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AN

INTRODUCTORY  
**DISCOURSE,**

DELIVERED TO THE

LEEDS PHILOSOPHICAL AND LITERARY SOCIETY,

APRIL 6, 1821.

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BY CHARLES TURNER THACKRAH,

MEMB. ROY. COLL. SURG. &c.

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LEEDS:

PRINTED FOR THE PHILOSOPHICAL AND LITERARY SOCIETY, BY W. GAWTRESS AND CO.  
INTELLIGENCER-OFFICE.

1800


THE UNIVERSITY OF LEEDS



A COMPOSITION, which owes its origin to the short intervals of active duty or severer study, requires neither apology nor preface : but that a mere medical man should commit himself on a subject so extensive in its relations, and so little connected with his ordinary pursuits, may demand a brief explanation.

A general meeting of the Philosophical and Literary Society, determined that the Council should receive communications from the members in the form of prize-essays, and from these select one for the opening of the Hall. The following sheets met the approbation of the Council ; and, at their unanimous request, are now presented to the individual members.

The author returns his grateful acknowledgements, not less for the favourable manner in which this Discourse was received by the Society at large, than for the honour so handsomely conferred by the votes of the Council.



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## INTRODUCTORY DISCOURSE.

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**T**HE love of knowledge is inherent in man. It is this, which distinguishes him from every other class of the animal kingdom, and gives him a noble superiority. He thinks, he reflects, he hopes. Discontent with his acquirements, and, conscious that his present character is not the ultimate destiny to which he is called, his mind ardently aspires after unknown good. Though the child of suffering, infirmity, and decay, he possesses a vivid expectation of an existence infinite and blessed; and even in the dissolution of his frame, the eye pierces into the recess of eternity.

This thirst for improvement gives an exaltation of character, unextinguishable by labour, pain, or misfortune. It is the parent of that ambition, which seeks the praise of contemporaries, and pants for posthumous renown. Hence, also, arise the ardent activity, and persevering exertion, which produce the works of Genius and the discoveries of Science.

These are not, however, attributable in an exclusive degree to exaltation of character. Man, in a state of civilization, feels a thousand wants unknown to the barbarian: and, in proportion to the degree in which he is removed from savage life, will necessity impel him to scientific pursuits.

Europe, since the fifteenth century, has awaked to Philosophy, and pursued its studies, not only with unprecedented zeal, but in a mode far superior to that of former periods. To the last century, however, we must principally look for the rapid progress of experimental Science.

In our own country, where trade and manufactures have been so widely diffused and ardently prosecuted, the Arts, which support them, have been cultivated with an extraordinary success. This, in an especial manner, is apparent on a view of the manufacturing parts of Yorkshire and Lancashire. Here we behold the various applications and amazing effects of the Steam-engine—the improvements of Mechanism, and the discoveries of Science, devoted to the increase of individual and national wealth.

Yet, amidst the evident advantages which Philosophy has afforded, few institutions for its culture have been formed.—Individuals have prosecuted their studies in private, and the effects of their labours have, too often, been private also. The stimulus to exertion, which discussion produces, and the aid derived from the conceptions and remarks of others, have been generally neglected.

Leeds, opulent and enterprising, has at length become sensible of the advantage to be obtained by the union of talent, and the conversational diffusion of knowledge: and happy am I to address the founders of its Philosophical and Literary Society. The munificent spirit and disinterested zeal of some distinguished individuals, will be an honour of no transient duration. Long may they live to enjoy the credit

which their generous conduct merits, and may their names, in future generations, be associated with the society which they have instituted!

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In an introductory Discourse we are naturally led to consider, the advantages and encouragements we possess for the culture of Philosophy, and to advert to some circumstances, which History proves to have aided or obstructed its progress.

Of all circumstances favourable to Science, the most effective is *Mental Excitement*.—Whatever rouses to action the faculties of the mind augments their power, and produces a facility in their application; and although this excitement be unconnected with Philosophy, or even, in the first instance, prejudicial to its influence, the impulse once given, is not easily destroyed. The faculties once elicited, are ready for new exertion; nay, they become even restless and impatient for employ.

The love of novelty, of pleasure, or of distinction, often calls into exercise the mental powers, and thus tends to improvement; for Science, ever presenting herself to the intelligent eye, soon occupies those energies, which far different stimuli first excited. War, commerce, and manufactures, might be considered, in their actual execution, unfavourable to Philosophy, since by engrossing the mind, they might be supposed to leave little opportunity for study and research. Yet where do we see the brightest views, and noblest effects, of Science?—Where shall we find that power of thought, that patient devotedness to study, which are requisite for the successful cultivation

of Philosophy,—where but among nations, into whom War or Commerce has infused the spirit of enterprise?

To this principle of excitement, may be referred the stimulus of our necessities as a civilized state, and the animating influence of commerce, liberty, and war.

A state of barbarism is, of course, incompatible with Science: the wants which *Civilization* induces impel mankind to philosophical pursuits.—The first dawn of improvement in savage tribes is the rise of Poetry. The feats of their chiefs, the lament of fallen warriors, and pæans of praise, evince the mind to be breaking the bonds of ignorance. A thirst for conquest leads to an acquaintance with neighbouring nations, and the adoption of their Arts. As Commerce advances, an intercourse with more distant lands is established; nautical science, languages, philosophy, and its practical applications are studied.

To these improvements it is apparent, that the wants of the people conduce. The warrior will not always be engaged in schemes of conquest. He must study the art of maintaining his possessions. He will endeavour to gain the respect of his subjects, and to regulate his empire by laws. Hence the introduction of political Philosophy. The first intellectual efforts of the Greeks, with the exception of fable and poetry, were legislative institutions, the next sculpture and oratory, their last science.

The wants, to which peculiar situations gave rise, have often influenced philosophical pursuits. While surrounding nations were barbarous, Egypt was remarkable for its wisdom. The

annual swell of the Nile, so important to its fertility, urged the natives to the study of geometry. To the impulse thus given to the mind, we may attribute the superior attainments and thoughtful character of the Egyptians, the cities and pyramids, which they erected, their mystic rites, their acquaintance with astronomy, philosophy, chemistry, and the arts of social life.

