinces a discrimination of judgment, and a consciousness of the real difficulties with which it has to contend. By degrees, however, its views will enlarge—its knowledge will become varied and extensive. The pinions of its imagination will grow stronger, and the conceptions of its reason brighter and more lucid. The very act of embodying its sentiments in written language will give them a distinctness and vividness of colouring which no process of unwritten or unexpressed thought could have secured. And in proportion as an indivi-

dual becomes inured to these severer exercises of mind, the more deeply will he be imbued with the spirit of philosophical investigation and research. It was on this ground that I ventured some months since to suggest to the Committee of this Institution the plan of receiving papers upon subjects of literature and science from such of the members—especially the younger members—as might be disposed to contribute them, and that those which should be deemed most valuable should be preserved, or in the event of the want of a regular lecture, should be read before the Society at large. And I am persuaded that if such a plan, or some other of a similar nature, was adopted and vigorously carried into effect, it would have a powerful tendency to kindle that spirit and to excite that interest which are essential to the permanency and success of every corporate establishment.

III. With the habit of oral communication, and the practice of original composition, must be combined a regular course of study and reading, at once deep and varied, discriminating and extensive. Although the perusal of books is not of itself sufficient to form the mind into a character of solidity and strength, yet it is obvious that without such means the process of intellectual discipline cannot be prosecuted with advantage, nor carried to any considerable degree of perfection. It is altogether a mistake, and, if practically adopted, a most fatal mistake, to imagine that genius or native talent is a sufficient substitute for study, or that it was ever designed to supersede the necessity

of laborious and diligent cultivation. This would amount to the same thing as to suppose that a good system of digestive organs is all that is requisite to constitute a vigorous and athletic frame; and that, in the total absence and neglect of the due supply of food, the infant, who is provided with this apparatus, will spontaneously rise and expand into the man. It must always be remembered that talent, in any of its numerous modifications, so far as it is to be considered as natural, is a capacity of prompt and easy acquirement, and not a mine of original and innate wealth—a faculty of quick and accurate perception, and not a panorama of untaught knowledge—a power of vigorous, energetic, and brilliant combination, and not an instrument of positive and absolute creation.

This being the case, it evidently follows that he, who would train his mind to a habit of efficiency and strength, must betake himself to those sources from which the appropriate aliment is to be supplied. In works of literature and science this food is to be found in every variety of form, and in a state of adaptation to every order of taste, to every diversity of aim, and to every scale of intellect. It is from the materials supplied out of these exhaustless stores of mental nutriment, that meditation is to secrete those elements of knowledge and wisdom, which are fit to incorporate with the understanding—that genius is to elaborate that spirit, which has only to be excited into vigorous action in order to electrify the whole circle of that community of minds, with which it is brought in contact.

In the selection of the substance, which is thus to form so important and influential a part of our intellectual nature, much care and discrimination are required. Of the multitude of books which are afloat, and which the new power of steam is employed in rapidly accumulating, the most ardent and industrious student can read but a small number; nor amidst the varied and engrossing duties of life is it to be expected that he should be able to make more than a cursory survey of many which would be worthy of his attention. It is enough, as it is in a high degree desirable, that his knowledge should be accurate and profound in those which relate to his own profession, or to that department of science, whether of matter or of mind, which circumstances or taste and inclination may have led him peculiarly to investigate. The habit of reading, however, ought to be cultivated and universally diffused; and I know nothing which would be better calculated to infuse into our own Institution a spirit, which would circulate with an enlivening and invigorating influence throughout the system, than a library of select and useful books—not to be shut up as a cabinet of curiosities or exhibited as an ornament of our museum, but to be a centre of social interest to our members, and to hold close communion with their minds in all that is intelligent, wise, and good. Then might we realize, in some degree, in our individual and associate capacity the effects ascribed by Bacon to the means of improvement and self-cultivation, which have been just enu-

merated—that reading makes a full man, writing a correct man, and speaking a ready man.

Such appear to me to be the chief elements of what I have entitled the "Spirit of Philosophy." We have stated the leading characteristics of that spirit, as displayed in the mind and conduct of individuals, to be originality and independence in the various exercises of thought; a sincere and ardent love of truth and science, accompanied by candour and modesty in its researches; and a constant reference to general principles throughout the whole range of professional, literary, and political occupations and pursuits. The means were then pointed out, by which this spirit might be most successfully excited and diffused—oral communication; the practice of composition; and the habit of reading. I have viewed the subject simply as it relates to the exercise and improvement of the natural powers of the mind, and without any direct reference to the influence of a higher principle of mental discipline. I cannot help remarking, however, in conclusion, that the spirit of which we have been endeavouring to trace the operations, is not the master-spirit by which our nature ought to be swayed. In order to answer the end of our existence, and to rise to the grandeur of our destiny, we must be made partakers of a diviner influence. Philosophy, however just and legitimate its aim, and however noble and elevated its character, constitutes but a lower form in the discipline of our being. We must walk by a brighter light than her feeble torch could yield,

and aspire after a more glorious immortality than her loftiest visions could pourtray. We must be imbued with the spirit of a higher economy, and delight ourselves with the contemplation of sublimer truths. We must receive an emanation from above, which will spread a radiance of celestial purity over our character, and diffuse a glow of divine benevolence throughout our affections—which will raise us above all that is base, sordid, and corrupt—which will eventually translate us from earth to heaven, and there link us in close and everlasting fellowship with the beneficent Father of our spirits.

III.

THE CULTIVATION OF THE MIND, &c.

THE plan of this Institution, as a literary and philosophical society, appears to me eminently calculated to answer the end for which it was established,—the expansion of individual talent, and the elevation of the community at large in the scale of mental endowment. By its comprehensiveness, as embracing literature and philosophy, it brings within the range of its inquiry the whole world of knowledge; it possesses a power of adaptation to every cast of mind, and to every marked preponderance of native or acquired faculty. Between these two great departments of intellectual pursuit, however widely they may appear to be separated from each other, and however different the complexion which they may exhibit, as spread over the features of different minds, there is unquestionably a close connexion. Cicero, indeed, represents all the sciences, all the objects of human knowledge, all the forms of intellectual exercise, as combined by one common tie, and as associated together in an order of close relationship*. And the mind which is totally unacquainted with the broad principles and grand

* Etenim omnes artes, quæ ad humanitatem pertinent, habent quoddam commune vinculum, et quasi cognatione quadam inter se continentur.—*Orat. pro Arch.*

results of any one of the leading departments of investigation, must assuredly be regarded as deficient in that symmetry of parts, that compactness of structure, and that fulness of proportion, which are necessary to its more energetic applications and its efforts upon a wider scale.

The great distinction by which literature and philosophy appear to be prominently contrasted with each other is, that the former is principally concerned with the productions of the human mind in its extensive and varied range of exertion; while the latter more immediately conducts to the study of nature itself in its boundless modifications of existence and operation. The one presents to us the objects of our contemplation in their original state, as subject to those fundamental laws which form the very condition of their being; the other exhibits them to our view as elaborated by the several powers of the mind—as arranged in consecutive order by the memory, and laid up in the cabinet of history; or, as combined by the magic influence of the imagination, and embodied in the visions of poetry. But it is impossible not to perceive, that between these several provinces of the great empire of human knowledge, or rather of the human mind, however remotely distant from each other, the lines of communication are clear and unquestionable. It is the assumption of this universal analogy or relationship subsisting among all the principles of thought and science, upon which Lord Bacon founded his notion of a *Philosophia Prima*, which was to be the grand crowning result of

all prior investigations; and although it may be impossible to realize this idea to the extent which he conceived to be desirable, there is no doubt that in the great facts of nature, and the distinguishing exercises of mind, there is much of a common or closely allied character.

This shows in a striking manner the propriety, not merely of uniting literature and philosophy in a scheme of intellectual cultivation, but likewise of organizing a society—of bringing a combination of mental resources, to bear upon the prosecution of these objects. Man, in an intellectual, not less than in a sensitive and civil point of view, was evidently designed to be a social being. And it has often struck me how little the loftiest individual genius could do in science or art, if thrown upon its own unaided energies. The temple of knowledge, in all its varied compartments, is the result of the combined efforts of many minds, and of the accumulated labours of a long succession of ages. In taking a retrospective survey of the progress of scientific truth, we are subject to a species of optical illusion, which precludes us from a view of the real process, by which the mass has been still elaborated into a higher order of perfection, and from assigning unto each individual that proportional share of merit to which he is entitled. While we look back upon the ocean of time, and strain our eyes in endeavouring to descry, amidst the thickening mist which rests upon its surface, the splendours which at successive periods were reflected by its waves, we can see indeed a few

of the greater lights, but the rest are dimmed by the distance, or lost to our view, through the want of a proper medium of conveyance. We behold a few blazing beacons stationed at different distances from the horizon, which our near-sightedness swells into a confused expansion of lustre, and we are apt to trace unto them all the light that hath ever shone. It must be acknowledged, indeed, that the discovery of truth, in all its departments, has been owing to the energy or ingenuity of a few master minds, aided however by the industry or the accidental observation of less endowed associates. Forgetting this latter fact, we are prone to consider the distinguished individual, whose name represents any particular province of truth, and whose fame has eclipsed his predecessors in the same path, as if he was himself the constructor of the whole scheme; whereas, if he had had to analyze or to compose the first elements of the science, he might have been unable to carry it to the point at which he found it. The boast of the profoundest and most original genius can rarely lay claim to anything more than this,—to have taken up the thread of the argument where it was left, to have shown its bearings upon a somewhat larger scale, and to leave it to those who will expand the tissue to a still greater amplitude of range. It is but to carry the design of a former intellectual architect a little higher, and to rectify the mistakes into which he may have fallen. It is, in short, but to throw a few grains of material for the construction of that edifice, whose foundation is as old as creation;

and which will continue to require fresh additions till the fabric of creation shall be no more.

In illustration of these remarks, which are not intended to detract from the merit of transcendent individual talent, but to show the absolute necessity of combination in the pursuits of science, as well as every other object of human attainment, I might refer to almost every department of intellectual investigation. View, for example, the science of quantity, as it has passed through its varied gradations of discovery and improvement, until it has arrived at its present state of sublimity and comparative perfection. How much profound and patient thought must have been exercised upon the first principles of this science, before they could have been unfolded with such wonderful accuracy and clearness in the Elements of Euclid. It is considered a proof of the most extraordinary genius in the renowned Pascal, that he was able, as it is said, to work his way, by the mere energy of his own mind, into a demonstration of what constitutes one of the early propositions contained in that treatise, without ever seeing the book. Let it be imagined, for a moment, that Newton should have had to begin the whole scheme, instead of taking it up at the advanced post to which it had been carried by the Greek geometers in the first instance, by Archimedes, Apollonius, and Euclid, by the mathematicians of less note who flourished at later periods over the continent of Europe, and subsequently by Wallis and Barrow and others in our own country: we do not know in such a case whe-

ther, with all his marvellous talents, he would have been able to have advanced beyond the very threshold of the science. What could the same illustrious individual have done in the investigation of physical astronomy, if, without any previous facts respecting the celestial bodies being made known, he had had to direct his contemplation from the fall of the apple in his garden to the consideration of the laws of gravitation, as exemplified in the solar system? What could he have done towards the elucidation of this law, and all its train of consequences, if Copernicus, and Kepler, and Galileo, had not gone before him,—nay, I may add, if the child of the spectacle-maker of Middleburg had not accidentally looked at the weather-cock of the church before his father's house, through an arrangement of glasses which may be considered as the rough state of the telescope? In the subsequent progress of this sublime science, as it has since been further elucidated by Lagrange, Laplace, and Herschel, we see the same process of successive and accumulated labour tending to the gradual and more complete developement of truth.

In the sciences of chemistry and electricity, which may be considered as yet in their infant state, the progress which has been already made, has been the result of the combined exertions of many minds, rather than of the penetrating reach of one commanding genius. For how many ages had the crucible been at work, by how many experimental tortures had nature been put to the test, before alchemy was sublimated into

chemistry. Even after this interesting department of knowledge had assumed something of the character of a science, it was necessary that it should pass through the hands of Priestley, Lavoisier, and Black, and receive its share of elucidation from their respective observations and experiments. It was necessary, moreover, that Galvani should have accidentally discovered that peculiar action of the principle of electricity, which has since gone by his name, and that Volta should have taught the most effectual method of eliciting and applying it, before Davy could have thrown so much new light upon this field of investigation, by decomposing what had before been considered as elementary, and evolving substances which had been hitherto without a name. Taking their stand upon the elevated position, to which preceding observations and discoveries had led them, Œrsted, Ampère, Barlow, and others, have penetrated still further into the remarkable analogies of electricity and magnetism, and have founded upon these analogies the new and interesting science of electro-magnetism. I mention these circumstances, not with a view of conveying any information upon these subjects, but simply for the purpose of illustrating the principle, that the knowledge of scientific and philosophical truth, in any extensive degree, has always been the effect of a long series of investigations, prosecuted with various success, rather than the mighty evolution of individual and unaided talent. It is for the purpose of showing, that it is not to one favourite, however highly endowed, that nature in any

of her sublimer and more extensive principles of action has been accustomed to reveal her secrets; but rather in obedience to the patient and persevering solicitations of successive and combined inquirers.

I might proceed in the same line of illustration throughout the whole range of the intellectual world. Not a single province throughout its vast extent can be pointed out, which does not present to the eye of the well-informed observer the unquestionable symptoms of long and diversified cultivation, before its last and best productions have rewarded the skill and toil of the most distinguished labourer. This, however, would lead me too far out of the range of the subject upon which I propose more particularly to address you. As introductory to that subject, the remarks which have been just made upon the necessity of associated efforts in the prosecution of every species of knowledge and attainment, may not be deemed inappropriate.

On being invited to undertake the task which I am now endeavouring to execute, I was naturally led to inquire, what was the leading object in the establishment of an Institution of this nature. It seemed to require but little reflection to perceive, that the leading and most direct design of those by whom it was organized, was the improvement of their minds—the cultivation and expansion of their intellectual nature. The object of such institutions is not merely the acquisition of such an amount of knowledge, be it literary or scientific; but the real enlargement and elevation of the faculties by a well-directed application of that

knowledge. The most useful and important service, therefore, that can, perhaps, be rendered to such an Institution, is to unfold the method by which the mind may be most successfully trained and disciplined to the possession of the various modifications of intellectual excellence. As the attainment of this order of mind, and of the qualities which mainly constitute it, is an object of universal desire, it is not immaterial that we should form a clear idea of the process by which it may be most effectually realized. It was my intention to attempt to give a brief view of this process, as it relates to the most valuable and distinguishing endowments of the human mind. But, on looking more closely into the subject, I found that, to be developed with any justice, it would occupy a space far more extensive than is compatible with the limits of the present address. Upon this occasion, therefore, I shall confine myself to the importance of that culture of the understanding, which I have represented it to be the design of this Institution to promote; not altogether relinquishing the intention, if it should be deemed expedient, and circumstances should admit of it, at some future opportunity, to prosecute the subject more fully into its details. The several endowments of *strength* and *originality*, of *sagacity* and *versatility*, of *elegance*, of *grandeur* and *sublimity of mind*, in connexion with the various means by which they may be most freely and successfully developed, offer an interesting and important, and I believe, in some respects, a new field of investigation.