The paucity of numbers, or confined size of territory, has produced an energy of national character, favourable to Philosophy. Greece was a collection of small states, and hence compelled, by the principle of self-preservation, to thought and enterprise. The islands in the Mediterranean have been, not only the scene of memorable exploits, but the birth-place and abode of many distinguished Philosophers. The pressure of similar circumstances is advantageous to English Philosophy. The wants arising from our high state of civilization,—the confined space, and comparatively barren soil we occupy, impel us to activity, and thus aid the progress of Science.

*Commerce* and *Navigation* have a decidedly favourable influence. Though trade, in its petty details, may, perhaps, increase the sordidness of a contracted mind—Commerce, in its great efforts and general schemes, gives expansion and force to the faculties. The senses, the judgment, and the will, acquire an action at once prompt, clear, and strong. Extensive information is obtained, and habits formed of accurate calculation, and close regard to the changing relations of men and things. Commerce and Navigation afford scope for the spirit of enterprise, and communicate a fearlessness of character.—

They lead men beyond the confined ideas of secluded life, and acquaint them with the languages, opinions, and habits of distant nations.

Navigation, depending on Science, powerfully promotes its culture. The study of mathematics, astronomy, mechanics, geography, and, indeed, almost every branch of Philosophy, owes much to Navigation. To the same source are we indebted for the communication of natural knowledge, and the transfer of those various objects of interest, which different regions produce.

History presents us with the most striking illustrations of the beneficial agency of Commerce, on the mental character, and the various branches of Literature, as well as of Science; and, if we view the present condition of the world, we shall remark the low state of knowledge in nations secluded from its advantages. The Turk and Arab, connected by situation, and living under the same system of government, differ greatly in their habits, and, consequently, in their degree of knowledge. The stationary Turk is stupid in disposition, and almost entirely devoid of information; the Arab merchant, ever in motion, is shrewd, enterprising, and intelligent.

In *Liberty of Opinion* and *personal Security*, we find a principle most powerfully operative in favour of Philosophy.

The history of all nations evinces its influence. Wherever the people are enslaved, the mental vigour declines, and with it falls all that is noble or useful in Science and the Arts. Wherever Freedom exists, the faculties are invigorated and improved, objects of interest and importance are pursued, and

Philosophy advances. Of these facts, the history of Greece presents a striking illustration. Greece, in the possession of her liberties, was the glory of the world, not in arms only, but in poetry, sculpture, eloquence, and moral philosophy. After her subjugation, liberal studies rapidly declined, and, although some of the Sciences spread for a time, they were but as the slender stems, which the root of the tree puts forth, when its trunk is destroyed. As the character of the Greeks became debased, metaphysical subtilities and scholastic trifles only were regarded. The doctrines of the Atomical Philosophers and Atheistical Sophists, were propagated in the land, which produced a Socrates and a Plato. The Philosophy of Aristotle occupied the attention which had formerly been paid to sound and practical knowledge. The national character sunk from wisdom to cunning, and the Sciences wholly fled, when the Greeks, in a state of rapid decline, became, at length, the "bondsmen of a slave."

To the existence of Philosophy, however, a republican, or a mixed government, is not requisite. Science has lived under despotic sway. A star of genius has sometimes appeared in the hemisphere, which tyranny has overcast, but rarely has a constellation been seen, or a succession of literary luminaries maintained. The night has frequently sunk into one rayless and foreboding scene, the precursor of that discord and insecurity, which are utterly incompatible with the progress—I had almost said, with the existence, of Philosophy. The ardour and perseverance, necessary for the cultivation and regular advance of knowledge, cannot flourish under the insecurity of

absolute governments; and the energy of mind, which supports these qualities, decays without liberty of opinion. The progress of abstract Science, indeed, no government would be disposed to check, but, if the stronger and warmer efforts of the mind be restrained, the application of Philosophy to common life, and its influence on society, would be felt no more. Then Agriculture, the first of Arts, must decline; then Commerce, the first of benefactors, must withdraw to happier shores. The enslaved inhabitant would feel no more the glow of curiosity, the ardour of research, or the joy of discovery. He would lose the noblest faculties of his nature, and, from the man, degenerate into the brute.

Next to the impulse of liberty, *War* may be considered the most powerful excitant of the mental faculties.—The ancients worshipped, under the same name, the goddess of Arts and of Arms: and history frequently exhibits the connection, as by no means incongruous.

Among the Grecians, fighting for the independence of their country, Literature flourished in the highest degree, and when their degenerate offspring lost the martial spirit, and debased the philosophic character, the warlike Romans, cultivated knowledge, and preserved statues and paintings. With the height of their military glory, was associated their literary renown. When her eagles flew to the bounds of the known world, Rome produced orators, poets, and historians, whose works are the triumph of genius and learning. When, again, the Roman valour declined, Latinity ceased, and Philosophy



became corrupt. The extremities of the unwieldy empire, far more enterprising and martial than its centre, displayed considerable talent, and a thirst for knowledge. The Germans, and even the “ultimi Britanni,” had greater capacities for Science than the enervated Romans.—The Arabians, ardent after conquest, cultivated Literature. The warlike Caliphs, while subjugating a large portion of the world, made Bagdad the seat of Learning; nay, History relates, that, at this period, their whole empire was employed in collecting libraries and propagating knowledge. Even in those instances where Mathematics and natural Knowledge have been cultivated on the decline of a nation, the light of Science has soon become dim. Frivolous learning has soon occupied those minds, which, had they not been enfeebled by indolent repose, would have been devoted to manly studies and useful pursuits. Peace, long continued, has ever introduced refinement, luxury, and effeminacy. With the decline of national vigour, has sunk the literary spirit.

I mean not, however, to assert, that a state of incessant warfare is conducive to the advance of Philosophy. She is not allied to the demon of destruction, nor seated in the car of conquest, nor does she delight in the depopulation of countries, nor the cry of blood. Her votaries are not the guilty sons of ambition, nor the reckless destroyers of the human race. To assert this, were to curse the cause I advocate, and make Philosophy an abomination, instead of an honour. The seat of severe and long continued warfare cannot be her abode. Protracted and desolating contests, have swept from the earth, not only the wretched inhabitants, but the liberal

Arts and the memorials of former ages. Of such lamentable effects, the wars of the Red and White Rose are a striking instance.