Before we can enter, however, upon the consideration of any of these more prominent and specific qualities, we must determine how far, and upon what grounds, the cultivation of the understanding is justly to be regarded as in itself important, and therefore as entitled to a persevering share of attention from every man who would answer the great end of his existence. For, however obvious and undeniable the affirmative of this inquiry may appear to some, there are doubtless others who have not been accustomed to view the subject with the same intensity and liveliness of interest. I argue, therefore, that the cultivation of the intellect is both important and legitimate, because it was unquestionably the *design* of the great Author of our being, that our minds should be disciplined and enlarged by every just and practicable means, and to the utmost measure of their capacity. It is the great and distinguishing characteristic of the works of nature, as emanating from his creative energy, that nothing has been made in vain. When He looked round over that sphere of existence, to which his word had given birth, amidst that boundless diversity of character and scenery which it displayed, with an emotion of sublime and ineffable satisfaction He pronounced everything which He had made to be very good. The goodness of every object and of every order of being, doubtless, mainly consisted in its complete adaptation to the end it was designed to answer, and to the place which it was to occupy in the vast scale of creation. The perfection

of nature, however, both intellectual and physical, did not consist so much in its immediate state, as in the latent powers which it involved—in those capabilities of action and expansion, which the progress of time and the application of well-directed energy would evolve. In the latter department of the works of creation—in what constitutes the varied mass of the material frame of the universe—the principle of developement indeed was confined within a much narrower limit. All the motions of the physical world may be considered, in a certain sense, as circular. They are so many revolutions performed in the same tracks. They are only successive exercises of conservative and reproductive energy. In the intellectual and moral world the case is different. The principle of developement here is not limited by the same law. The motion of mind was not designed to be that of rotation, but of progression. It is, if we may so speak, constructed upon the principle of endless elevation and of interminable expansion. However narrow may be its range, however feeble and impotent its efforts, in the present state, owing to the speedy decay of the organs through the medium of which it operates, and still more to the depressing influence of the deadly principle under which it labours, in the progress of futurity we know not what heights it may not be destined to reach. We can form no idea of the boundary lines within which its excursions will be necessarily restrained—no conception of the pillars set up to mark the last

possible reach of finite intelligence, and inscribed with the prohibitory injunction—"Hitherto mayest thou go, and no further."

In these views of the endless progress of the human mind, as originally designed by its Creator, there is nothing at variance with the humiliating fact and the salutary recollection of our own comparative littleness and insignificance. Whatever advancement we are destined hereafter to make, if the objects of divine favour and love, in the scale of knowledge and intellect, (and to that advancement I know of no assignable limit,) we shall still stand at a distance literally infinite from Him, of whom it has been sublimely said, that his "centre is everywhere, and circumference nowhere." In our highest state of attainment at any conceivable period in the progress of future duration, as compared with the immensity of his being, we shall still be as nothing—less than nothing, and vanity. I deem it necessary to add this remark, lest I should be supposed to indulge any extravagant notions of our destiny, as founded upon the endless progress of our faculties, and inconsistent with that humility and sobriety of mind, in the exercise of which we shall assuredly sink in our own comparative estimation, as we are enabled to elevate our conceptions of the character and attributes of that Being, in whom we shall still continue to live, and move, and exist.

In giving us a mind, there can be no question that it was the design of Him who bestowed it upon us, that its faculties should be exercised and expanded by

being employed upon their appropriate objects. If it be the business and proper function of that mind to think, to investigate, and to reflect; and if, in the absence of these exercises, it be useless to any other purpose, there can be no doubt that every legitimate means should be used to raise it to a higher order of efficiency in the performance of its allotted work. To suppose, indeed, that the Author of our nature should have endued us with a principle, which, in respect of all its loftier energies and capabilities, was to lie dormant—with faculties which were never to be unfolded beyond the merest range of sensitive and spontaneous evolution, would be utterly inconsistent with all our ideas of his wisdom. It would contravene the very purpose for which the faculty of thought was superinduced upon that of animal function.

To abandon this important and distinguishing portion of our nature, therefore, to utter inactivity and neglect, to suffer its ethereal elements to lie imbedded beneath the coarse incrustations of apathy and sensuality, is, in reality, to be guilty of the deepest ingratitude to Him who planted the germ of intellect in our frame—it is to put that candle under a bushel which ought to have been fanned into a torch, to light us into the knowledge of his works—it is to bury in the earth that talent which ought to have been diligently laid out in his service.

It should always be borne in mind, in reference to this view of the subject, that if God created all things for the purpose of manifesting his own glory, as dis-

played in the multiplicity, the grandeur, and the beneficence of his works, this end can be realized in the case of man only in proportion to the exercise of his understanding, as invariably preceding and accompanying devout affections. The feelings of the heart are, in this respect, limited by the views of the intellect. Where there is no knowledge there can be no admiration. He who knows most therefore of the perfections of the Creator, as embodied in his works, and as still more conspicuously displayed on the golden pages of his word, may be justly expected to love and revere Him most. And I have no doubt that the raptures of heaven itself will be in a great measure kindled by the brighter views which the purified and expanded faculties will there be able to take of the diversified scenery of the universe, and of the whole course of the divine administration in the economy of creation and providence.

It may be further observed, in illustration of the importance of cultivating the powers of the mind by a course of intellectual discipline, that it cannot fail to *elevate* him by whom it is successfully pursued in the *scale of being*. The order of rational as well as irrational existence is marked by different gradations. The rank of humanity may be considered as forming one grand department in that series of capabilities and endowments; but the place occupied by our species is by no means of uniform elevation. The line of admeasurement, as applied to individuals and communities, does not lie in an even and horizontal direction.

As it is extended from age to age, from country to country, from man to man, its course is interrupted by many great and palpable inequalities. There is, doubtless, much of difference in the original capacity of those who partake of the same general nature. Upon what principle this circumstance is to be explained, by what theory it is most satisfactorily accounted for—whether it arise from the state and character of the primordial element of mind—or whether it be the result of a greater or less degree of organic developement—or, lastly, whether it be altogether the result of early influence, association, and direction, it may not be easy nor is it necessary to determine; but, in spite of all that speculation might suggest, the fact is unquestionable. The difference of stature and complexion, of feature and expression, among the various individuals of the species, is not more certain than is the difference between them in the cast and staminal properties of their intellectual constitution.

Obvious and undeniable, however, as this fact is, observation and experience show that the scale of mental power is varied still far more widely by discipline or neglect than it is by nature. It is true, indeed, that the difference, in its most marked and striking state, as subsisting between the most profound philosophy, and the most shallow common place—between learning in all its accomplishments, and ignorance in all its nudity—between genius in all its sublimity and brilliancy and fire, and dulness in all its insipidity and obtuseness—is a difference between

little things, little enough to render the inordinate pride of talent contemptible, little enough to excite, perhaps, something like a feeling of disdain in higher intelligences at that excess of admiration which is sometimes lavished upon superior powers.

But insignificant as the distinctions of mind and intellect may be, as viewed upon a scale of wider comparison, yet, as characteristic of beings possessed of the same essential nature, they are assuredly great and important. The value of intellectual cultivation, as accompanied with an elevating effect upon character and condition, is most strikingly displayed indeed in the case of nations and communities at large. It is interesting to trace the progress of science, as it arose, like the morning star, above the horizon of the Eastern world, as it travelled from Asia into Egypt—from Egypt into Greece—from Greece into Italy. It is striking to contemplate that stream of light, which it shed over every region as it passed, while all the surrounding districts were involved in the profoundest gloom; until, at length, mingling with the beams and in a manner losing itself amidst the splendours of a still brighter luminary, it has centred over a once benighted island of Western Europe, and gradually diffuses itself in one glorious arch over the remotest extremities of the globe. False as was much of the philosophy, and debasing as was the associated mythology of ancient Greece and Rome, yet, through the mere influence of intellectual culture, the inhabitants of those countries rose to a dignity of character—to

a refinement of taste—to a polish of manners, for which, with the exception of that people who were favoured with the true light of heaven, we elsewhere look in vain. Compared with the rest of the nations, they seem to occupy some lofty table-land, where the air is dry and pure, and the sky is cloudless and serene; while all below appears as one wide morass, overspread by damp and fog. Without forgetting the grievous defects of their moral code, and the still more deplorable absurdity of their religious notions and institutions, it is impossible not to admire the intellectual condition of a people that could appreciate the exhaustless learning of Aristotle, that could rise to the sublimity of Plato, that could be charmed with the elegance of Xenophon, and be electrified by the eloquence of Demosthenes—a people to whom the language of Homer and Euripides was familiar as household words.

It is not, however, merely in the superior condition of refined and civilized communities, as contrasted with unlettered tribes, that the advantage of mental culture appears. The same displays itself in very marked and prominent features among the individuals of a community, over which the light of general knowledge has spread itself to a very wide extent. The disparity of position occupied by different persons, arising from the disparity of intellectual endowment, though perhaps occupying the same rank in life, is too obvious, and I may add too important, to escape observation. Notwithstanding the evident progress of

society towards a higher order of mental cultivation, which has taken place within the last few years—notwithstanding that powerful impetus which the popular mind has received—notwithstanding the sober truth which is contained in the well-known figurative phraseology of the "march of intellect," the lines in that march are yet unquestionably far from having generally attained to those noble heights—to that commanding position, which nature had destined, and persevering effort would have easily enabled them to reach. The great mass are still found to linger at the foot of the hill of science, wanting either the inclination to attempt, or the courage and perseverance to accomplish, the arduous task of ascending it.

I have often been astonished at the difference which a vigorous and successful cultivation of the intellectual faculties occasions between two individuals, whom there may be nothing else to distinguish from each other. In the one all is sluggish, heavy, and inactive. You see nothing but a form of humanity with a few appropriate appendages loosely hanging about it. The few ideas that, in the intercourse of society, necessarily enter into his mind, and which he employs as a species of circulating medium, in order to carry on the commerce of life, come out precisely in the same condition as they went in. Like the current coin of the country, they go through his hands without altering one letter of the inscription. There is no electric stream to decompose and melt down the con-

ventional forms of thought and language, in order to cast them into a new mould, and to stamp them with new impressions. They pass through the furnace without the smell of fire. With the other the case is diametrically the reverse—with him all is life, vigour, and intelligence. You are at once struck with the irresistible conviction that he is accustomed, and that he knows how to think. The first and only thing which you deem it worth while to observe, is his mind; and this is found to radiate a species of ethereal influence, which, sooner or later, makes itself felt through the sphere in which he moves. This is that elevation in the scale of being, and not the mere attainment of a higher order of rank or affluence, to which I have stated intellectual cultivation to be conducive.

It is seldom indeed we find the human faculties raised to this high order of comparative perfection. It is rare to meet with a mind like that of Burke, to which the whole volume of human knowledge seemed to lie open—to which all the stores of nature and science, of history and art, seemed to offer themselves with emulous alacrity for every purpose of profuse and and brilliant illustration. Such an unrivalled combination of the gifts of nature and of the fruits of acquirement, it were, in the great majority of instances, absurd to attempt, and almost impious to covet. Calm acquiescence in present attainment, united with a vigorous exertion for greater acquisitions—a high idea of the value and real dignity of knowledge, associated with an humiliating sense of its littleness and insuffi-

ciency, is doubtless the most just and healthful condition of the human mind.

I proceed to notice another aspect, under which a high order of intellectual cultivation appears to me eminently important; that, when duly regulated, it cannot fail to be powerfully conducive to *Virtue and Happiness.* I combine these two qualities, as belonging to our nature, in one general view; not merely for the sake of greater brevity of illustration, but also on account of the inseparable connection, which, on a comprehensive and enlightened estimate, will always be found to subsist between them. So firm and constant is the alliance between them, indeed, that they may be considered as almost identified in the character. They co-exist in the closest and most indissoluble relation of cause and effect. Virtue is the plant, happiness is the delightful fragrance which it diffuses over the well-cultivated garden of the soul. Or, to change the figure, virtue is the sun of that moral system, of which every individual man is a miniature representation as well as a component part: happiness is the cheering radiance which it sheds over the whole sphere of its influence. Whatever, therefore, can be ascertained to be conducive to the formation of the former, cannot be otherwise than proportionably tributary to the diffusion of the latter.

That the cultivation of intellectual habits, and the well-regulated developement of the mental faculties, have a tendency most natural and direct to cherish the

principles of virtue, both public and private, both civil and domestic, appears to me indeed so obvious, as scarce to require anything beyond the mere proposition of the case. Vice is generally the result of the intellectual part of our nature being overborne by the sensitive. Whatever, therefore, has a tendency to turn the balance in favour of the former—to give the judgment the mastery over the passions—to reduce the wayward impetuosity of the feelings under the steady control of the understanding, must assuredly be regarded as a most powerful ally of virtue. The very habit of mind which the pursuits of literature and science are calculated to engender, independently of any direct design of that nature, appears to me eminently favourable to the formation of a virtuous character. That is essentially a habit of thought, of discrimination and reflection. It is a habit which never satisfies itself with a confined, narrow, and partial view of things. And hence, in cases which admit of doubt or uncertainty, and in which conflicting claims and interests seem almost to bring the balance of the judgment to an equilibrium, it is candid, liberal, and temperate. Where it sees with clearness and accuracy, it is firm, vigorous, and decisive. And if this habit should become embodied in the prevailing character of the community, doubtless not a little of that turbulent and tumultuous ebullition, arising from the inordinate working of passion in its various forms of popular sports and political animosities, which are

so destructive to the peace and virtue of the nation, would subside into the manliness of sober enjoyment, and the soundness of enlightened patriotism.

In the privacies of domestic life, not less than on the stage of public conduct, the investigations of science and the elegances of literature exert an influence in the highest degree salutary and beneficial. They give dignity and grace to retirement, as well as efficiency for professional duty. They provide an exhaustless store of innocent and improving occupation for leisure, as well as energy and skill for business; and thus they are an effectual preservative against that indescribable *ennui*, which no round of dissipation or amusement, however regular and continuous the succession, is able at all times to shake off from the mind. It is a fact, not less true in morals than it was once considered in physics, that nature abhors a vacuum. From some source or other it continually seeks for a plenitude of enjoyment; and one half, perhaps, of the gross vices that are committed in the world, is the mere rush of the turbid tide of the passions into those vacant spaces which ought to have been replenished by the understanding with the means of appropriate gratification. By a species of hydraulic process, the element of sensual pleasure hastens to occupy that portion of the character from which the influence of the understanding is removed; just as water rises in a pump, which has been emptied of its atmospheric air. A mind richly furnished with stores of varied information, strengthened by study and purified by taste,

feels that it can well afford to relinquish those turbulent and debasing gratifications which are the only resource of vacuity and ignorance; and it is in a condition to reject their solicitations, not only as prohibited by the rigour of its principles, but also as beneath the dignity of its character, and uncongenial with the refinement and elevation of its pursuits. I am thoroughly convinced, that of all earthly means whatever—for I do not now undertake to develope the operations of a higher principle—a mind deeply imbued with the love of knowledge, and intently fixed upon its own improvement, is beyond all comparison the most effectual preservative of the virtue and happiness of youth, as well as those of riper years, amidst the manifold temptations and allurements to which they may be exposed.

Important as the cultivation of the intellectual faculties of our nature thus appears to be at all times, and under all circumstances, we may remark once more, that it is peculiarly necessary in the present state of society, and the prospect of that advancement, which it seems to be rapidly effecting, towards the higher regions of knowledge and information. There was a time when knowledge was deemed the last thing necessary towards securing power, honour, and respect —when, whatever might be the occasional inconvenience of ignorance, it was not accompanied with the slightest danger of the loss of *caste*. Before the invention of the art of printing, science—philosophy—literature, were necessarily confined to a few; wrapped

up in a few rolls of parchment, and carefully laid up in the archives of the learned, like some grand secrets of state, into which vulgar eyes were not allowed to look. From that period, however, the veil has been gradually removing—the mystery has been unfolding. By the evolutions of that mighty engine, an impetus has been given to millions of minds, which would otherwise have lain dormant in the unconscious lethargy of their powers, without ever being disturbed with the slightest suspicion that it was their duty or their privilege to think. The bliss of this ignorance however is gone by. The season of torpor is past. The chain of society has become electrified, and from one extremity to the other the shock has been felt. The world appears now to be awaking from a sleep which had locked up the faculties of a large proportion of its inhabitants for a period of five thousand years. At the united call of religion and science it is beginning to shake off its slumbers. The human mind, nurtured in the philosophy of Bacon and Boyle, of Newton and Locke—in the poetry of Milton and Young, of Thomson and Akenside and Cowper—and in the pure theology of the early reformers, has learnt the secret of its strength, the legitimacy of its rights, and the certainty of its triumph. It has opened its eyes to the light of truth, and its ears to the melody of its voice. It has laid aside the tone and attitude of an overgrown infant—it has risen to the dignity of its character, and the level of its powers—it has refused to have its locks shorn by the fondling hand of sensual

pleasure—it hath put forth its giant energies, and hath carried off the two posts of the gate, by which tyranny and superstition had so long held it in thrall.

The theory and practice of government are consequently adapting themselves to this new order of mental activities, in some instances amidst the exploding elements of anarchy and convulsion; in others, by the milder and safer process of gradual conformation. Education in all its varied gradations, from the loftiest heights of science to the lowest rudiments of language, spreads wider and still wider among the nations of the earth; and begins to be embodied among the legislative enactments of every fresh organization of states. From the metropolis of the British empire to the African kraal and the American wigwam, information runs with a celerity, the assertion of which, in ages past, would have been deemed extravagance, and the accomplishment a miracle. Religion, too, the master principle of the human mind, when it has been reduced under due influence and control, is well-pleased to accompany knowledge and science in this rapidity of their march. She has laid aside the mask of superstition, beneath which her lovely features were so long concealed—she has ceased to be arrayed in the habiliments of darkness, to wield the leaden sceptre of ignorance, and to hold her right of empire upon the tenure of mental bondage. She has, on the contrary, shown herself to be the friend of light, by casting off the works and the insignia of darkness. She evinces her confidence in her character, by challenging and

inviting scrutiny. She imposes no restraints upon the understanding—no fetters upon the conscience—no barriers against the full flow of the affections, except those which the eternal laws of truth and holiness have established. She courts the faculties of the mind to their most free and unfettered developement, in order to convince them of the soundness of her principles—to satisfy them of the justness and reasonableness of her claims, and to delight them with the splendour of her prospects.

In this view of things, which is true rather of the general aspect of society than of its actual and universal state at this moment, it appears to me, that without some share of attainment and intellectual cultivation it will soon be difficult for any man suitably to perform his duties as a citizen, and reputably to maintain his rank in life. In the time of Lord Bacon, it would seem that an idea prevailed, that, by becoming deeply imbued with literary and scientific habits, men would be rendered unfit for the practical business of life; and hence he labours to convince the jealous monarch, whom he addressed, that the very reverse would be the case. The progress of nearly two hundred years has given its attestation to the truth of that opinion; for, in proportion as the philosophy of that extraordinary man has been spreading and unfolding in the boundless diversity of its ramifications, men have assuredly made a corresponding progress in all the practical pursuits and useful occupations of life. There is now so much of knowledge and science

thrown into the whole machinery of society, that no man is fit to work that machinery in any of its more complicated departments, whose mind is a total stranger to thought and cultivation. In the learned professions, talent and skill bear away the palm, in spite of all the disadvantages with which they may have to contend, and of all the superior interest and connection which they may have to encounter; and even in the great council of the nation, hereditary dignity, if unaccompanied with more substantial qualifications of mind, is forced, however reluctantly, to give way to the resistless energy of superior and more cultivated powers. The tide of intellect, indeed, has set in with such impetuosity over the whole range of public and professional occupation, that, without a prompt and vigorous ascent towards the higher walks of talent, no man can expect long to maintain his footing.

Such appear to me to be the leading and more prominent points of view, in which intellectual discipline assumes a character of importance, and prefers a claim upon our attention. It is important, because it was doubtless designed, under due regulation, by the beneficent Author of our nature, and the bestower of all our powers—and also because it has a tendency, the most natural and just, to raise those by whom it is successfully and modestly pursued in the scale of being—because, under the guidance of sound principle, it is eminently conducive to virtue and happiness—and, lastly, because in the present state, and more especially in the view of the future prospects of society, it

becomes an indispensable requisite for the efficient and reputable discharge of the civil, professional, and relative duties of life. Before I conclude, however, there is one remark of a cautionary nature, which I deem it essential to add to what has been just stated; for it relates to a point upon which I feel very strongly, in connection with the subject upon which I have been now dilating. This point is, that in our highest estimate of talent and intellectual attainment, we should never allow ourselves for a moment to imagine that mental endowment, in any one of its forms, whether of genius or acquired accomplishment, is of any value whatever as a substitute for moral worth, much less for religious principle. I have represented the pursuits of knowledge as naturally conducive to virtue: but knowledge is not virtue itself, nor necessarily productive of it. Talent, in itself, is mere power; and it is morally good or evil precisely according to the use to which it is applied, and to the object to which it is directed. And I know no order of men who deserve worse of their species, than those petty despots of the intellectual world, whether they be poets or philosophers, who imagine that an amount of talent or acquirement, sufficient to give them an ascendency over a multitude, is an adequate atonement for all that may be corrupt or debased in their character. In estimating the conduct of such persons, in applying to their moral delinquencies the fashionable phraseology of the errors of a great mind—the infirmities of a great genius—the spots, which the telescope discovers in the face of

the sun, there is certainly a danger lest we should lose our abhorrence of their vices in our admiration of their talents. That mind alone is properly cultivated, in which the virtues flourish in union with the graces, in which the tree of knowledge bears the fruit of piety, and the flowers of imagination serve only to guard and to embellish the prolific germs of probity and benevolence and purity, which are embosomed within them. That is the only true philosophy, which is willing to be a handmaid to religion, the queen of the human faculties. That genius alone is entitled to our unmingled admiration and respect, whose brilliancy of parts is but the radiation of solid principle, and whose lofty aspirations, spurning the base alliance of corrupt and earthly associations, claim kindred with the regions which gave it birth.

IV.

NATIONAL CHARACTER, &c.

Of all the pursuits and investigations which can engage the attention of man, the most interesting and important is unquestionably the study of his own nature, in its various relations and endowments. The state of the external world, in its diversified forms of beauty and grandeur—the elements of which it is composed, and the laws by which it is governed—the changes which it has undergone, and the new combinations which may have sprung up throughout the successive periods of its history, are nothing to him, except so far as they are calculated to affect those susceptibilities of thought and feeling which have been implanted in his own mind. If the faculties of man were of a different order—if his capabilities of impression were regulated by other principles and influences than those to which they are now subject, the whole frame of nature, the whole constitution of society, with respect to him, would assume a new aspect. Science is, in fact, nothing but an accurate survey of the phenomena of the several departments of the material and intellectual world, as they appear to the human mind. Philosophy is only a comprehensive view of the conditions into which they will enter, or of the events to which they will give rise, when placed in

peculiar relations to each other. Literature is no more than a record of the sentiments and emotions which have passed through other minds—a reflection of the light which has played, and of the colours which have been painted, over the reason and imagination of those from whom it is conveyed—a permanent and embodied representation of the intellectual scenery, which otherwise would have vanished into nothing. The whole range of knowledge is thus found to be intimately connected with the faculties and sentient powers of man, not merely as they are the instruments by which it is prosecuted and attained, but also as they impart unto it the peculiar character which it is found to assume. Philosophy, poetry, history, in all the variety of their modifications, are what they are, because the mind, of which they are the produce, and to which they stand related, is what it is.

A nature, which is thus the centre of all science, which reflects its own image upon all the objects it surveys, and reduces under its own dominion whatever is most minute in observation, most abstruse and complicated in reasoning, and most lofty in speculation, must be allowed to be entitled to a paramount share of our attention. By the nature of man, I obviously here intend the mind of man in its various faculties and affections. It is as a rational and sentient being, capable of thought and emotion, that man stands conspicuously distinguished from all other created beings with which we are acquainted; and viewed in this light, we find that he is possessed of certain qualities

and powers which universally belong to the species, and which are independent of all outward discipline and influence. These may be compared to the primary properties of matter—properties which are essential to its nature under every possible modification, and under all imaginable circumstances of its existence. Besides, however, these first principles of our intellectual and moral being, which form the substratum of the whole system of our prevailing ideas and emotions, there is a variety of secondary qualities, which are liable to be endlessly modified in their influence and operation, as they gradually combine and imperceptibly mould themselves into character. One of the most important circumstances connected with the natural world is the uniformity of its laws. This is the foundation of all science—the plastic principle of all philosophy—the groundwork of all physical truth. Without the assumption of this as the first axiom in the theory of their investigations, the astronomer, the chemist, the physiologist, would pursue their inquiries to no purpose; the chain of their investigations would be liable every moment to be snapped asunder, and the whole fabric of their philosophy, deprived of this cementing medium, would fall into utter and inextricable confusion. The operations of the human mind, and the formation of human character, are subject to similar laws of agency and influence—laws which are equally uniform and effective in themselves, but, from the nature of the subject, are by no means capable of being perceived with the same clearness, or

estimated with the same precision. Every individual, morally and intellectually, is to a great extent what he is, —every nation or community, in its collective capacity, has become possessed of those qualities which prominently stand out to the view in the contemplation of its predominant habits,—through the developement of original principles, modified and controlled by surrounding influences, circumstances, and events; and it forms a most important part of the study of the statesman, the philosopher, the moralist, in fact, of every man who feels an interest in the welfare and improvement of his species, to ascertain the causes which are calculated to call forth with most vigorous and energetic action the various elements of human character.

The formation of the mental habits and dispositions of man is, in this respect, analogous to that of his physical constitution. There is, in both cases, an original germ, endued with certain tendencies, and marked by certain capabilities of growth and developement; but, in order that these rudiments of organic and intellectual existence may be unfolded and reared up into the form of perfect humanity, it is necessary that they should be placed in circumstances adapted to their inherent susceptibilities, and supplied with materials with which they are naturally fitted to combine. The corporeal system requires the conjoined aid and influence of a great variety of appropriate means, in order to arrive at its destined maturity, solidity, and expansion; and it is obvious that the regularity of its functions, and the energy of its opera-

tions, will greatly depend upon the atmosphere which it breathes, and the aliment with which it is habitually furnished. Deficiency or unhealthiness in either of these indispensable instruments of its support will inevitably produce derangement in its organization, and eventually effect its destruction. Whatever may have been the native strength and symmetry of its parts, it is only by the united influence of air and food and exercise that its health can be maintained, and the various constituents of the frame be expanded to their full proportion.

In the same manner, the mental principle, the various powers and susceptibilities of which form the basis of the character, not only requires the application of suitable means to be unfolded into vigorous exercise, but its operations in every form of opinion and affection will greatly depend upon the external influences to which it has been subject, and the process of discipline through which it may have passed. Character, both national and individual, according to this view, is not the result of a single act of creative energy, either in the natural or spiritual acceptation of the term. It is not a combination of qualities, virtuous or the reverse, starting forth at once out of the brain of him to whom it belongs, in full equipment for every active achievement. It is not the produce of a day, a week, or a year—the forced and rapid growth of transient circumstances and evanescent impressions; but it is the result of a long and successive train of influences operating upon a mind capable in a degree,

more or less, of receiving their action. It is the effect of a constant series of accumulations gradually consolidating into substance. It is the bone and the muscle of the intellectual and moral system, which were slowly and imperceptibly deposited in the mass, while it was yet comparatively soft and fluid. In its stronger and more vigorous cast it is a rock, the component parts of which were laid and arranged while the mind was in a state of fusion in its transition from youth to manhood, and have since combined into a firmness of texture which no ordinary power or influence can shake or decompose. It is a habit of thought and feeling which has been wrought into the intellectual and moral being, like the channel scooped out of the stone by the incessant flow of the current, and in virtue of which the whole train of its desires and aversions, its impressions and actions, is determined with all the uniformity of a law of nature.

In the more confined and specific sense of the expression, the generality of mankind, as Pope reminds his female correspondent of having once remarked of her own sex, have no characters at all. The substance, of which their combined faculties are composed, is either too dense to receive, or too soft and ductile to retain, any profound and permanent impression. All their notions and affections consist of a species of thin, superficial alluvium, casually deposited over their mind by the streams of social intercourse, and the flow of uninquiring and unreflecting observation. Insipid and unimportant, however, as

this order of character may appear, when confined to the individual, yet when spread over a large extent of population, and embodying itself in the conduct of the greater proportion of a nation, it becomes a matter of deep and anxious interest.

But still more worthy of our notice and attention does it become, when we behold any peculiar and striking deviation from this ordinary routine—any example of a decided elevation in thought, feeling, or attainment, above this low level of every-day endowment. In such a case we feel that there is an unequivocal claim to character, and we are sensible of a curiosity to ascertain, not only what were the primordial elements of such a mind, but also by what means they were unfolded—through what processes of application, excitement, and influential agency they must have passed, before they could have resulted in such a phenomenon. It is as when we survey some extraordinary masterpiece of human labour and art. We are not content with admiring such a production—with contemplating the richness of the original materials, and the exquisite skill with which they have been wrought into their present form; but we are desirous of knowing the whole history of its formation—of tracing every step in the progress of the operation, and of estimating every modification of agency and influence which contributed to such a result. It is the view—though partial and imperfect—which it gives of the means by which illustrious characters are trained and formed, that imparts its charm and its utility to biography,—a department of literature the

most interesting and instructive of all others. When we witness an individual such as Bacon, or Newton, or Locke, or Milton, or Johnson, or Burke, among the men of science, literature, and genius; or Howard, and Thornton, and Wilberforce, among philanthropists, standing forth in prominent and unquestioned superiority to those around them, I have sometimes imagined with what interest we should regard the scene, if we could survey, not only the outward circumstances through which they passed, while their character was in process of formation, but also the whole of that internal play of operations, to which those circumstances so materially contributed to give rise; if, as Lord Bacon somewhere expresses it, there was a window at which we could take our secret stand and look into the whole length and breadth, the height and depth, of their mind, while that mysterious and complex system of mental physiology and moral chemistry was gradually unfolding itself, in the evolution of those faculties and endowments, which were destined, as the instruments of a mightier Power, to raise the condition of their species, and to shed a lustre over the annals of the world. It would be striking to observe how plans and purposes, at first weak and indistinct, and suggested by circumstances apparently the most trivial and unimportant, gradually gained strength, combined and consolidated into firm and vigorous resolves, which stood fast amidst all the changes and tossings of the future life, like those clusters of coral rock occasionally clad with the richest and most beauteous vegetation, which were

reared by insect labour amidst the tumultuations of the roaring ocean. It would be curious to notice the original formation of those hidden ties of intellectual and moral association, by which thoughts and feelings were linked together in a manner that would necessarily give its cast and its colouring to the whole complexion of the character. It would be wonderful to perceive how every remarkable event that was witnessed—how every turn and change of destiny that was experienced —how every singular phenomenon that was contemplated—how every book bearing the unequivocal impress of thought and genius that was read, and every discourse and conversation that was heard—how every one of these objects and transactions lent its share of force to swell that momentum, which gave its energy and direction to the whole course of the conduct. It would be not a little interesting to see how each of them, in its place and time and measure, contributed to give vigour to the intellect, delicacy to the taste, solidity to the judgment, warmth to the affections, and tenderness to the heart. On such a survey it would doubtless be found that every man owes by far the larger proportion of what may, with any propriety, be called his peculiar and distinguishing character— leaving the influence of religion, which, where it prevails, is paramount to all others, and the operations of which I am not now discussing, out of the question —to those circumstantial conditions and events over which, in the original instance, he could have exerted

little or no control. Whatever might have been the native strength of the mental stamina, whatever might have been the inherent bias, if any, of the desires and affections, it was necessary that a channel should be cut out by some apparently accidental occurrence or facility, through which the tide of thought might flow, or the current of feeling might force its way. The faculty, indeed, would have existed independently of such a circumstance; but who can tell to what extent the result of its exercise would have been realized, and consequently the character would have assumed that peculiar and decided form, to which it was gradually moulded. It is easy to point out events wholly unconnected with the will or purpose of the individual, without the co-operation of which no one could affirm with certainty that Bacon would have been the father of experimental philosophy and the first luminary of modern science,—that Newton would have been the greatest of mathematicians and astronomers,—that Milton would have been the sublimest of poets, and Locke the profoundest of metaphysicians,—that Bentley would have been the foremost among general scholars, Porson the first of Grecians, and Jones the deepest of Orientalists. Among the masses of forgotten humanity which were successively swept into the tomb, we have no reason to doubt that there were those, the calibre of whose mind was originally not inferior to that of these giants of modern intellect. But their "souls sublime" were doomed to feel and to show—

How hard it is to climb
The steep, where Fame's proud temple shines afar,
And wage with fortune an eternal war:
* * * * *
Condemned in life's low vale to pine alone:
Then dropped into the grave unpitied and unknown.