But it is maintained, that the intellectual faculties, if uninterested in public events, if devoid of patriotic feeling, if lulled in luxurious repose, and never excited by strong emotions, become, in time, unfit for the successful culture of Knowledge; and, although war has been generally stigmatized as inimical to Science, the records of History prove it to have often been highly advantageous to its progress.—Perhaps it might even be shown, that the very irruptions of the northern tribes, which overspread Europe, and seemed almost to overwhelm the existing Arts and Erudition, were not prejudicial to the interests of sound and practical Knowledge. The dissolute Romans had degenerated into a state, which forbade mental improvement; and, on the credit of their own historian, it appears that their character was far inferior to that of those nations, which they denominated savage. Nor were their invaders the illiterate barbarians so generally described. They were, partially at least, converted to Christianity. They were not unacquainted with the liberal Arts. The first conquerors of Rome had long lived on the borders of its empire, and had acquired much of its Knowledge. And while they loved their own wild poesy, they rarely despised or destroyed the Grecian and Roman learning. They respected the legislature and polity of the conquered. The founders of the Gothic kingdom in Italy retained whatever was valuable, and restored, as far as possible, neglected Arts. Magnificent buildings

were raised, and works of public utility effected. The professors of Literature were supported: Commerce and Navigation revived.

In the history of our own Country we shall find Civilization and Philosophy to have been greatly accelerated by the impulse of war. At the Norman conquest, the lower orders of the English were debased and enslaved, the nobles dissolute and rapacious, the clergy ignorant and slothful, and Literature neglected by all. The Normans, characterised by the enterprise of their Scandinavian ancestors and the polish of French manners, roused the energies of the nation. Literature was studied; elegant buildings erected; Arts revived, which were almost forgotten; and commercial connections were formed. Agriculture was greatly improved. "Rich fields, meadows and pastures were seen to smile where the bramble before had crawled, and only the bulrush nodded."

Without adducing other instances, I may briefly remark, that during our last war, Philosophy advanced in a degree wholly unprecedented. The scientific discoveries of this period are too numerous for detail. The Arts were rapidly improved. Our Literature also received a new impulse. New studies were cultivated; new mines of Knowledge were opened. The grand designs of nature were explored; and the torch of Philosophy carried into caverns, which its ray never pierced before.

From the indiscriminate and often erroneous opinions so generally entertained, the influence of War on Philosophy has been

thus discussed at length. Its beneficial agency is referred to the general principle of an impulse given to the mind, and a tone imparted to its exertions.

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The effects of different studies on individuals and the community, is a subject which particularly demands our attention.

The influence of Learning and Science has in all ages been most powerful ; and we should be glad to prove that it has been uniformly beneficial. But Knowledge has been perverted. It has been studied in an improper manner, and with unworthy designs. Poison has been mingled in the cup, which was destined to purify, to elevate, and to console. The tree of wisdom has produced bitter and baneful fruit ; for corrupt principles have been grafted on the stock, and sophistry has distorted the branches. But just reason forbids us to infer that the plant itself is noxious, or its culture prejudicial to mankind. An attentive consideration of the effects of Science, rightly prosecuted and applied to legitimate purposes, will produce a very different conclusion. It may be proper, therefore, to state the advantages, which accrue from Knowledge, in its several pursuits ; to trace the causes of those evils, which have been attributed to its influence ; and to point out the studies chiefly liable to objection.

The *Classics* have at all times been the centre of information. To the young, they are the great source of instruction and example: in after-life they afford some of the sweetest and the purest pleasures. The authors of Greece and Rome exhibit

the brightest efforts of human intellect and industry; and notwithstanding the lapse of centuries, we must acknowledge ourselves, in several pursuits, much their inferiors. Their writings enlarge our acquaintance with the dispositions and manners of men, they lead us into the recesses of the human mind, and they satirize its vices and follies. They afford us striking specimens of noble character, patriotism, self-devotedness, and virtue; and dull must be the feelings of him, whom such examples do not animate and excite. To peruse

“The sacred volumes of the dead, the songs  
Of Grecian bards, and records writ by Fame  
For Grecian heroes”——

to frequent

———“The Muses’ haunt,  
The marble porch, where Wisdom went to talk  
With Socrates or Tully”——

is surely one of the highest gratifications, which a mind, warmed with the love of ancient Literature, can enjoy.

But the pleasure which classical Learning confers, and the excitement which it affords, are not its only advantages. It also teaches the student to reason and to write. While it calls into action the intellectual energies, it imparts fluency of diction, and copiousness of illustration.

It is to be regretted however, that these advantages are not without some alloy. An absurd and immoral Mythology, a vain and subtle system of Philosophy, and a defective code of Ethics, deform the classic page: and the influence of these errors and corruptions on the youth, must have an unfavourable tendency on the principles and conduct of the man. But this danger may be, in a great measure, obviated. In a well

conducted education, the impurities of heathen authors may be thrown into the back ground, and the pupil's mind fortified against the reception of injurious doctrines.

In reference to the more general influence of the Classics, it may be remarked, that they have sometimes opened the way for the advance of Science.—The reflecting mind is surprised that the discoveries of Roger Bacon should have been neither prosecuted nor even generally respected. Learning was then at its lowest ebb. The classic page was mouldering in the cloister; till the fall of the eastern empire dispersed over Christendom, the learning of Constantinople. A literary taste was then excited in courts as well as colleges. The language of Greece became the study of Europe. And, though the defective Philosophy of Aristotle was as prevalent as the language, the human mind received an impulse, which led to rapid improvement. It was forming for the reception of Science. The last of the dark centuries were pregnant with the discoveries of the Fifteenth and Sixteenth.

It is fair to state, on the other hand, that classical studies, inordinately pursued, have often prevented the development of Science. They have been cultivated with undue eagerness, and at the expense of Knowledge much more important.

How many lives have been wasted on erudite subtilties, the empty admiration of the ancients, or the illustration of their works! Talents have been buried, which might have aided the advance of Science, ennobled their possessor, and been profitable to the community. On opening the ponderous volumes of annotations, commentaries, and various readings, it is painful

to reflect on the labours and deprivations to which their authors must have long and patiently submitted; to think of the constitution of body and the frame of mind shattered; to reflect on the lamp of learning's prematurely exhausting the mental energy, which supports it, and burning the feeble socket in which it is contained: but still more painful to reflect on the little benefit, which useful Science has derived from this melancholy sacrifice of life and talent. The Monasteries have been blamed for the death-stroke they gave to exertion; and the cell of the literary recluse has not been less injurious to the progress of practical knowledge.

Another error, which has frequently arisen from an inordinate regard for classic authors, is the indiscriminate adoption of their principles of Philosophy, and founding on their dogmas that knowledge, which were better established on recent information or daily experience. The correct ideas, which they formed on several subjects of Science, were so frequently intermingled with hypothesis and error, as ill to repay the research of a modern Philosopher. The ancients are justly revered for their ardour of inquiry, and so far claim our imitation; but the want of actual experiment, which their speculations manifest, should diminish the credit of their opinions in ages and countries, where Knowledge is built on induction.

And yet we daily see the authors of antiquity quoted on subjects, of which they knew far less than ourselves, and every casual expression drawn to confirm modern doctrines. To refer, for instance, to Epictetus for the institutes of moral Philosophy, or to the physicians of Greece or Arabia for the principles of

Physiology, is preferring the twilight of morning to the light of day. How different was the practice of Locke and Paley, of John Hunter and Haller! They regarded with a steady and scrutinising eye, the object before them,—man in his constitution of mind and body, the functions and capacities of his structure, the origin of his ideas, his principles and his habits. With genius too great for the pedantry of quotation, or the adoption of opinions, which they had never verified, they interrogated nature, and formed their conclusions from close and original reflection.

The subject leads us next to examine *Metaphysical Speculations*, *Rhetoric*, and *Logic*, as practiced particularly by the ancients. The general effects of these studies will be best seen by a sketch of the Grecian systems of Philosophy.

The first of the Grecian sects was distinguished by several men, who made valuable observations in Mathematics and natural knowledge; but to these unhappily they did not confine themselves. They vainly speculated on the soul of man and the nature of Deity, and applying their attainments in physical Science to the explanation of Theology, involved themselves in greater darkness and confusion. Their successors, the Sophists, were so occupied in vain disputation or in researches ill-founded and ill-conducted on the nature of things, as to pay no regard to moral precepts and the principles of human happiness.

At this time appeared a man, whose powerful mind rose superior to the prevalent studies. Socrates despised the vain



erudition of the Sophists, and severely reprehended the influence of their doctrines on the character of his countrymen. He sought to introduce a system destructive to the subtilities of the schools, and enforcing practical knowledge and social duties. His life was sacrificed to his principles; but these did not perish with their author. They produced a deep impression on the minds of the Athenians. Plato, however, the favourite disciple of Socrates, and the founder of the sublimest Philosophy, departed in a measure from his master's doctrines, and introduced much of refinement and speculation. Succeeding Philosophers increased the evil. The learning and ambition of the Stagyrite were particularly pernicious to the interests of sound and practical Science. The vain speculations, and still vainer logomachies, which he introduced, his neglect of just ethical maxims, and his accommodation of moral doctrines to the habits of the age, detract from the reputation, which his extraordinary industry and erudition would otherwise have merited. Happy had it been for Philosophy, if Aristotle had confined himself to that natural Knowledge, which he so ably cultivated.

Besides the disciples of Aristotle and Plato, the Philosophers of the Christian era were principally Stoics, Cynics, and Epicureans. The founders of these sects were enemies to profligacy and sensual indulgence, and anxious for the propagation of moral Wisdom. They were men of strict conduct, and temperate habits, as well as of great talents, and cultivated minds. Nor can even the founder of the most dissolute sect of Philosophers, be justly charged with luxury or vice. The manners of Epicurus, though devoid of the imposing gravity of his

contemporaries, were marked by purity and urbanity. Like Socrates, he sought also to draw men from futile speculation and the contentions of sophistry, and to instil principles conducive to the happiness of life. But his system soon became corrupted. It was, indeed, peculiarly liable to corruption, from the latitude which it allowed in opinion and practice. His followers disgraced their master, and brought discredit on his system and his name. The licentious votaries of pleasure rejoiced to find a system of doctrines, which they could wrest to the countenance of their immoral habits: nor were the genuine disciples of Epicurus anxious either to disown their dissolute associates, or to introduce and cultivate useful Knowledge. Hence the school of the Garden aided but little the progress, either of physical, or moral Wisdom.

The Philosophy of its enemies was not generally more valuable. The Stoics, wrapped in self-conceit and philosophic pride, disdained and hated all who held opinions different from theirs. Professing to be enamoured with the beauty of virtue, they persecuted it, when flourishing under a Christian name; priding themselves in the name of Philosophy, they doomed to the flames or the wild beasts the most learned, who would not join in their idolatry. The thoughtful Marcus Antoninus issued edicts not less unjust and cruel, than the commands of Nero; and the ablest disciples of stoicism, shewed the effects of their system, in the most iniquitous and bloody conduct. Doctrines, indeed, which suppressed sensibility of feeling, sympathy, and affection, were not calculated to foster benevolence and charity.

The Platonists, though generally the best of the heathen Philosophers, were addicted, rather to the flights of imagination, than the cultivation of sound Science, and the inculcation of moral maxims. They gave birth also to sceptical sects. They were allied to the Pyrrhonists.

Of the patchwork system, which arose at Alexandria, and the mystic doctrines, imported from the East, more need not be said, than, that without improved arrangement, or novelty of idea, or any kind of utility, they were the debased studies of the first centuries, corrupting both Knowledge and Christianity.

Of ancient Philosophy, moreover, even the best systems were partial in their object. They wanted the liberality and disinterestedness of modern Knowledge. The instructions of their professors were designed almost exclusively for the higher orders of society; and the Roman poet was not the only one, who acted upon the feeling of “*Odi profanum vulgus et arceo.*”

It has been observed, also, that sophistry and disputation were the principal results of their systems; that the intellectual energies, which might have been employed with effect on natural and moral truth, were wasted in vain speculations, the maxim of Socrates, *τα υπερ ημας εδεν προς ημας*, being generally neglected; that men, preeminently calculated for utility in public and private capacities, were buried in academic solitude; that the faculty of imagination ran into weedy luxuriance, while the judgment remained without culture; that pride, rather than benevolence, was cherished.