Of all the modifications of influence which affect the formation of the character, both individual and national, one of the most powerful and comprehensive in its effects, where it is brought fully and directly to bear, is unquestionably the study of *literature and science.* It was doubtless an extravagant declaration of Fox—drawn forth on the memorable and affecting occasion of the dissolution of his political connexion with Burke—that if he was to place all the knowledge and instruction which he had derived from books and gained from science, all which the knowledge of the world and its affairs had taught him, in one great scale, and the improvement which he had derived from his right honourable friend's conversation and instruction in another, he should be at a loss to decide which would be likely to preponderate. Familiar intercourse with a man of Burke's transcendent endowments, indeed, must have been attended with no ordinary effects upon minds capable of appreciating his character, and of drawing out his exhaustless stores. It must have radiated no common measure of light and warmth and influence upon those who were brought within its sphere. But the mind of the illustrious statesman who professed such unparalleled obligation to the guide of

his youth and the friend of his manhood, had unquestionably received its first and most powerful impulse, and had taken its determinate bias, from the study of ancient literature; and its capacity to receive its impress from the lofty genius of Burke, must have resulted from previous habits of assiduous intellectual discipline.

I have offered these remarks upon the formation of individual character, because the character of a nation is but the aggregate of that of the individuals who compose it. If a chemist were required to analyze the water of the ocean, it would be enough for him to decompose a drop. Or, reversing the process; when Cavendish had succeeded, by the mixture of the two gases, in producing a quantity of water which was just sufficient to be applied to the palate, he as clearly revealed the secret of its constitution as if he could have reduced under chemical operation the whole mass of the mighty deep. The same pursuits which affect, and eventually form, the character of individuals, will also be found to exert a similar influence, so far as they prevail, upon the habits of the community at large. On a general survey of mankind, we shall discover that there has always been a close connexion between the predominant literature and philosophy of a nation, and the distinguishing manners of the people. If we pursue the stream of history, commencing at its fountain head, in the original settlement of our species in the centre of the Eastern hemisphere, and accompany it, as it rises at intervals to our view, and occasionally

sinks into the sands of dark and barren conjecture, until it bursts forth into comparative majesty and distinctness on the fertile plains of Egypt; if we contemplate it as it rolls in bright meanders over the classic soil of Greece; if we follow the current as it passes over to Rome, and diffuses itself among its vast dependencies, and, crossing the indistinct boundary line which separates between its ancient and modern divisions, if we survey it, as it has gradually expanded itself into the broad and magnificent surface of European society, during its progressive stages of formation and development for the last thousand years, we shall find that the prevailing habits of society received a deep and unequivocal tincture from the pursuits of literature and philosophy; while the mass of floating and circulating intelligence, in its turn, unquestionably derived much of its distinguishing character from the peculiar and predominant qualities of the element, on which it was cast. Egypt is renowned for having the first libraries; which, in allusion to their beneficial influence upon the diseases and infirmities of the mind, were denominated *the remedy of the soul.* Its Mercuries filled the land with the results of the application of their learning and inventive genius to those arts and manufactures which tend to the comfort and embellishment of human life; and the stupendous monuments of physical energy and scientific skill which are yet visible in that land of wonders, evince the elevated position which its inhabitants had attained in the scale of civilization and refinement. In the states of Greece, during the most

flourishing periods of their history, the mighty sway which literature and science are capable of exercising over the national character is still more strikingly manifest. In those far-famed republics, which for the most part might be literally called republics of letters, genius in all its forms had a free and unimpeded opportunity of exerting its plastic energies. Hence the minds of the citizens were instinct with its loftiest inspirations. The manners of the people bore an evident impress of the maxims which embodied the principles and opinions of their standard writers. They were in fact but a manifestation of the diffusive energies of their all-pervading literature. They were but a practical illustration of the conceptions, which were confirmed by the reasonings of their philosophers, were embellished by the elegance of their critics, and glowed in the enthusiasm of their poets. The delinquencies and degrading practices which are acknowledged to have prevailed in those communities arose, not so much from the violation of acknowledged principles, as from the deficiency of their knowledge and the inadequacy of their moral standard. Of the Romans, we need only say that their national character, in all those features of stern virtue and lofty dignity, by which it was so remarkably distinguished, kept pace throughout all its stages of progressive elevation, stationary eminence, gradual decline, and utter extinction, with the course of their literature and science; so that we can trace the rise and degradation of their manners in the synchronical improvement and deterioration of the style of their historians and poets.

Throughout the progress of the middle ages, the same connexion is visible. The intellectual operations of that lengthened period, if such illusive exhibitions of mental phantasmagoria are entitled to that name, were almost entirely confined to legendary tales, scholastic subtilties, and records of romantic achievements; and it will be found on inquiry that the character of the several nations of Europe, during that era, was in perfect keeping with these varieties of literary costume. It was an epoch of wild and morbid imagination, of theological imposture and philosophical empiricism; and hence we might have concluded, even if we had no direct evidence to the fact, that it was the epoch of superstition, of knight-errantry, and of alchemy; the epoch of wonder-workers and crusaders, of Franciscans and Dominicans, of Thomists and Scotists, of nominalists and realists, not unfrequently engaged in deadly feuds against each other,—the epoch, in short, of "gorgons and hydras and chimeras dire."

At the dawn of the Reformation, a new era of literature and philosophy, as well as of religion, began to open itself on the world, and therefore new forms of national character began to unfold themselves over Europe. So far as secondary causes were instrumental in the production of that mighty and most influential event, the revival of learning, so materially aided by the recent discovery of the art of printing, was doubtless that which most powerfully tended to rouse it into action, to direct its course, and to accelerate its progress. At that auspicious era in the history of our

species, the mighty dead appeared at once to burst their cerements, and to walk forth out of their silent repositories. Orators and poets, philosophers and historians, at the touch of whose wisdom, and the flame of whose magic eloquence, nations were once lighted into knowledge, and roused and animated into freedom, were seen again to enter into communion with the people, and to yield their aid in the interpretation of the language of prophets and apostles,—language in which were embodied doctrines of purer truth, precepts of holier morality, and discoveries of sublimer import, than ever rewarded the toils of science, or glowed on the page of uninspired genius. In all the revolutions of character and opinion which have taken place among the various nations of Europe from that time until the present moment—and they have been neither few nor unimportant—the impetus which was then given to the powers of the human mind, and the peculiar direction in which, at successive periods, the current of literature has flowed, will be found, in connexion with other causes, to have exerted no ordinary influence. To say nothing of the continental kingdoms, the state of opinions, principles, and manners, in our own country, surveyed throughout its several alternations and transitions, abundantly attests the fact, which I am now attempting to illustrate. Until the age of Elizabeth, we can hardly be said to have had a literature or a philosophy worthy of the name. With the exception of the theological productions of a few master-minds which ushered in the English Reforma-

tion, very few additions had been made in this country to the stock of human knowledge, and the manners of the people bore the unequivocal stamp of the ignorance and barbarism in which they were generally sunk. But under the reign of Elizabeth a new order of intellectual habits and pursuits began to be formed. It was then that the genius of Bacon rose, like the morning star, upon the world of science, though the manifestation of its light was reserved, indeed, to a later period. Then it was that Hooker, laden with all the stores of antiquity, appeared, to instruct and delight his countrymen with the learning and eloquence of his immortal *Polity*. Then it was that Burleigh, while he was directing the councils of his sovereign with the wisdom of his vigorous and comprehensive intellect, contributed also to polish the manners of the age by the purity of his taste and the elegance of his verse. Then it was that Raleigh was treasuring up materials for a history of that world, to the unknown tracts of which he was anxious to push his discoveries. Then also it was that Spenser and Shakespeare carried the efforts of the imagination, in their respective departments of poetry, to a pitch of splendour and eminence hitherto unrivalled in the annals of the English muse. The whole history of that period clearly proves, that the character of the nation acknowledged, in its leading features, the influence radiated upon it from these lofty spirits.

The two next more remarkable eras in the history of the human mind, connected with the influence of its exertions in the formation of the character of the

people, are perhaps that of the commonwealth, and that immediately following the restoration. During the first of these periods the Puritans and Nonconformists were evidently the prevailing and influential spirits of the age. It was by the fervid enthusiasm which breathed throughout their published writings and spoken addresses, that the whole nation was electrified; and while it formed itself into a resistless phalanx against what it was taught to believe was tyranny and oppression, it assumed the appearance at least, and doubtless in many instances the reality, of a devotion, which was accordant with the highest professions of religion. During the second, literature as well as the national character underwent a mighty reaction. From the one extreme—not indeed of solid and substantial piety, for in this there can be no extreme, but of a pretension, which in its general bearing was not adequately sustained by principle—there was a transition to the other extreme of reckless levity and impiety. The reign of Charles II. was not remarkable, except in a few instances, for men of distinguished and pre-eminent genius. It was an age of too much profligacy and inconsiderateness for the deep and extensive cultivation of the sciences. Its poetry and literature were for the most part of a gross and degrading character. The turbulent and buoyant spirits, which had been kept in check by the rigid restraints of the Cromwellian period, now seemed to revenge themselves for the confinement which they had experienced, and to be eager to pour forth a full

tide of ingenious depravity to corrupt and defile the land. The effect was such as might have been expected. The habits of the community underwent a melancholy change. The bonds of moral obligation were relaxed. The manners of the court, embellished by wit and genius, by a natural and easy transition flowed into the character of the people, and the majority of the nation presented a frightful picture of immorality and vice. During the subsequent reigns science made rapid strides: the philosophy of the human mind became a subject of profound and accurate investigation: literature was purified, elevated, and extended; and until the present hour these several modifications of intellectual exercise, according to the degree in which they have been pursued, have continued to exert their plastic energies in moulding the character of the community. The question now indeed is, not whether literature diffused among the people is an instrument of mighty power, but what imaginable limits are to be set to its capabilities—what measure is to be assigned to its possible practical results. When, in fact, the comparative shortness of the time, which has elapsed since the art of printing was discovered—an art which has the effect of indefinitely multiplying the productions of the human mind—is considered, we can hardly be said to be in possession of adequate data, upon which an accurate judgment may be formed. The diffusion of literary and scientific information through the great mass of society must be regarded as a vast experiment upon mankind, the result of which

cannot yet be fully ascertained. It brings such a variety of influences, such a combination of elements, to bear upon the character—it is capable of touching our nature at so many points, of so completely blending itself with every faculty and affection of our being, that it is only after a close and scrutinizing induction, conducted upon the largest scale, that we can calculate with any certainty the full amount of its force.

This will be more evident, if we consider for a moment the slow and tedious mode, in which the efforts of original and transcendent genius are generally doomed to force their way into communion with the feelings and habits of the great body of the people. The transition is indeed certain, and the effect secure, but it is for the most part gradual and indirect in its movements. The principle of scientific discovery or national improvement is first conceived in the mind, or elaborated by the researches, of some profound and original thinker. When the germ has been warmed into life by the kindling energies of his own contemplations and reflections, he unfolds it in a work, which has to encounter all the difficulties charged upon its obscurity, and all the prejudices arrayed against its novelty. For awhile, therefore, it rests, if the allusion may be allowed, like bread cast upon the waters—apparently dead and unproductive. After a time, however, it comes in contact with some kindred element. By a principle of inherent vigour it takes a powerful hold upon the mind. Like some valuable foreign plant, recently imported into the country, the

truth which has been thus discovered continues for a season to be the luxury of the few; but as its nature and qualities become more distinctly understood it imperceptibly spreads its influence. It now begins to be discussed, expounded, and analyzed in treatises of various forms and dimensions. By that gradation of talent which keeps up the correspondence between the higher and lower ranks of intellect, it insinuates itself into closer fellowship with the exercises of the collective mind, until the essence of the purest and loftiest spirit of philosophy is at last diluted into a preparation, which is fit to give a taste and a relish to the commonest beverage of the people. And as an exemplification of this result, I will venture to express my belief, that there is not a peasant of ordinary information in Britain at this moment, although he may have never heard the names of such productions, whose condition—nay, whose very habit of mind, is not very materially affected by the *Organon* of Bacon, the *Principia* of Newton, and the *Essay* of Locke.

I have hitherto mainly dwelt upon the general influence which the exercises of the human mind, in the several departments of literature, philosophy, and science, are calculated to exert in the formation and direction of the national character, and the connexion which is consequently found to subsist between these pursuits and the prevailing habits of the community. The experience of all ages has shown that nations, as well as individuals, owe the largest share of the growth and expansion, the cast and complexion, of their intel-

lectual and moral nature, to the books which they are accustomed to read, and the sciences which they are led to study. It has evinced that there is as close and intimate a relation between the developement of the mental faculties and affections, as the primordial elements of character, and the intellectual aliment with which they are habitually supplied, as there is between the condition of their physical and corporeal system and the atmosphere which they constantly inhale. Besides, however, this general power of moulding the manners and habits of a people, which literature, in its more advanced stages of cultivation, has always been found to possess, there are some most important peculiarities attendant on the pursuits of intellect to which it may be desirable briefly to advert in an attempt to estimate their influence on the formation of the national character.

1. One of the most striking and remarkable forms, in which this influence is displayed, is that of giving the first *powerful impulse* to the collective intellect, and in subsequently maintaining the healthful and vigorous exercise of the mental faculties. Until a nation is in possession of some species of literature, and has been instructed in the first rudiments of science, it is impossible that it should rise to the rank and dignity of a civilized community. It is nothing else than a horde of savages—an aggregation of beings in human shape, and endued with sentient powers, but marked with few of the distinguishing attributes and endowments of rational and social humanity. It is a

mere mass of physical energy and wild ferocious passion, mingling together like so many elements of discord and destruction, and forming a stormy chaos, out of which it is impossible, without the breath of another spirit than there moves, that anything fair or beautiful—anything bright or harmonious—should spring forth. In such a condition of our nature the intellectual part of our being lies perfectly dormant and insensible. It is a dead letter in the history of our existence. It is a mystery, which no revelation of truth or science has been vouchsafed to unfold. It is a faculty of vision rendered useless through the want of light. It is a gem, in many cases of surpassing brilliancy, buried beneath successive layers of drossy incrustation in the unfathomed caves of ocean. To a people placed in these circumstances the use of written language must be utterly unintelligible; for how a range of mystic characters drawn by one man should, by the mere view of them, excite a train of clear and vivid ideas or impressions in the mind of another, must to them be totally incomprehensible and incredible. For them no map of thought is spread—no chart of history is delineated—no volume of collated and long-treasured experience is unrolled. To them equally unknown, except within the narrow limits of personal recollection, are the events of the past and the probabilities of the future, and for—

> The book of knowledge fair,
> Presented with a universal blank,
> And wisdom at one entrance quite shut out.

Hence all the finer and nobler faculties of their mind —those which are calculated to elevate them in the scale of existence, and to open the sources of pure and refined enjoyment—are lying perfectly dead and unexercised; and the very best that can be said of them is, that the rough and unhewn and unpolished marble of their mind may conceal an Aristotle or a Plato, a Homer or a Virgil, a Demosthenes or a Cicero, a Newton, a Milton, or a Locke.

But when the day-light of knowledge dawns upon such a scene—when a vigorous stream of truth and science, like an electric current, is directed to such a mass, new powers are at once called into action. The dim suffusion, which had veiled the orbs of intellectual vision, is gradually dispersed. Faculties of thought, capabilities of judgment, reflection, memory, and association, with their whole train of delightful attendant exercises, are brought to light, of which previously there was not the slightest consciousness. It is like the discovery of some voluminous treasure of antiquity, which had for ages been buried beneath some ruinous heap, and deformed with dust and mould, but requiring only to be drawn forth to the light, and to pass through the hand of science, in order to exhibit its recondite characters, and to reveal its golden periods. A spirit of inquiry is excited; an appetite for knowledge in all its modifications of literary and scientific, of speculative and practical, of elegant and useful, is roused and cherished in every thoughtful mind. Ignorance is felt to be a disgrace—where unavoidable, is

lamented as a calamity—where wilful, is reprobated as a crime; learning is coveted as a distinction, and in its various modes of cultivation and direction, is pursued as a means of usefulness and a source of happiness. The first impulse having been given by a few powerful and superior minds, the motion is rapidly communicated by those of an inferior and secondary order. Centres of light and influence are fixed in various departments of the country, in the form of universities, colleges, schools, and literary institutions, until, warmed and animated by those emanations of truth and knowledge, which flow from these sources, the whole nation or kingdom becomes instinct with life and intelligence: that intelligence, the want of which among the mass of the people at this moment is the curse of Ireland—the general pursuit of which is one of the most hopeful signs of England—and the all but universal possession of which is one of the greatest blessings of Scotland.

The most remarkable illustration of this effect of literary and scientific pursuits in rousing the popular mind out of its lethargy, and in forming the national character to habits of useful and virtuous occupation upon a large scale, is doubtless afforded in the results of the revival of learning, as the consequence of the destruction of the Eastern empire, and of the settlement of the Greek refugees in Europe, under the protection of the family of the Medici, about the close of the fifteenth century. Until that period the whole mass of European society had for centuries been a gross compound

of ignorance, sensuality, and superstition. The intellect of that vast community had for the most part quietly resigned itself to the spell of a portentous ecclesiastical enchantment; and if the imagination, instigated by wild and uncontrolled passion, gave occasional indications of a vigorous and morbid activity, it was only like the grotesque, and often preternatural, combinations of the fancy, when the reason is enchained in sleep. For a long series of years previous to that event, Europe, in an intellectual point of view, was one vast morass; and the lights of genius, which rose at intervals, like those phosphoric gleams which sometimes flit over tracts of stagnation and corruption, tended rather to exhibit the damp and dreariness of the surrounding scene, than to afford any steady and permanent direction to those who might be seeking their way to the temple of truth. No sooner, however, had the beacons of true knowledge and science been raised into a firm and prominent position—no sooner had the remains of Grecian literature and philosophy, through the medium of translations, and by the aid of the powerful engine of the press, been scattered over the face of this huge and corrupt expanse, than signs of motion and purification began to exhibit themselves. The turbid elements of ignorance, prejudice, and error, gradually subsided and detached themselves; and although we cannot say that all the impurities of mind and conduct, of doctrine and practice, which had accumulated during so long a period of stagnation, were at once and altogether removed; yet there was assuredly a current excited,

there were trenches cut out, there were channels of communication intersected, which could not fail to drain the soil of a large proportion of its most noxious and malignant depositions. From that time until now, indeed, the process of purification has been steadily carrying on; and the tide of improvement, under the combined influence of religion and science—not, indeed, without many impediments thrown in its way by the inherent degeneracy and imperfection of our fallen nature—will doubtless continue to flow, with varied celerity and force, as long as ignorance remains to be instructed, and habits of indolence and depravity to be reformed.

In recognition of these principles, as bearing upon them the impress of reason and universal experience, it has always been one of the first cares of a wise legislator, and of an enlightened and patriotic sovereign, who was anxious to elevate the character and condition of his people, to provide them with the means of a liberal and enlarged education. It has always been one of the first objects with such persons, when they undertook the task of reclaiming a wild, of civilizing a savage, or of regenerating a degraded, community, to use every practicable means of rousing the powers of their intellect, to awaken their dormant faculties, to bring the most effective and well-directed machinery to bear upon their intellectual nature, to allure them with the elegances of literature, and to initiate them into the mysteries of science. In proof of this, we might appeal to the most distinguished of

the lawgivers and sovereigns of antiquity—to those who have been most zealous and successful in modern times in promoting the welfare and improvement of mankind. And it is a remarkable circumstance that, among the first and most judicious attempts made by the patriots of modern Greece to rouse the spirit of their countrymen, and to revive the slumbering energies of their ancestors in their slavish and degenerate sons, was that of establishing literary seminaries for their education, and diffusing among them a taste for books. I have read documents which may be regarded among the first moving causes in the arduous achievement of the liberty and independence of the Greeks,—one of them being an account of an extensive public school for the education of youth sprung from a line of progenitors who had frequented the Porch, the Lyceum, and the Academy—progenitors who had bled in defence of their country's liberties at Marathon, Thermopylæ, and Platēæ,—another, containing a portion of the speeches of Pitt and of Fox, rendered, under a slight modification, into the language of Pericles and Demosthenes,—men,

> Whose resistless eloquence
> Wielded at will that fierce democratie,
> Shook the arsenal, and fulmined over Greece
> To Macedon and Artaxerxes' throne.

Nor is it merely in giving the first impulse to the national mind that the influence of literature and philosophy is displayed. It is equally necessary, important, and effective, in maintaining it in vigorous and

healthy exercise. In the progress of time, during successive eras of the history of this world's existence, instances have frequently occurred of nations having risen to the highest eminence of wealth and power and intelligence, and speedily relapsing again into the lowest depth of ignorance, barbarity, and wretchedness. At the mere suggestion of such a topic, Babylon, Palmyra, Tyre, Egypt, Athens, Rome, to say nothing of more modern revolutions, at once rise in melancholy illustration to the view. In all these cases the first indication of national degeneracy, the first symptom of the approaching downfall of the state, was the neglect of those studies and pursuits which tend to unfold and invigorate the faculties of the human mind, and the inordinate indulgence in habits of luxury, effeminacy, and indolence. Surrounded with this deadening atmosphere, the lamp of reason was dimmed into a feeble gleam, the fire of genius was chilled, the powers of the intellect were stunted in their growth, the inventive faculty ceased to pour forth its rich creations of fancy and art, the nerve of resolution was relaxed; and the nation thus besotted, degraded, and dispirited, either fell an easy prey to some fierce and adventurous invader, or, having passed through the successive stages of imbecility and dotage, sunk into second childhood. The study of science, literature, and the arts, is in fact that alone by which the functions of the body politic can be kept in active and well-proportioned exercise; and is that which alone can preserve the organs of thought and affection, of circulation and nutrition,

from collapsing into a lifeless mass. It is in connexion with religion, its purifying and controlling element, the great conservative principle of the state, by which its energies may be wisely directed, and the springs of its prosperity may be kept clear of the feculence of stagnation and corruption. Some there are, who imagine that our own country, having been conducted by its scholars and philosophers to the highest point of intellectual elevation, is now verging towards decay. A complaint has issued from a quarter of high authority—savouring more, indeed, of the petulance and querulousness of personal mortification than of the dignity of unaffected knowledge—that science is on the decline in England. This may be true, indeed, with reference to a few individual instances of original and unrivalled genius. The resources of nature—in allusion to the well-known lines of Dryden—no longer appear to be concentrated into one grand effort to produce some mighty intellect which should tower in unapproachable majesty above the rest of his species. But in the diligent cultivation of the mind, in the general diffusion of literary and scientific information—which after all is the point most intimately connected with the national character and welfare—I am persuaded that England never stood so high, nor exhibited to the eye of the philosopher a prospect so animating as at the present period.

2. But when the national intellect has been thus roused out of its torpor, and emancipated from the thraldom, to which ignorance and sensuality had reduced

it, the beneficial influence of the pursuits of literature and science is further exercised in the *prompt discovery and application of the general laws of nature for the promotion of the welfare of the community.* It is little suspected by those who have not thought upon the subject, how closely the most ordinary conveniences, as well as the most refined elegances, of social and civilized life, are connected with the investigations of the profoundest, and, in its remote principles, most recondite philosophy. Persons in general are little aware to what extent they are indebted for many of their most essential comforts, and for still more of those luxuries and embellishments, which, in an artificial state of society, have assumed the character of necessaries, to those whose studies and researches led to the extension of the boundaries of human knowledge—those who held converse with nature in solitude, and extorted by the scrutinies and interrogations of the laboratory a disclosure of the mysteries of her operations. The diversified productions of manufacture and art, the implements and processes of agriculture, the whole of the busy routine of trade and commercial intercourse, which unitedly constitute the drapery of society, and spread, like a rich and gorgeous robe, over the form of naked humanity, are in fact only the slow and gradual results of scientific inquiry. They are particular applications of universal principles. They are but theory reduced to practice. They are but the language of philosophy translated into the dialect of the people. Within the whole range of our accommo-

dations, embracing our shelter, our food, and our clothing, we can scarcely fix our eyes upon an object, which, in its materials, construction, or mode of preparation, does not involve a knowledge of the general laws of nature, which it required centuries of combined and laborious effort to attain.

It is true, indeed, that many of the necessaries and conveniences of human life in the first instance sprung from accidental observations of the usual processes of nature, without referring them to any general principle. Men thus stumbled upon many things which their ingenuity, sharpened by the exigencies of their condition, enabled them to turn to some account. But in such blind and fugitive efforts, there was no spirit of life—there was no germ of continued existence —there was no principle of improvement and expansion. It was like an attempt to learn a language without grammar, to produce a compound in ignorance of its ingredients, to perform a process of intricate and extensive calculation without a knowledge of the first rudiments of the theory of numbers. But when the few general laws have been discovered, under which all the operations of the art or manufacture may be classed, into which all the phenomena may be resolved, and on which all the elementary combinations depend, the production of the desired effect is indefinitely accelerated and improved. It is like the opening of so many intellectual railroads, by which the results of labour and skill may be conveyed with incredible speed for the benefit and accommodation of the community.

The great rules, by which nature carries on her operations, being thus ascertained and embodied in the register of science, become a species of ready reckoner: by a single glance at which the most ordinary observer may at once determine the collective amount of so many items of matter and motion applied for the purposes of art. By nothing does it appear to me that the progress of society in wealth and civilization, in everything which relates to the ease and physical comfort of mankind, is more remarkably distinguished than by the constancy and rapidity with which the discoveries of science are thus found to transfuse themselves into the business of life, and to mingle with the whole process of human exertion. As the result of this transition and application in the present state of society among ourselves, it may safely be affirmed that the very occupants of an English workhouse are in the possession of luxuries with respect to diet, and the means of health and cleanliness, to which the courtiers of an African prince would in vain aspire. The hand of labour, guided by the eye of science, indeed is capable in a short time of changing the whole aspect of a country, and to raise it to a condition of affluence and refinement, upon which a former generation, if allowed to revisit the earth, would look with an amazement which would for a while induce a doubt, whether the scene before it was some illusion of the imagination, some vision of mysterious and inexplicable agency, or a reality of sober and unexaggerated fact, intelligible to the most ordinary capacity. And yet this was nothing but

the practical developement and application of the inherent powers of nature, submitting to the treatment of man, and offering themselves as willing agents to carry into effect the purposes of his understanding, and to contribute to the gratification of his desires. It was the result of a vast combination of physical energy and mechanical force, every spring of which received its impulse, and every wheel derived its motion and direction from the mind of man, illumined by the torch of science.

It is, indeed, wonderful to think what extensive and varied acquaintance with the several departments and operations of nature is necessary—how many branches of knowledge, each perhaps the result of laborious and profound investigation—must combine, in order to produce some of the most ordinary objects of intellectual or physical enjoyment. What numerous sciences, for example, independently of the genius and learning of the writer, must unite—what an accumulation of knowledge respecting many of the most mysterious and recondite processes of nature, must have been amassed and arranged, for the execution of a single volume of letter-press. If we analyze the substance of which it is composed—if we trace it throughout the various avenues by which it has passed into its present combination and position—if we accompany it in its progress throughout the complicated operations and evolutions of chemistry, metallurgy, and mechanics, until it has assumed the form and character under which it now appears—we shall find that it involves a diversity

and an extent of knowledge, which mark it out as no production of the infancy of the world's existence. Centuries of acute observation and experimental research had rolled before a substance so simple and ordinary as paper, for such we are accustomed to regard it, was invented to be a record of human thought; thousands of years, some of them distinguished as epochs of brilliant genius and scientific inquiry, passed away, before a single hint had been thrown out, which should lead to the curious and astonishing art of typography. Viewed in this light it is not too much to say, that every volume which we take in hand, whatever may be its intellectual character, wraps up, in the very materialism of which it consists, an amount of knowledge surpassing all that was accumulated by the industry of Aristotle, or embellished by the pen of Cicero. Contemplated under these bearings, every book becomes a compendium of scientific knowledge, every treatise an encyclopædia of the arts. And I remember not long since to have seen recorded, as a remarkable proof of the high state of civilization at which an Indian tribe, residing in one of the back settlements of America, had arrived, that they had a paper of periodical intelligence regularly printed among themselves.

The influence of an advanced state of science in discovering and applying the great laws of nature for the furtherance of the comfort and happiness of human life, is remarkably exemplified in the readiness and success with which those accidental observations, cir-

cumstances, and events have been seized, which were capable of being turned to a useful and salutary account. The secrets of nature have generally been first made known through the medium of indirect intimations, fortuitous combinations, and unexpected phenomena; but it is only to those who are already in some degree initiated into her mysteries that these passing glimpses impart any perception—that these whispers convey any sound. Upon the ignorant and unreflecting, hints, however palpable and unequivocal, are lost, and through the want of previous knowledge and discipline, the fairest opportunities for reducing nature under the dominion and rendering her subservient to the good of man, pass away unimproved. The accidental combination of an alkali with the silex of the sand on which it fell, said to have been witnessed by the soda merchants of Phœnicia, would only have been viewed with an unmeaning gaze, without giving occasion to the manufacture of glass, if there had been no science to avail itself of the event. The effect of the arrangement of lenses, which astonished the spectacle-maker of Middleburgh, would have ceased with that wonder, if there had been no Galileo, who knew how, from that incident, to construct an instrument which would lead to the sublimest scientific discoveries. The convulsions of animal fibre under the action of the electric fluid, might have been witnessed without their forming the commencing point of an important and interesting science, if there had been no Galvani, whose mind was prepared to take up the

hint, and to pursue the investigation. The formula of the binomial theorem might have been observed in the process of algebraic operation without conducting to such a fertile field of mathematical discovery, if there had been no Newton, whose penetrating and well-instructed eye at once perceived the extent and importance of its application. We might make similar remarks with reference to nearly the whole class of the aëriform fluids, the existence or practical application of which was first suggested by some accidental concurrence or phenomenon, which would inevitably have been lost to the knowledge and use of man if it was not that science, as the interpreter of nature, had been at hand to solve the enigma and to explain its bearing upon the welfare and destiny of the species. It has doubtless been mainly owing, under Providence, to the more advanced state of our knowledge, and its consequent application to the various branches of commerce, agriculture, and the arts, that the inhabitants of this country stand so much higher than the majority of surrounding nations in the scale of enjoyment, and that Great Britain has, for so many years, been the emporium and manufacturer of the world. To the command which science gives man over the elements of nature, for the promotion of his welfare and security, indeed scarcely a limit is to be set. It enables him not only to illumine spacious streets and extensive cities, by the combustion of a fluid so tenuous and impalpable as to escape the notice of the eye—to convey the products of his industry and invention

over land with a rapidity which seems to annihilate distance, and to turn the whole island into one vast manufactory; it not only teaches him to waft his fleets over the ocean, and to bring them back again laden with the riches and luxuries of foreign climes—but by its aid he can, in some degree, arrest the artillery of the skies, stop the winged lightning in its course, and bring down the thunderbolt, which would have shivered the massiest structure, spontaneous and innocuous to the ground. A power thus varied and extensive in its application, cannot fail to be mightily influential upon national character and national welfare.