Whoever reads with attention the conceptions on metaphysical, and frequently also on physical, subjects, which the Academy, the Lyceum, the Porch, and the Garden produced, will draw an inference, which, though painful is important,—that men of high talents and unwearied assiduity, may spend their exertions on vanity, and add only darkness to obscurity. What other results can we expect, where experimental research is neglected, and the doctrines of Philosophy applied to subjects which they are unable to elucidate?

Nor is it merely an inordinate regard for ancient Philosophy, which should be reprobated,—it may be remarked, also, that even the *Metaphysical speculations* of the present day afford by no means satisfactory results. The subject of Mind, especially, has received little illustration. Its successful study requires the aid of a branch of Physiology, in which, hitherto, little progress has been made. Till the structure of the brain, the functions and sympathies of the nervous system, be better understood, our knowledge of the nature and actions of the mental faculties must be erroneous or imperfect.

In *History* we have a much more productive study. Its page, indeed, has been obscured by time, and stained by falsehood. Fables and legends have assumed its name, and usurped its authority. But enough for important instruction has been established on the basis of acknowledged truth.—Independent of the gratification which they afford, the records of history inculcate principles of the highest value, exhibit the noblest

and the basest traits of character, and depict, in glowing colours, the effects of virtue and of vice. They open interesting views of the origin and influence of society and manners. The study of History cherishes the love of freedom; it communicates a liberality of feeling, which surmounts prejudice and precludes servility. It gives us, moreover, strong impressions of the vanity and insecurity of worldly pleasures, and marks in reiterated lines, the nature and extent of human enjoyment. It leads us to revere the providence of God. And, if we have sometimes to bow in submission to mysterious dispensations, we have often to adore, with gratitude, that benevolence, which confers prosperity, order, and peace—and that wisdom, which overrules the worst passions of mankind, to the promotion of general knowledge and general happiness.

Of the studies of Philosophy, however, none produce results so stable, satisfactory, and splendid, as those of *Natural Knowledge*, the *Mathematics*, and *Mechanical Sciences*. Here are objects capable of employing all the energies of the mind, and of gratifying its ardent curiosity.—The starry Heavens are presented to our view, with the immensity of worlds, and the eternal laws by which they are governed and upheld. The periodical revolutions of the planets, their magnitudes and distance, are marked; and calculations formed of astonishing accuracy and extent. Astronomy carries the mind into scenes of sublimity and grandeur, which excite, till they almost paralyze, the faculties.—The Atmosphere and its changes, rain and vapour, whirlwinds, hurricanes, and tornados,—the effects, which its

weight, density and elasticity, its powers of refraction and reflection produce, are objects of interesting inquiry.—The Ocean and its tides, rivers, springs, and the doctrines of fluids in general, afford an important study.—The Earth, which we inhabit, Science enables to measure, its structure to examine, its volcanos, mines, and caverns, to explore. Mineralogy offers numerous subjects of interest and utility, and these increase as the Science advances. Geology excites curiosity, and, when satisfactorily investigated, cannot fail to produce important results.—The Animal and Vegetable kingdoms also present abundant matter for observation and research. We have the delightful study of vegetation,—the germination and structure of plants, the interesting, though obscure, mode of their nourishment,—their products nutritive and noxious, their peculiar irritability, habits, and situations,—from the *Sedum* which covers our walls, to the *Algæ*, which flourish beneath the volume of the ocean.—Nor can the study of Entomology be considered deficient either in utility or interest, when we reflect on the astonishing number and variety of insects, the metamorphoses which they undergo, their beauty or curiosity of form, their surprising instincts, and their valuable or prejudicial effects.—Zoology and Comparative Anatomy present to our observation the structure of animals in all its varieties, from the *Mammalia* with their numerous and complicated organs, to the living bladder of the *Hydatid*; and in each function of this extensive class is abundant matter for admiration.—Still more noble, instructive, and delightful, is the study of the Human frame, its beauty of formation, the contrivance, order, and relative

dependence of the several systems, and the wonders of their economy. Far, very far as Physiology is from perfection, enough is known to produce the highest delight, and to excite ardent inquiry in every philosophic mind. And if the confined and clouded views, which we now enjoy, produce such gratification; what sensations shall we have, when scenes of transcendent beauty shall spread before us,—when the astonishing agency of the nervous system shall be fully developed,—and operations, the most important and interesting, be delineated by the hand of unerring Science. O! rise some gifted spirit, to rend the veil, which conceals from our anxious eye, the noblest functions,—to open a path for the advance of that Knowledge, which dispells disease, reanimates the sunken eye, and restores the exhausted frame to vigour and enjoyment!—Chemistry is another field of research, highly cultivated and equally productive. It enables us to convert the most intractable materials to the advancement of the Arts, and the most noxious to the removal of maladies and the prolongation of life. It examines the agencies of light and heat, so universal and important. Even lightning is subjected to experiment. Electricity and galvanism are made to dissolve the hard gripe of nature, and to advance the most interesting pursuits.—If we reflect still further on the influence of practical mathematics, of statics, and dynamics, the taking of angles, the accurate measurement of time, the application of steam, and the wonders too numerous for detail, which here crown the efforts of man's ingenuity, we must feel a delight which mere speculation can never afford.—Science, no longer confined to the closets of the

learned, is applied to the comforts and amelioration of mankind. Its influence is strikingly apparent alike in our houses and manufactories.

Yet on some important arts it has hardly dawned. Agriculture especially lies open for improvement. If we look around on the comparative unproductiveness of our soil, we shall see urgent cause for exertion; and if we converse with husbandmen, we shall be convinced from their general character, habits, and objects, that well-directed efforts can be expected only from men of Science. Happily such cultivators of the soil are to be found. Holkham exhibits the powerful influence of chemical, mechanic, and natural Knowledge on Agriculture. Land, which previous to the application of these principles, was in the most unpromising condition, now yields the greatest produce, and has enriched the cultivator with a princely fortune. Happy would it be for our country, were all great landholders animated with the same spirit, and directed by the same experimental Knowledge, which mark the character of Mr. Coke. The present state of society loudly calls for the improvement and extension of husbandry; while our immense tracts of waste land offer an ample field for exertion.—It is not the general application, however, of agricultural Knowledge, which is the only desideratum. The Philosophy of vegetation, the improvement of the soil, and its application, have not yet been studied with that interest which principles require. Agriculturists have too generally regarded, rather the secondary, than the primary Knowledge,—Knowledge, indeed, which while it requires more scientific research, immediately affords less lucrative advantage.