I cannot conclude this address without a few additional explanatory remarks, however, in relation to a subject which we must all agree to be paramount to all others in connexion with the formation, or as I should rather say, with the reformation of character. I have stated the influence which experience appears to have proved the pursuits of literature and science to be capable of exerting upon the habits and circumstances of society. It was not my intention to substitute secular knowledge or philosophy, in any of its modifications, for that sublimer principle which is unquestionably the grand and the only efficient regenerator and preserver of nations. It is delightful to reflect, indeed, that between religion and science there is no real opposition. They are two forces acting, each in its own sphere of operation, in most perfect harmony and order, and tending, when duly regulated and combined, to bring the character of nations as

well as individuals to a more complete conformity with that of Him, of whose attributes of power, wisdom, purity, and benevolence, they are but varied manifestations.

There was a time, indeed, when religion and science were mutually jealous of each other—when theologians were unwilling to look through a telescope, lest they should be compelled to acknowledge the existence of phenomena which they conceived to militate against their faith; and philosophers, on the other hand, were disposed to regard the records of revelation as calculated to impede the progress, or to limit the range of their researches. But as their respective bearings have been more thoroughly investigated and understood, the causes of apprehension and distrust have disappeared. The volume of Nature, the more deeply it is read, the more carefully its pages are unrolled and its characters are deciphered and scanned, is found to be in that proportion a more luminous and accurate commentary upon the volume of Scripture. To whatever region of the universe science turns her eye and directs her steps—whether she gazes upon the magnificent or pries into the minute—whether she penetrates into the crust of the terraqueous globe to obtain "glimpses of the ancient earth," or contemplates with overwhelming astonishment the mysterious processes of life and organization—or whether again she seats herself aloft among the spheres surrounded with the insignia of her power, and crowned with her diadem of light—religion shrinks not from her presence; on

the contrary, she approaches her with a cheerful eye and fearless step—she "courts the bright vision" of her power in order to receive from her the spoils of her triumph over ignorance, prejudice, and error, as an accession to her own resources. The study of nature, soberly and modestly pursued, can only lead to a deeper insight into the wisdom and goodness of Him by whom the foundations of the vast temple of the universe were originally laid; and the notes of harmony, which are heard to issue from every part of it, are only a prolongation of that anthem of thanksgiving and praise, which broke forth upon the silence of creation, when the morning stars sang together, and all the sons of God shouted for joy.

V.

THE MORAL OBLIGATIONS, &c.

In almost every literary Institution, which is designed to complete the education of man as a rational and accountable being, there is provision made for a due investigation of that interesting division of knowledge which relates to the just application of his faculties. This is usually considered to be the most important department in the whole scheme; for it is in this that all other inquiries should terminate, and they will be found salutary or the reverse in proportion to their accordance with its principles and their subserviency to its grand design. Science itself is valuable only as it may be conducive to a certain end; which is doubtless the well-being of man upon the largest and most comprehensive estimate of his nature and destiny. The science of physics, as it spreads over the vast extent of the material universe, as it tends to unfold to the view the immense volume of creation, is eminently calculated, indeed, to enlarge the capacity and to invigorate the faculties of man. The cultivation of literature and the arts may enrich his memory, strengthen his judgment, and embellish his fancy; but the highest end of every modification of mental endowment can be attained only by its being steadily and uniformly directed to those purposes, which it was originally designed to answer. A mind, naturally endowed with vigorous

and lofty powers, and firmly arrayed in a panoply of literary and scientific accomplishment, but unblessed with enlightened wisdom and uncontrolled by solid principle, is in that condition much more likely to be an instrument of evil than of good, and requires to be reminded that intellectual attainment of every form and in every grade is connected with responsibilities of a proportionate and correspondent order.

I have no reason to apprehend, indeed, that this view of the subject of mental endowment has been overlooked by those talented individuals, who have been accustomed to address you from this place. But as their attention has generally been directed to the developement of the great laws of nature and the illustration of the leading truths of philosophy and history, I trust I shall meet with your candid indulgence, while I endeavour to point out the legitimate bearing of these pursuits upon man's character and highest destiny. In an institution of this nature we do not profess formally and specifically to teach religion or morality. This would be incompatible with the basis upon which it is founded. But the great fundamental principles of human duty should be distinctly recognised throughout the whole range of its inquiries. They should be as the life, which animates the frame —as the blood, which circulates through the system, although their peculiarities of colouring must not stand forth in broad and palpable exhibition upon the surface of our addresses. It is by keeping this aspect of the Institution steadily in view; it is by habitually

surveying it in an order of relative subordination to the highest destiny of man, that we shall secure for it that dignity of character, that manliness of purpose, that elevation of principle, which will entitle it to the continued support of the public, and most effectually promote its object among those, for whose benefit it was more peculiarly designed. I should be unwilling that those who attend on occasions like the present, should regard the disquisitions or experiments offered to their notice as mere sources of intellectual gratification or rational entertainment; though in this point of view they are by no means to be undervalued: but it appears to me that the proceedings of an Institution of this character should always be associated with higher objects than the indulgence of a laudable curiosity, or the enjoyment of a fugitive delight: nothing which relates to the improvement of our intellectual or moral nature should absolutely terminate on itself. It should still have a reference to something ulterior to the present emotion which it produces. It should ever stand connected in the mind with some higher order of attainment, with something which is more extensive in knowledge, more enlightened in wisdom, more profound in research, more pure in taste, more expansive in benevolence, more elevated in devotion. It is only when contemplated in this light, it is only when thus wedded in congenial union with virtue, piety, and truth, that the exercise of our intellectual faculties can be considered as really salutary and useful. In the process of mental discipline, to render it safe and beneficial in

its results, the developement of the moral faculties must be invariably co-ordinate with those of the intellect.

On this ground it seems to be neither superfluous nor inappropriate, after so much varied information upon questions of literature and science has been brought before us, that we should institute a serious inquiry into the use which we should endeavour to make of this knowledge, and into the additional responsibilities which every accession of mental energy and intelligence cannot fail to impose upon us. My object on this occasion is to remind you of those responsibilities, and to set before you a brief survey of those paramount obligations by which talent in all its gradations, science in all its departments, are bound to render their efforts subservient to the cause of morality and religion, to deposit their choicest offerings upon the altar of eternal truth. The present address, therefore, you may regard as an attempt at a moral and practical application of those valuable literary and scitific discourses which at different times have been delivered in this place.

As the most effectual method of impressing our minds with a sense of the moral obligations of intellectual endowment, in its varied forms and exercises, it may be desirable briefly to advert to the stupendous influence, salutary or the reverse, which it is found capable of exerting upon the character and prospects of mankind. It is impossible to contemplate the nature of man, as it displays itself in different individuals of

the species, without observing the immense disproportion which prevails between his physical and mental energies. In bodily strength, and in the vigour of his organic structure, man is far inferior to many of the lower animals; but he possesses a hidden, a mysterious power, which raises him above the level of his corporeal nature, which triumphs over the feebleness of his material frame, and brings the unwieldy and impetuous tenants of the forest prostrate in willing subjection at his feet. When we survey some of the mightier efforts of human labour, some of the massive structures that have been reared by mortal hands; when we mount the summit of some lofty edifice, which commands a view of the wide panorama of domes, temples, and palaces, with which it is surrounded; when we contemplate the colossal achievements of ancient industry and art—the pyramids, the triumphal arches, the vast aqueducts, some faint vestiges of which, just sufficient to testify their stupendous magnitude, are still to be observed on the soils of Egypt, Greece, and Rome; when we transfer our gaze to another element, and witness one of those floating masses, which seem to afford the most vivid representation of a "world standing out of the water and in the water;" when we notice these diversified results of human power and skill, and contrast them with the physical energy of the agent, we are struck with astonishment at the apparent disparity which they display. We might imagine that some higher power had been at work—that some mightier arm must have wielded the elements which

have thus combined—that some being more than human had thus moulded nature to his will.

But when we calmly and deliberately survey these objects as the mere results of well-directed human effort, and compare at our leisure the effect with the immediate agent, we turn away from the scene with a deeper and more overwhelming conviction of the superiority of mind to matter. We perceive with wonder that, provided with how small an apparatus of bones and muscles, man can rear monuments of power, which seem to bid defiance to the ravages of time and to partake of the permanency of creation itself. We almost cease to regard it as a sally of extravagance, when the philosopher, in the pride of conscious talent, and with a view to the application of mechanical power, exclaimed, "Give me a place, where I may stand, and I will move the earth."

These instances, however, are but the manifestations of the power of mind as applied to the several departments of external and material nature. It is as mind acts upon mind that its power is most strikingly displayed; and this is the foundation of that deep and solemn responsibility which attaches to a high order of mental endowment. It has always been considered as one of the most striking and decisive characteristics of real genius, that it can communicate with resistless energy its own convictions and emotions to other minds endued with a capability of impression. When therefore this endowment is possessed in a paramount and overpowering measure, and has the most favour-

able and unshackled opportunities for exerting its influence, it is difficult to overrate the effect which it produces upon the character of the community, and imparts to future ages. There is scarcely any department of literature—any modification of imaginative or intellectual exercise, in which this ascendant influence of the few over the many has not been displayed to an almost illimitable extent. A few commanding spirits always give its tone and colour to the age in which they live. And it is lamentable to think how frequently the flame of genius has blazed forth in its most intense and radiant glow for no other purpose than to melt the yielding minds, which have been brought under its action, in order to stamp them with the impressions of fixed and settled depravity.

Few works of genius, perhaps, have produced a more powerful and lasting effect upon the character of mankind than those of Homer. When we think of the myriads of minds, which in the course of the last two or three thousand years have received some of their strongest impressions, at the most susceptible period of life, from the writings of that illustrious bard; when we contemplate these innumerable minds drinking with enthusiastic ardour out of that exhaustless fountain of poetic inspiration which he opened for them; we are absolutely overwhelmed in the attempt to calculate the amount of that influence which he has exerted upon the character and condition of mankind. To mention one well-known instance—that of Alexander the Great; can we doubt that his

passionate admiration of Homer accelerated his career of devastation and bloodshed, and fostered those tumultuous emotions of ambition and martial glory which the praises of Achilles, chaunted to the Mœonian lyre, kindled in his youthful heart? In the person of Aristotle, the preceptor of Alexander, there is a still more remarkable example of the power of mind in subordinating to its own control, and assimilating to its own cast of thought and feeling, those who submit themselves to be moulded by its plastic energy. The undisputed dominion of that prince of ancient philosophers and critics over the prostrate faculties of mankind, indeed stands unrivalled in the annals of political or intellectual despotism. The reign of military conquest has generally been of a short and fugitive duration. The mighty dynasty of Alexander was almost as shortlived as himself. Within a few years after his death the colossal image of power which he raised was crumbled into dust and scattered to the winds of heaven. But the empire of mind, or rather the thraldom of intellect, as established by the philosophy of Aristotle, continued in undisturbed and unbroken sway till the sixteenth century of the Christian era; and it was not without many a severe and arduous struggle that the demonstrations of the most unquestionable science were at length able to effect its overthrow.

As illustrative of the firmer grasp and greater permanency of mental than of physical or military power, I remember to have been much struck some years ago

with the statement of a gentleman recently returned from abroad, that the writings of Voltaire and his associates still influenced the minds of tens of thousands of persons on the continent far more than even the mightiest victories and the most brilliant achievements of Napoleon. The glare and tumult of the latter had passed away, while the former seemed to be blended with the deepest elements of the mental constitution, and to be engraved in enduring but disastrous characters upon the tables of the heart. In contemplating the phenomena of the former French revolution, indeed, it is impossible not to perceive that in its origin it was far more a revolution of mind than of physical conflict; of opinions, emotions, and passions, than of guns and swords and bayonets. In that memorable tragedy of blood the military actors were but the puppets, which the infidel philosophers and encyclopædists had set in motion. They only rode the storm, which mightier spirits had raised. They only cut out the channels, and in some degree directed the course of that political lava which the giant of tortured intellect, struggling beneath the weight of an overwhelming and enthralling superstition, had poured forth over the face of the population.

The history of every country, in which the faculties of the human mind have been raised by exercise and cultivation to any degree of efficiency and perfection, abounds with evidences and illustrations of the unquestionable fact, that an exalted order of intellectual endowment is a most powerful instrument for good or

evil. Frequently has it been observed, that the destiny of a whole kingdom, the peace and tranquillity of half the globe, under the providence of God, lay suspended upon the decision of one presiding mind—of one lofty patriot spirit, who, like Demosthenes, and Cicero, and Washington, and Chatham, by the resistless energy of its talent, had raised itself to an eminence, which placed the homage of admiring millions at its disposal; and it was scarcely an exaggeration of the power exerted by the last of these celebrated individuals, when it was said of him, in the language of high-wrought metaphor, that "with one hand he wielded the democracy of Britain, while with the other he struck the throne of the Bourbons." Not less influential and effective was that display of mental energy which was put forth by the illustrious Burke at the close of the last century, when from the depth of his capacious genius he uttered a voice, replete with prophetic import, which thrilled through a nation's bosom, and lifted up the standard of his indignation for the purpose of stemming that torrent of revolutionary mania which was threatening to overflow the face of Europe.

Nor is the privilege of exerting a plastic influence upon the character and habits of the community confined to transcendent genius. It is not the monarchs of intellect only who radiate this species of effusive and assimilating energy upon those around them. The possession of even an ordinary measure of talent and information is often sufficient to spread it over

a sphere of very considerable extent. A slight degree of mental superiority seldom fails to make an individual the centre of a little circle—the oracle of the small community to which he belongs; and to those who are comprised within that limit he imparts with ease and success his own habitudes of thought and feeling. In a reading age the power and opportunity of producing an impression, and of circulating influential principles, through the medium of a free press, are incalculably augmented, and in such a condition of things the character of a nation will always be strictly analogous to the character of its popular floating literature. From the Scotts, the Southeys, the Moores, and other leading poets, historians, and novelists of the age, to the most insignificant of the innumerable swarm of our periodical writers, there is a mighty influence going forth, which blends itself with all the habits, principles, and feelings of the people, and does much to render the nation morally and intellectually what it is.

If such then be the power of mind, and if such be the influence, which in its various forms and gradations it is capable of putting forth, it becomes an important and interesting inquiry—what are the paramount obligations and responsibilities of mental endowment, and by what means may its capabilities be turned to the legitimate and just account. When I speak of the moral obligations connected with mental endowment, I wish the latter phrase to be understood in the most comprehensive sense, as embracing poetry and litera-

ture as well as philosophy and science within its range. And it may be proper further to remark, that I consider as included under that title every order of talent and attainment which rises at all above mediocrity in the scale of intellectual power.