In glancing at the principal subjects of experimental Philosophy, allusion has been cursorily made to the advantage which it possesses over other pursuits, in certainty of result. This, however, is an important superiority. The doctrines of modern Science are not merely ephemeral. In former periods, theories were successively advanced, to be as rapidly overturned; but, in the present day, a man of ordinary intellect, may, by following the path of analysis and experiment, raise himself to lasting renown. He may take his stand on an important discovery, and say, with a propriety and truth which mere speculation cannot boast, “*Exegi Monumentum ære perennius.*”

The effects, which Literature and Science produce, are not of less utility and importance to the community at large, than to the individual students. But, since this has been ably illustrated by recent authors, I shall advert only to one circumstance connected with the propagation of Philosophy. Knowledge, in its extended agency, rouses and directs the energies of the lower orders. In this class of society, and especially in our own country, there exists a power of thought, silent, yet strong, a mental vigour, unproductive, yet not to be worn out by time, nor extinguished by poverty. To raise the “gem hidden in the dark cave of obscurity,” to bring to notice “the flower blushing unseen,” to give to men whose faculties are struggling with depression, the opportunity of evincing their talents, and encreasing their Knowledge, is surely an object delightful to every benevolent heart, as well

as deserving the regard of all scientific institutions. Nor will the Leeds Philosophical and Literary Society, surrounded by a large and intelligent population, fail to diffuse its advantages with a liberal hand.

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The numerous and important benefits, which Philosophy confers on mankind, have not secured it from censure. To notice, therefore, the objections made to scientific institutions, and the excuses offered by those who are solicited to support them, may not be useless or improper.

Of the charges brought against Philosophy, one of the chief is, the *bad principles of several of its professors, and the scepticism to which it has given rise*. This objection is founded principally on the writings and conduct of some well-known characters of the last century, who, in reality, exhibited the effects, not of sound, but of perverted Knowledge. The party contained several men of cultivated talents; but these calculated rather for ridicule and wit, than for the patient investigation of truth. Preceding doctrines were impugned; but new principles were not established. If it were asked, what the enlightened patrons of doubt have effected for the welfare of man or the improvement of Science, the reply would be by no means satisfactory. What comparison will they bear with the genuine promoters of Knowledge? Have the results of their efforts rivalled the discoveries of a Bacon, a Newton, a Locke, or a Haller? No: The vanity, conceit, dishonesty, and fickleness, which marked

their character, necessarily precluded their progress in scientific truth. They had indeed little of Philosophy but the assumption. Philosophy is alien to Vanity: she seeks Truth, and she seeks it with simplicity, patience, and earnestness; she examines with candour the opinions of former ages; she honours the memory of departed talent; she is

“ Patient of contradiction———

Affable, humble, diffident, and mild;”

above all, she is solicitous to make her attainments conducive to the improvement of mankind, their happiness and virtue.

The honest cultivation of Letters and Science is decidedly favourable to morality. Not only does it act negatively, by so engaging the mind, as to preclude attention to vice and folly; but also positively, by requiring qualities incompatible with profligate indulgence, and by assimilating the disposition to that order and propriety, which are so strikingly manifest in the works of nature and the operations of Science. To higher motives, indeed, and more exalted principles, we must look for genuine and uniform morality; and while advocating the influence of Philosophy in curbing the violence of passion, restraining selfishness, and fostering benevolence, I should be the last to consider it a substitute for the principles and motives which Religion inspires. But subordinate to these, the study of nature and art must be allowed to have an influence, by no means trivial, in softening the asperities of the human character, and promoting regularity and decency of manners.—The dissipated Polemo became, under the impulse of Philosophy, eminent for austere temperance and irreproachable manners. Alfieri, profligate and

headstrong, was a much happier, as well as a better, member of society, when Literature arrested his attention.

We live in an æra of Knowledge. Every class of society thirsts for information. All are now convinced that "Knowledge is power," and hence they seek it with an ardour which nothing can restrain. But the station in life of great numbers prevents deep and extensive learning, and, if facilities be not afforded, even the acquisition of *sound* Knowledge. The artisan, the petty tradesman, and the labourer, have little leisure, and that little is employed on the first book which presents itself, or in acquiring a smatter of Science. Men will not rest without an acquaintance with Philosophy; and the danger is in its being a mere acquaintance. If they be Sciologists, it is probable they will become Sceptics.

Another objection to the study of Science and Letters, shall be concisely adverted to. Philosophy has produced a *morbid state of the faculties*, and thus unfitted its votaries for the duties and enjoyments of life.

Men of high-born intellect are, it is well known, an "irritable genus." Splendid talents and glowing feelings are often a curse to their possessor. They produce a morbid sensibility, which feels with peculiar poignancy, the calamities and trials allotted to man in his present state of probation: and they create from imagination, evils, which even the realities of life do not present.

The desponding and nerveless character originates, not in the culture of Knowledge, but in the innate constitution and

structure of the mind. A careful examination will trace madness itself to a predisposition of the animal or mental frame. Without this predisposition, insanity would never occur; and with it, the mind will become deranged, on any subject which excites its interest in an inordinate degree.

Disordered intellect and low spirits derive their chief solace from exertion. The mournful Cowper found relief from his mental malady in composition; and, by the same means, was the madness of Alfieri suspended.

To the cultivation of Philosophy, its *toils*, *difficulties*, and *distresses*, are objected.—The labour, in truth, necessary to excellence, is great in this, as well as every other pursuit. The life of the Philosopher is not a slumber on a bed of roses. Dalliance, luxury, and dissipation, are not the paths to literary renown; and the votaries of pleasure may sigh for, but will never gain, the garland of Science. It must be won by exertion and talent,—it can be worn only by industry and self-denial. The biography of men of genius depicts, in strong colours, their sufferings, anxieties, and deprivations; and often, also, their poverty and abject distress. Would to Heaven, that the “Calamities of Authors” had never been a fruitful topic, and that the misfortunes of the “Literary Character” were unknown!

The effects of close and continued study are often severe; and the distressing feeling, which frequently attends the æstus of composition and invention, is hardly counter-balanced by the delight of success. A state of painful irritability accompanies the

effort; languor and dejection follow it. The animal frame suffers with the mind; severe headache and general disorder are induced, and these succeeded often by a train of morbid feelings.

The general concerns of life are also a constant source of annoyance to the man of genius. The spirit of trade, of pleasure, and fashion, are alien to his disposition and habits. He is obliged to mingle with those, between whom and himself, there is no ground of communion. Domestic cares harass and perplex him. His mind aspires after objects noble and interesting, and he longs for books, instruments, and solitude. Hence, to subdue his feelings and chain his attention to the petty duties of life, becomes a task peculiarly arduous.—The objection, therefore, of difficulty, toil, and inconvenience, is well founded, as far as it regards the secluded votary of Letters or Science.—Instances, however, are not unfrequently exhibited, of genius accomodating itself to the feelings and pursuits of mankind at large, without lessening its vigour, or diminishing its dignity. The Philosopher stoops that he may raise others. He maintains an intercourse with those, whom he hopes to lead to principles, not mean and selfish, and objects of no grovelling, nor partial kind. To cultivate and diffuse the information he possesses,—to raise the character of the rising generation,—to inspire the thirst of curiosity and the patience of research, —and, with these, to combine sentiments of virtue, patriotism, and honour,—such aims and pursuits render society, not the source of vexation, but a noble sphere of beneficent exertion.

Sometimes the misfortunes of intellect arise from its superiority. The early flower appears when there is no genial

ray to expand and cherish ; and the keen blasts of persecution shrivel or destroy its opening blossom. The gigantic advances of Genius exceed, not only the improvement, but even the comprehension, of associates and spectators : the age regards the gifted inquirer with wonder, envy, and malignity, and dooms him often to seclusion, exile, or death.—Vesalius, the daring refuter of error, and the first great promoter of anatomical research, was vilified as an impious wretch and a madman. To avert the dreaded sentence of the Inquisition, he was obliged to undertake a pilgrimage to Jerusalem : wrecked on his return, he perished from hunger.—Roger Bacon was severely punished for witchcraft.—Dante's superiority of genius marked him for the bitter hostility of his native city. The honours which the Florentines paid to his memory, were a despicable offering to the victim of exile and distress.—The venerable Galelei, charged by an Inquisition with heresy, was obliged to do penance for maintaining the revolution of the Earth round the Sun, and solemnly to renounce, as errors, the great truths of astronomical Science.

But, in general, the evils, which assail the devotee of Letters or Science, and which are not immediately dependent on his studies, arise from want of judgment to restrain the ardency of passion, or of moral principle to consecrate to right purposes the noble endowments of nature. I might instance the vicious habits of Otway, the thoughtlessness of Steele, the depraved disposition of Chatterton, and the malignant spirit of Gilbert Stuart.

Whatever may be the evils, however, depicted in the biography of Literature, Genius, uncultivated, would be still more produc-

tive of error and suffering. Nothing can be conceived more lamentable, than a man of high-born intellect abandoned to the impulse of his passions, without the culture of reason,—without Knowledge to employ his energies and direct their efforts.

We have admitted that pain, difficulty, and toil, attend the ardent prosecution of Science. Moderate attainments, however, and that general Knowledge which, “serves for delight, for ornament, and for ability,” require little deprivation, and, by no means laborious exertion.

“It is usual for those who are advised to the attainment of any new qualification, to look upon themselves as required to change the general course of their conduct, to dismiss business and exclude pleasure, and to devote their days and nights to a particular attention. But all common degrees of excellence are attainable at a lower price. He that should steadily and resolutely assign, to any Science or Language, those interstitial vacancies which intervene in the most crowded variety of diversion or employment, would find every day new irradiations of Knowledge, and discover how much more is to be hoped from frequency and perseverance, than from violent efforts and sudden desires; efforts, which are soon remitted, when they encounter difficulties; and desires, which, if they are indulged too often, will shake off the authority of reason, and range capriciously from one object to another.”

This naturally leads to the excuse so often pleaded: *want of opportunity*. The engagements of mercantile men are often pressing, and, the business of life, with most persons, occupies



the greatest portion of time. But it should be remembered, that many literary works, of no small celebrity, have been effected amidst the anxieties and toils of active employ. And, if Cicero, engaged so much in political affairs, could find leisure for the composition of his admirable works,—and Cæsar write his Commentaries, and prosecute Astronomy in the camp,—and Alfred, the hero, the legislator, and the monarch, be a voluminous author,—and Erasmus compose a book on a journey,—and Addison, though a minister of state, successfully cultivate Literature,—and medical men, amidst their anxious and unceasing toils, find leisure for Science,—and numbers of the lower class of society, while labouring for their daily bread, acquire a fund of information,—surely none may plead want of time as an excuse for the neglect of Philosophy. The excuse is not founded in truth. In fact, leisure is obtained amidst the most active occupations; and the inquiry ought to be,—to what is this leisure devoted? An acute observer has urged, in reference particularly to the young,

“ si non

*Intendes animum studiis et rebus honestis*

*Invidiâ vel amore vigil torquebere.”—*

Perhaps it might further be shewn, that much leisure, to most, would be injurious. If any one, unaccustomed to close study, were disposed to give a day's entire attention to reading or research, he would find, from a few hours deep reflection, his mind exhausted and unnerved. And even where the faculties, from habit, are become inured to continued application, the mental vigour seldom remains long unimpaired.

Many lighter branches of the Belles Lettres, indeed, may be studied for hours without fatigue,—but not occult and arduous Science; except, indeed, by its devotees.

Science, moreover, is ever best studied in conjunction with the Arts: principles are best understood and elucidated, when their application is a constant object of attention. In such circumstances, error rarely maintains its ground; and the Knowledge acquired, if it boast not the dazzling effect of sweeping hypothesis, has the value of experimental truth.

Another plea, which some offer for their inattention to Philosophy, is their *want of talent*.