I. The first thing which I conceive to be necessary to an individual thus endowed, who would be willing to recognise the real obligations of his nature and character, is, that in the exercise of his talents or in the prosecution of his investigations he should propose to himself a lawful and important *end*. Through the want of some fixed and determinate object, to which their efforts should be directed, the finest faculties have frequently been worse than thrown away. It is the grand characteristic of the spirit of man, in contradistinction to the material system, to which it is attached, that it is essentially an active principle; and in proportion to the elevation of the scale which it occupies in the order of its original endowment, this peculiarity of its nature is more strongly and powerfully developed. In a mind of this order there is generally a vividness of perception—a rapidity of combination—an intensity of emotion, which will not allow it to remain dormant. This species of confused intellectual and sensitive fermentation, in the earlier stages of the character, is scarcely understood by the individual himself. He may at first be unable to apprehend the meaning of the powerful impulses by which he is conscious of being actuated. And if, through the want of serious and considerate reflection,

he still continues ignorant or unmindful of the great object for which these glowing aspirations were kindled in his breast, he is in danger either of suppressing them in useless and self-corroding anguish or of venting them in occasional outbursts of feeling, which bear the impress of no regular design and are directed to no legitimate end.

It is necessary not less to the man of genius, than it is to the man of business or the professional man, to commence his career with some definite views—some ultimate aim, to which all his subordinate exertions should be rendered as much as possible subservient. When he feels the workings of a mind, which, duly cultivated, improved, and directed, may perhaps be capable of great and important achievements, he should consider that it is the "divinity which stirs within him"—that he is thereby linked in close communion with the spiritual beings of a higher economy, and that he is therefore bound to employ every faculty wherewith he has been endowed, in a manner congenial with the source from which it has been derived, and the exalted society to which it belongs.

There can be no doubt that the great primary end, to which every man of talent should consider his powers, in whatever line of intellect or attainment they may predominantly lie, as solemnly and sacredly pledged, is the promotion of the glory of the great Author of his being. This was the very object for which such an order of mind was bestowed upon him, and proportioned to the superior energy and capability

of that mind is unquestionably the force of the obligation by which he is bound to give its exertions a sound and salutary direction. This is the central point, to which every ray throughout the whole circle of human endowments should steadily and uniformly converge. It is true indeed that the object may be promoted in various ways—that it may be advanced by different habits and modifications of intellectual exercise. In establishing the glory of the Deity as the great standard to which all the efforts of the mind should be ultimately referred, there is no necessity that the faculties should be cramped in their exercises —that they should be confined in their attainments, partial in their application, and timid in their researches. With this object, on the contrary, their most unfettered developement—their most extensive and loftiest excursions, so far from being incompatible, are in the highest degree congenial. In the grand system of the moral universe, while the glory of its Author, as the sun, occupies the centre, there is range enough both for the flaming comet, which wheels through its distant round—still however paying the homage of a strict and undeviating gravitation—and for the milder planet, which appears to pursue a more regular and uniform course. Whatever may be the amount of the talents which any individual has received, there is abundant scope for their exercise, and for carrying on such a profitable negotiation in the varied intercourse of human society, as may enable him, on the great day of account, while he feels himself to be

at best an unprofitable servant, to return them, in the language of the parable, with usury to Him that gave them. As the scenes of nature are infinitely diversified —as its laws require to be investigated and its beauties to be displayed, by the exercise of appropriate powers of mind, and as the attributes of Deity admit of various modes of illustration, there is obviously opportunity afforded for the developement of every order of talent, and for the indulgence of every pure and well-regulated taste, while the end is still uniform and the same. Science, history, philosophy, poetry, and the fine arts may be cultivated in all their departments with all the enthusiasm which the most devoted adherent of these pursuits may desire, without any necessary dereliction of that primary design to which they must all be subordinate. The intellect may prosecute its researches and delight itself with the discoveries of truth; the judgment may arrange her materials and form them into trains of reasoning; the memory may accumulate her treasures and make still fresh additions to her stores; the imagination may embody her visions, and fancy may weave her garlands; while the eye of the mind is still firmly fixed upon that which gives a character of sacredness to every effort. All that is really wanted is simplicity of purpose and a sublime rectitude of aim. The spirit of man was never designed to be stretched upon a Procrustean bed, to the form and dimensions of which the elastic powers of the soul are to be rigidly adapted and measured. But while the mind may justly assert its native liberty of

action—while it may refuse to have its kindling energies smothered beneath the choking layers of antiquated notions and predilections, and to shape its conceptions into a servile conformity to the model of prevailing and ordinary sentiment—while it is privileged to expatiate with freedom over the varied field of thought, there must still be a point with which it will be found to move in harmony. Though it may rise above the influences of earth, there must still be a luminary in the heavens—there must be a fixed, a never-varying regard to the glory, the majesty, the will and the purposes of its beneficent Creator, whose sway it must unreservedly own; and until it has been brought under this legitimate and salutary control it is as incapable of guiding itself aright as the fabled Phaeton of directing the chariot of the sun.

It is owing to the want of such a prevailing and all-pervading principle as this—it is through the want of realizing the great end for which their powers were bestowed upon them, that so many distinguished men of our own country have wasted their talents in fugitive and desultory efforts, which were attended with no satisfaction to themselves and no benefit to their species. To omit less strongly marked examples, I might mention the Burns—the Shelleys—the Sternes—the Byrons, and many of the dramatic poets and novelists of our nation, as instances of this deplorable deficiency of a fixed and legitimate purpose as the great end of their exertions—men, the productions of whose genius, with all their splendour, are for the

most part such as would render it well for the real interests of mankind if they had never lived. The lustre of our national literature in such a case, indeed, would experience a trifling diminution, but the loss would have been more than compensated by the superior purity of the atmosphere, which their noxious influence has impregnated: for I will always maintain that intellectual gratification, or the flattering of national pride, by the display of talent and genius, though of the highest order, when received in exchange for the delicate sensibilities of moral refinement, is purchased at too dear a price.

Before the man of genius therefore undertakes to wield the instrument of his power, he should seriously and deliberately consider whether the motive which prompts him—whether the end at which he aims—be worthy of his character, consistent with his obligations, and accordant with the lofty destiny of his nature. He should reflect whether his object be such as his dispassionate judgment will approve—such as will stand the test of examination under all the varied circumstances of his being—the fluctuations of events, the silence of solitude, the depressions of sorrow and disease, the vicissitudes of time and the evolutions of eternity. A man that has any pretension to compass of mind, as well as any claim to right principle, must take all these certain and inevitable facts into account in proposing to himself an end in the exertion of his faculties; and if upon a calm and unprejudiced survey of its obligations it can fix upon any which is at

variance with that here specified, let him pursue it. Assuming however that this point has been sufficiently determined, and that the duty of proposing the noblest and highest end is fully and distinctly recognised, I proceed to notice another of those moral obligations which are connected with mental endowment.

II. The preceding remarks were designed more peculiarly to illustrate the great primary obligation connected with talent generally considered, and I would now observe that in its application to the various pursuits of philosophy and science it is bound to render all its investigations and researches conducive to the illustration of the various departments of moral and religious truth. The more immediate and direct, though not always the most important, object of scientific inquiry is the discovery of the great facts of nature, and of the general laws by which it is governed. But a collateral, and in many respects a more interesting, object in these researches, is to contemplate the phenomena of nature in immediate connection with its Divine Author; to observe the light which they throw upon the disclosures of another and á more direct communication, and thus to trace the moral relations of the universe through the medium of its physical arrangements.

The pursuits of science, as connected with the subject of religion, may be considered in two points of view: as they tend to illustrate the character and attributes of God as displayed in the works of nature: and as they are calculated, by co-ordinate light, to illustrate

the peculiar doctrines of revelation. These two methods of divine communication may be regarded as two great volumes of sacred truth; two Testaments of religion; the one, the book of Nature, being somewhat of an older date, and far more obscure in its statements, and more difficult to decipher; the other, the book of Revelation, more recent in its composition, more explicit in its details, and more luminous in its announcements, but both harmonizing in the general views which they convey, and requiring only to be carefully and judiciously collated—to be viewed apart from the numerous errors and interpolations with which superstitious weakness or disingenuous scepticism have attempted to pervert them, in order to exhibit a complete and undeviating conformity. When they have been disencumbered of the comments and various readings with which ignorance or infidelity has loaded them, they will be found to teach the same fundamental doctrines, to speak the same language, and to acknowledge one common Author. I mean, not indeed, that the works of nature point out the peculiarities for which a revelation was necessary, but what they do say is consistent with those more full and direct disclosures. The first duty of scientific genius in the investigation of the laws, and in analyzing the principles of nature, is habitually to contemplate them as the productions and arrangements of a designing Mind. To survey the frame of the world without any reference to its Creator, would be like gazing upon a beautiful and magnificent structure without the slightest recognition of the skill

of the architect, by whose genius it was planned; or like examining the forms, and investigating the pronunciation of the several letters of a book, without the slightest notice of the meaning they were intended to convey. Unless the objects of nature be viewed in conjunction with the all-perfect *Mind*, by which they were formed and arranged, they lose in a manner their moral existence; they cease to *be*, as regards their most useful and salutary purpose; and they become divested of that which gives them their chief interest as the productions of consummate skill. So closely connected with its Author did the whole economy of nature appear to the mind of Newton that he spoke of the created universe as the *sensorium* of the Deity; as that in which He is in a manner embodied, and through the medium of the various parts of which He manifests his several perfections. Malebranche brought the Deity, and the view of things taken by his creatures, into still closer union, maintaining that in some mysterious manner we see all things immediately in Him. But although these expressions may be regarded as merely figurative, and as implying no more than that a very intimate relation subsists between the Creator and his creatures, yet there is no doubt whatever of the general truth which they convey, that nature in all its departments bears a lively impress of its Author, and that in Him it universally lives, moves, and exists. There have been those who could not see, or were too perverse to acknowledge that they saw, any traces of a Deity in the most magnificent of the works of his

hands; and it is also too common to contemplate the sublimer phenomena, as well as the more minute departments of the universe, apart from all relation of immediate dependence upon Him, by whom they were originally formed, and still are regulated and sustained.

In no province of science, in no part of the vast and diversified scenery of nature, are the various attributes of God more wonderfully and impressively displayed than upon the bright field of astronomy. In the contemplation of the brilliant scenery of the starry heavens, the man whose mind is stored with the rich and varied results of modern discovery has an advantage over those who are uninitiated into these sublime mysteries of nature, attended with correspondent obligations of piety and devout admiration. When an ignorant and uninstructed person looks up to the ethereal concave, he sees nothing but a vast canopy mantling the globe on which he dwells, and studded with so many spangling points. To him it is nothing but a scene of gay confusion, in which he can discover no law beyond that of a periodical appearance above the horizon, nor conceive any end suitable to the variety and the magnitude of the means which seem to have been employed. But the man of science sees with other eyes; he looks up to that glorious theatre of wonders, which has been spread above him and around him, with other notions, and, unless his mind be blinded by prejudice, and incased in impiety, he cannot fail to be led to other reflections. Where the untaught eye saw nothing but a promiscuous assemblage of twinkling lights, he be-

holds the most perfect regularity, harmony, and order. Where the ignorance of the former could perceive only the dispositions and arrangements of chance, his knowledge can trace the footsteps of the most consummate design. To his enlightened vision the speck enlarges into a world, and the spark swells into a luminary. While, conducted by the hand of science, he ranges over the fields of ether, and follows the planets in their course; while he contemplates these vast bodies wheeling through the sky, under the influence of a combination of forces, which can be reduced to the laws of the most rigid demonstration, spinning each upon its own axis, and at the same time travelling with inconceivable velocity along its orbit; while he passes on from star to star, from system to system, the centre of one being probably only a planet moving with its attendant satellites around some more distant centre: and when the line of scientific observation having now failed him, his imagination takes the helm and conducts him among those remoter worlds, which as he advances are found to rise in thicker clusters over the face of the abyss; while he is engaged in this voyage of discovery, or rather in this tour of observation over the manifold works of God, at every step must be rising higher his conceptions of the power and majesty, of the wisdom and goodness of that Being, the very threshold of whose dominions he has scarcely been able to pass. Overwhelmed with the immensity and variety of the objects of his contemplation, he sinks down in the conscious acknowledgment of his littleness,

and seeks repose to his wearied faculties in the homage of silent adoration.

Such is unquestionably the duty, the obligation of scientific genius, in reference to that bright display of the perfections of the Creator which the views of astronomy afford. It is lamentably true, indeed, that there have been instances of a contrary disposition—a disposition to exclude the presence of Jehovah from this splendid temple of his glory. The highly gifted, but it is to be feared, atheistical astronomer and mathematician of France, has attempted to explain the mechanism of the heavens upon principles of physical force, altogether independent of the agency of a Supreme Mind, and of the prime Mover of the system. But this has been shown to be as much at variance with the demonstrations of science and the known capabilities of nature, as with the dictates of moral and revealed truth. After such an example as this of the perversion of transcendent powers applied to the sublimest of all the physical sciences, it is refreshing to find the unrivalled philosopher of our own country declaring, at the close of his account of that part of the material universe to which our world belongs, that "this most beautiful system of the sun, planets, and comets could only proceed from the counsel and dominion of an intelligent and powerful Being," and asserting, that "to discourse of Him from the appearances of things, does certainly belong to natural philosophy*."

* NEWTON, *Principia*, Book iii.

From the phenomena of the heavens, however, we may descend to those of earth; and we shall find many of the sciences more immediately connected with our own abode, capable, when properly investigated and applied, of throwing the most striking and satisfactory light upon the principles of morality and religion. Nor is there any one of these sciences, the facts of which are not explicable, so far as they are capable of being explained at all, in entire accordance with the generally recognised truths of the volume of divine inspiration. That which has given rise to the largest amount of sceptical opinions, in the course of the last few years, is the science of *physiology*. These opinions seem to have principally originated with a few distinguished writers of the continent, who arose subsequently to the French revolution, and they have since been extensively retailed and propagated by one or two scientific lecturers of our own country. Of all the sceptical theories, however, which have been advanced both in ancient and modern times, with a view of disproving the existence of a principle of life and consciousness distinct from the material frame, I know of none, whether they be those of harmony, vibration, or of the varied forms of organization, which afford even a plausible account of the phenomena. Those of Blumenbach, Cabanis, and others of the same school, have been triumphantly refuted and exposed by the late eminent Dr. Barclay; and the extravagant, and in many instances absurd, hypotheses which they urged, have been shown to be as much opposed to the prin-

ciples of reason and sound philosophy, as to the dictates of revealed truth.

The human body indeed, considered simply as an engine to be worked by a superior agent—as a system of combined and organized matter, to be actuated and controlled by a living spirit, is a most wonderful instance of creative power and plastic skill. It may be considered as a world in miniature, as an epitome of all the sciences, as an abridgment of the great book of nature. To whatever part of it we direct our attention, we discover a most remarkable exemplification of the general laws of physics. In its optics, as expressive of the functions of the eye, we have mathematics of the highest order. In the formation of the bones, and in the arrangement of its various joints and ligaments, we have the principles of mechanics most strikingly exhibited to our view. In the circulation of its fluids the heart, the arteries, and the veins, may be regarded as an hydraulic apparatus. The process of respiration is an example of pneumatic action. In the gradual formation of its general substance—in the precipitation of the various elements which constitute its specific parts, we have chemistry in some of its finest and most beautiful combinations. Over and above all these subordinate agencies, however, there is a master principle—there is life, the grand chemist, the mighty engineer, who superintends and regulates the whole. And although he is invisible to the keenest eye, and baffles the strongest microscope, the effects which he works are too palpable to admit a rational

doubt of his separate and distinct existence, and the very obscurity of his retreat tends only to raise our admiration of the power and wisdom of that Being, by whom he was originally created, and by whose will he has been attached to our frame. Truly then may we say in the view of this mysterious union of body and soul—of matter and spirit in the present condition of our nature, that we are "fearfully and wonderfully made." This is therefore doubtless the just and legitimate method of studying the science of physiology —to regard it as exhibiting throughout a most remarkable illustration of the "manifold wisdom of God." So forcibly was the celebrated heathen philosopher and physician, Galen, struck with this fact, that he remarked, that if there was no other proof of it, the examination of the human eye alone would be sufficient to demonstrate the existence of a Supreme Being.

There is one other branch of physical science to which it may be well to devote a few observations, as it stands related to the statements of divine revelation —I mean the recent and now popular science of geology. Of this department of knowledge, so far as it is worthy of the name, many persons are exceedingly jealous and apprehensive, as if it were a system utterly inconsistent with the plainest declarations of Scripture: and there is no doubt that many rash theories have been broached, apparently at variance with those declarations—theories, however, which are founded upon no adequate proofs, and are totally unsupported by duly authenticated facts. The science, indeed, is as

yet in too infantine a state to admit of much confidence in any hypothesis which it may advance. The fault of many of its professors is, that they have allowed speculation to outstrip the slow progress of the light of inductive observation; that they have proceeded to generals before they had accumulated a sufficient number of particulars to support the weight of a theory. In meeting these premature speculations, however, the defenders of revelation are not called upon to commit the authority of Scripture against what bears the appearance of fact. The principle to be invariably kept in view is, that nature and revelation cannot be really opposed to each other, and that, if there be any seeming opposition, the fault must be in the interpreter of the one or the other. It is not the legitimate, nor a convincing method of maintaining the truth of Scripture, to urge its statements against the evidence of obvious fact, or the inductions of unquestionable science. When Mr. Lawrence, in reference to the account of the preservation of the various tribes of animals by means of the ark at the time of the universal deluge, remarks "that it is zoologically impossible;" but that as it is stated in the Bible we must believe it, because it is a mystery; it is sufficiently evident what he really means. But we are neither able, nor required to believe what are known to be at variance with the established laws of the physical world, except indeed in such cases as involve the obvious and designed suspension of those laws. If, therefore, any facts of nature could be proved to be really opposed to the original and ascertained

meaning of the declarations of Scripture, the unbeliever is perfectly aware that the authority of that record, as an emanation from the mind of the Omniscient, is at once destroyed, and that the whole fabric of revelation is thereby shaken to its base. There is no doubt that the science of geology, as well as other branches of natural philosophy in the earlier stages of their progress, has in too many instances assumed an aspect of hostility to the simple and unsophisticated announcements of Divine inspiration. Some have doubtless investigated its phenomena with the desire of finding plausible ground for the rejection of the Mosaic history of the creation. When, however, the declarations of Scripture, interpreted upon sound and enlightened principles, and the accredited facts of geology, disencumbered of the fanciful and arbitrary assumptions that have been attached to them, are brought in contact with each other, there is not, as indeed there cannot be, any real difference between them.

The leading phenomena of the structure of the globe are these: That so far as the researches of man have penetrated the superficial crust of the earth, it is formed of successive layers of rock, arranged upon each other in uniform order; that animal remains are found in these several strata, bearing a peculiar and specific character, and that in the lower departments of these formations no traces of human beings are to be observed, but only such relics as by the aid of comparative anatomy are proved to belong to genera or species of animals which are now extinct. The infer-

ences which appear naturally to arise from these facts are, that these successive superpositions of rock must have been deposited from a liquid, which previously held their materials in solution, and that the animals found imbedded in them lived upon the earth at the time that the catastrophe which gave occasion to their formation, took place. But what duration of time such depositions may have required, and how far the effects were miraculous, or in accordance with the present laws of nature, must be in a great measure matter of conjecture, or at least be supported by very remote analogies. In truth, the principal theories of the earth, from the beautiful romance of Burnet to the more recent and somewhat more scientific system which has been promulgated in this country under the name of Baron Cuvier, have in a great degree consisted of such conjectures. It is a striking proof of the uncertainty of mere geological hypotheses that the schemes of two eminent professors of this science—Hutton and Werner—were almost as much opposed to each other as fire and water; and hence their respective followers have been denominated Vulcanists and Neptunists, according to their notion of fire or water being the main agent in the formation and arrangement of the present structure of the globe. These discrepancies, however, do not affect the real truth and importance of the science, when soberly, patiently, and modestly pursued. Nor does the history of Moses, when interpreted with the latitude necessary for so brief and compressed an account, contain anything

which is irreconcilable with its ascertained and authenticated facts. To one great event recorded in the Mosaic narrative, geology, as Professor Buckland has well shown, bears a very striking testimony—namely, that the present form of many parts of the earth affords a clear and decisive evidence of the sweeping torrents and devastations of the universal deluge. And doubtless the more the subject is investigated in the spirit of a sound, cautious, and enlightened philosophy, it will be found still to confirm and illustrate that volume, the truth of which is fixed upon a rock firmer than the mountains of granite—more permanent than the everlasting hills.

As illustrative of the character and attributes of the Supreme Disposer of the universe, there is one other point, which the pursuits of philosophy and science can hardly fail to suggest to the mind of a considerate observer:—How wonderfully the mighty powers of nature are kept in secure and salutary check by the precision which characterizes the combination and arrangement of its varied elements. Think, for example, of the power of heat, existing in a latent state, whether as a distinct principle, usually denominated caloric, or as a modification of motion, in all bodies whatever. When we reflect upon the readiness with which this physical quality developes itself, the rapidity with which it spreads, and the disastrous effects which it is capable of producing, it is impossible not to admire the wisdom and goodness of that sovereign appointment by which it lies dormant in every object with

which we are surrounded, until it is roused out of its slumbers for the purpose of contributing to our wants, and of seasonably ministering to our comfort. The same remark is applicable to that mysterious and invisible force diffused over all known substances, to which we give the name of electricity. Whatever may be the real nature of this subtile principle, there can be no doubt that its existence as an appendage or quality of matter is widely, perhaps universally, diffused; that its power is great, and its operation rapid, it may be, beyond all parallel. We may indeed consider the whole globe as one vast machine charged with this terrific energy; and yet it is in general balanced with such precision, as that its presence, for the most part, is unfelt and unobserved, and its developement is very rarely attended with injurious consequences; and it may be essential to the maintenance of the very principle of animal life in our frame.

In the chemical constitution of the atmosphere, we have a most remarkable example of power and wisdom in so combining different elements, as that the separate effect of each is neutralized and controlled, and the most salutary result is produced. By far the largest of the component parts of atmospheric air is a substance utterly unfit for respiration. If, therefore, this element should by any possible cause accumulate beyond the original and healthy proportion, universal death would be the inevitable consequence.

These appear to be some of the leading aspects under which the genius of scientific inquiry is bound

habitually to contemplate the various phenomena of nature. It should view them in immediate connection with the attributes and perfections of that sovereign Mind by which they were originally called into existence, and are still regulated and controlled; and as illustrative of the infallible truth of that revelation which emanated from the same source. Pursued and investigated upon these principles, the science of nature becomes indeed a hymn of praise to its Author; and in vindication of the sacredness and sublimity of its character we are ready to exclaim—

> How charming is Divine philosophy!
> Not harsh and crabbed, as dull fools suppose,
> But musical as is Apollo's lyre.

III. But I would remark again—as exhibiting the obligations of talent more generally considered—that it should render all its exertions subservient to the promotion of the paramount interests of true morality, and exemplify, in the conduct of its professors, the purifying effects of a refined and cultivated mind. It is the more necessary to insist upon this department of the subject, because there have been so many notorious, I will not call them illustrious, delinquents upon this head; and a very considerable laxity of sentiment still appears to prevail upon it. In a late number of a popular journal, the immoralities of a celebrated poet and man of genius are sheltered from the severity of censure under the plea that the estimate of his deviation from the right path ought to be regulated not by a consideration of what it was simply and absolutely

in itself, but with reference to the diameter of that wide circle which circumscribed the range of his mind, and that, consequently, what in less endowed mortals would be marked as a most palpable and reprehensible aberration, dwindled in him into a scarcely observable deflection. I know not whether the absurdity or the degrading tendency of this mechanical and most inapposite analogy be the greater. If there be any one thing more calculated than another to relax the bonds of moral obligation, and to bring down virtue from that lofty sphere in which it is associated with all that is ardent, wise, and great, it is to persuade men that in proportion to the extent of their mental endowments their delinquencies are extenuated, and that their conduct is to be judged—not by its irregularity or obliquity, as compared with an unerring rule of equity, but by its relation to a kind of great circle, which is described around the intellectual world. Thus, what in a nine or twelve-inch mind would be gross and revolting vice, when spread over the dimensions of a genius of larger compass, becomes almost sublimated into virtue. Upon this principle the angels, those ethereal beings, whose glowing conceptions we are generally accustomed to regard as surpassing in their intensity and amplitude those of the noblest minds cast in human mould, must be a most highly privileged class of intelligences. The range of their ideas must surely be large enough to absorb all ordinary deviations, and in proportion as they rise in the scale of endow-

ment, the law of their nature, as binding them to obedience, must become more lax and indulgent.

Such is the genuine tendency of the notion, supported by the analogy to which I have just adverted. It would seem to me, on the contrary, that the obligations of morality and virtue are firmly fixed—that they may with more propriety be described as a straight than a circular line; and if, indeed, there were any excuse at all for deviation, it would be for ignorance and weakness, and not for knowledge and genius. Milton indeed speaks of the fallen archangel as for a while "stupidly good;" but in a brighter moment he proved himself very capable of being ingeniously wicked. We have no intimation, however, that the splendour of his genius has been deemed as any alleviation whatever of the enormity of his guilt. The statement which the poet puts into his mouth is, that the pre-eminence of his talents only gave him a title for pre-eminence of punishment, as a consequence of his more heinous transgression.

Upon various important grounds, then, the man of talent and scientific attainment is bound by peculiar obligations to be a friend and follower of virtue. He wields a power and commands an influence which invest him with more than ordinary responsibilities. By the acuteness of his reasoning he can render truth more convincing, or make error more subtile and imposing. By the fascination of his eloquence, he can often lead a multitude captive at his will, and either conduct

them to paths of security, or impel them to scenes of danger. By the magic of his song he can either enhance the beauty of virtue, or hide the deformity of vice. By his authority he can frequently do much to direct the current of opinion. In his example he will hold out a model, to which many will deem it their honour or their sufficient apology to conform. The standard which he erects is burnished with a radiance which attracts numbers first to admire, then to enlist under his banners, and then to follow his steps. He becomes a nucleus, around which congenial minds will rapidly agglomerate. And sheltered under the covert of his name, and emboldened by the general recognition of his talents, many will avow sentiments which they would otherwise have scarcely dared to harbour, and perhaps proceed to acts from which they would have shrunk with abhorrence. The blaze of genius and science throws, in the eyes of a large proportion of mankind, a lustre over the most polluted path; and, following the track of such a luminary, not a few will deem it glorious to offend. Truly, however, has it been affirmed by one, whose own conduct, both as a poet and as a man, afforded a melancholy illustration of the forgetfulness of his own sentiment, and who thus stands condemned from his own mouth, to the lasting censure of indignant generations, that—

> No florid prose nor honeyed lies of rhyme
> Can blazon evil deeds, or consecrate a crime.

In addition, however, to the present influence of the character and writings of men of distinguished talents,

the very objects which they most fondly desire—the earthly immortality of their productions—should prevent their ever employing their pen except on what is favourable to the cause of virtue. When a work is presented before the public, bearing a clear impress of genius, and evincing pre-eminent powers of mind, whatever may be its immediate and direct tendency, it rarely fails to excite a certain degree of attention; and it is frequently seized with eagerness by a class of the community, as giving advantageous expression to their peculiar sentiments or propensities. As such it will be handed down from age to age, still extending and deepening its influence, as the award of time stamps it with higher authority, and encircles it with prouder wreaths. And if this accumulating power, this heightening glory, be altogether pernicious in its effect, who can calculate the guilt of a man who puts forth all the resources of his mind for the purpose of bequeathing a malignant legacy to generations yet unborn? What must be the reflections of such an one at the close of his career, on the review of talents, not even laid up in a napkin, not buried under ground, but laid out in the market of human passions at a fearful usury of guilt?

Many there have been, who at such an hour would have been glad to blot the page which they had written —to obliterate with tears of blood the lines which their pencil had drawn. But such desires and regrets availed not to check the progress of the evil. The seeds of impiety and vice deposited in their works have been growing in rank luxuriance, long after the hand which

scattered them had mouldered into dust. The monument of genius still remains, though inscribed, like some proud temple of Eastern idolatry, with characters from which principle must turn away with abhorrence, and delicacy with disgust. To avoid these bitter regrets, and to prevent these abuses of mental endowment, it is not enough that the man of talent should secure to himself the negative merit of guarding against what is positively injurious; but he should endeavour to render every effort of his mind directly or indirectly conducive to the interests of virtue, and tributary to the cause of truth. The productions of his pen should shine forth, not as false fires set up to bewilder and decoy, but as salutary beacons to direct the youthful and inexperienced voyager over the dangerous sea of temptation into the harbour of security and peace.

In contemplating the history of genius, philosophy, and science, in modern times, it is gratifying to observe their nobler and higher energies not seldom devoted to the objects which have been stated as defining their obligations and as forming their legitimate designs. If in the various departments of literature and science talent has been occasionally degraded from its office and high destiny, as the associate of divine revelation, to guide to the knowledge and veneration of the Supreme: others have worthily sustained its character in this high relation, and in their immortal works seem to frown indignant rebuke upon those by whom it has been perverted and abused. In comparing the friends of religion and virtue among men of genius and science,

with those of an opposite character—with those who were infidels in principle and profligates in conduct, we have certainly no reason to be ashamed of the contrast. If a malignant star has occasionally appeared above the horizon of literature, philosophy, or poetry, it is delightful to reflect that its influence has been overpowered and its splendour eclipsed by brighter luminaries scattered over the same tract of the intellectual firmament. If France has had its Voltaires, its Rousseaus, its D'Alemberts, and at a more recent period its La Places,—the poets of licentiousness and the philosophers of scepticism; France has also had its Pascals, its Fenelons, and its illustrious list of sacred orators, to vindicate, amidst all the depth of its superstition, the cause of religion and truth. If Britain has produced its acute but atheistic Hobbs, its subtile Hume, its brilliant but insidious Gibbon, its fervid but frequently coarse Dryden, its glowing but dissipated Burns, its intensely feeling, but wayward and unprincipled Byron; it has also produced a phalanx of intellectual worthies more than equal to these grievous abusers of the noblest gifts of heaven. It has produced its original and universal Bacon, its unrivalled Newton, its profound Locke, its deep-searching Boyle, its ethereal Milton, its sublime Young, its pure and highly-gifted Cowper, to say nothing of the varied genius and attainment of the present age, men, whose transcendent powers, bowing in meek submission to the authority of divine revelation, and associated with undeviating habits of morality and virtue, might

well put shallow scepticism and reckless impiety to the blush: men, the whole weight of whose character and the whole force of whose talents were thrown into the scale of general Christianity. Let us then follow, at whatever distance, this bright cloud of witnesses to the truth of our religion and to the purity of its morality. Thus, while our philosophy will become more profound and our knowledge more extensive, our faith will suffer no decay and our virtue no diminution. The progress of our character, on the contrary, will be proportional and healthful. We shall learn to study every science as a branch of the sublime philosophy of religion, and transmute by a sacred alchemy the coarsest elements of nature into the purest gold of the sanctuary; and though after all we can do we shall be unprofitable servants, yet as the devoted disciples of Him, whose name we bear, we shall not merely shed around us the light of a Christian and influential example here on earth, but shall shine forth amidst the glories of a brighter firmament as the stars for ever and ever.

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