The idea is wholly erroneous. Every man, not utterly devoid of intellect, has abilities for the cultivation of some branch of Knowledge. He may not, indeed, be able to measure the Heavens, and explore the arcana of nature,—but he is fully competent to inspect and improve the labours of the husbandman or mechanic. He may not be able to form systems of Science, but he is able to make those experiments, on which systems are founded. He may not rival the compositions of a Johnson, or a Burke; but he may write respectably and usefully, and his efforts greatly serve the cause of Philosophy and humanity. He may not even deem himself qualified for authorship, but he cannot be incompetent to assist the efforts of others. In amassing libraries, in the formation of cabinets and museums, many persons have been more advantageously occupied, than in writing books. The noble Peiresc, though never an author, powerfully aided the progress of Science, by

collecting materials from every quarter of the Globe, and diffusing information with a liberal hand. The advantages which the honoured names of Medici have conferred on Learning, are deservedly acknowledged: “Our Bodleys and our Harleys, our Cottons and our Sloanes, our Cracherodes and our Townleys,” have effected more than many prolific pens.

The man of moderate talents, well cultivated and directed, is not less valuable to Philosophy, than the genius, whose faculties often bound over the limits of reason, and range in the regions of fancy, when they ought to be employed on the sober walk of fact and observation.

The objection, after all, I apprehend, arises, rather from pride, than humility. He who feels his inability to rival the discoveries or acquirements of others; resolves to do nothing: but, the truly meritorious character cultivates his talents, whether splendid or moderate, anxious to fill up his station with credit, to furnish his quota to the advance of Knowledge, and, conscious of his responsibility to society and to God.

A notion has prevailed, that *Philosophy is not calculated for mercantile men.*

What, when manufactures and traffic depend, in all their branches, upon Science, is it improper for our manufacturers and merchants to be acquainted with the principles of their own arts and employ? Is the respectable character of the English tradesman, and the countryman of Gresham and Cabot, to be degraded by ignorance? Is the Literature which adorns, and the Philosophy which enlightens, to be confined, at this

day, to schools and colleges? Or is it not rather to correct the jealousy so natural to trade,—to expand and ameliorate the mind,—to promote research, leading our manufacturers to the improvement of their arts, and our merchants to collect the materials of Knowledge, wherever they spread the sail of Commerce?

It is really surprising that an objection like this should ever have been adduced. To confute it, a moment's reflection will prevent the necessity for argument.

I have now briefly reviewed some of the objections urged against the diffusion of Philosophy; though aware that those whom I am immediately addressing, are convinced of their general futility. For those, however, who have hastily imbibed prejudices against our institution, a candid statement and fair argument are requisite.—But, it is to honest and thoughtful characters only, that arguments are offered. Reasoning were idly spent on the conceited and empty talkers, who, though destitute alike of the humour of Lucian and the industry of Athenæus, rail at what they cannot attain, and shew the extent of their faculties in a sneer. It is enough to leave such to their native insignificance.

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ENGLAND is distinguished for Knowledge. The natural capacity of its people has always been esteemed. Their talents were developed, when but emerging from barbarism. Agricola admired the superior genius of the English nation, and

sedulously promoted its expansion. While Science, on the continent, was scarcely preserved in existence, it is said to have flourished in the British Isles. The restoration of Learning in France, was chiefly the work of Alcuin, a Yorkshireman, whom Charlemagne invited to his court, and chose as his preceptor. The principal French Universities owe their origin to Alcuin. His steady zeal gave a general impulse to the mind: his learning was the morning star, which ushered in the dawn of Knowledge.

Though England cannot claim the discoveries of the fifteenth and sixteenth centuries, printing, the use of the compass, and the extension of navigation, she was not tardy in availing herself of the improvements, which the more fortunate circumstances of her neighbours elicited, nor, in encouraging the diffusion of the Arts. The reign of the first James was an important epoch in Science, for the genius of Bacon Lord Verulam, burst through the mists of vain Philosophy, and led to the culture of sound and practical Knowledge; and to him, more than all preceding professors, of any age or any country, is Science indebted.

It were useless to descant on the discoveries of Newton, Boyle, Harvey, and Locke, of Raleigh, Anson, and Cook, the genius of Chaucer, Shakespeare, and Milton, the literary eminence of Addison, and Chatham, and Johnson, and Porson, and a host of others: and still less necessary is it to advert to the men of Science and Literature who adorn the present age. At all periods of her history, England has produced her worthies, but never was she more preeminent, than in the discoveries of the last half century.

Has Leeds, with all her advantages, drawn from the principles of Knowledge,—Leeds, whose very existence depends on the improvements of Science, returned to Philosophy, any thing commensurate with the benefits, she has derived? What discoveries has she made? Of what extent and importance are the improvements, which she has effected? The examination will not probably be creditable to her exertions. Yet, in Leeds and its neighbourhood, Knowledge is diffused, activity apparent, and mental energy existing, in an equal, if not a greater degree, than in most other towns. But it is to be regretted that this energy, activity, and information, have been too exclusively devoted to the acquisition of wealth; and that the philosophical acquirements of individuals have been too generally confined to themselves.

Grateful to Science for her favours, we now meet to return our quota to her stock; anxious for the propagation, no less than the attainment of Knowledge, we hope individually to collect information from experiment and observation, and produce this information for general discussion.

Our first object will be to improve the mind, to acquire the faculty of patient thought. This, indeed, holds the first place in education, whether of boys or of men, and is superior even to the acquisition of Knowledge.

The pernicious doctrines, promulgated in some interesting works, are a source of frequent anxiety to the guardians of youth. But, let boys be taught to think, and the danger is imaginary. The opinions of authors are readily imbibed, when

judgment and scrutiny are dormant. Reading is easy; thought laborious. Malebranche observed, that, “a person may know the history of other mens’ thoughts, without ever thinking himself.”

To add, therefore, to a habit of attention, the power of collecting, to a point, all the faculties,—of storing and arranging ideas,—of reflection,—of combining anew,—of clear definition,—and ready and lucid exposition, is of more efficacy than acquiring all that Aristotle, Newton, or Davy have taught.

The direction, expansion, and coercion, of the faculties, is next in importance. Bacon says, “every defect of the mind may have a special receipt.” To the phlegmatic, the study of poetry, history, biography, and travels, may be useful,—for the sprightly and versatile, mathematics are particularly indicated,—for the contemplative and dispassionate, rhetoric and logic may be required.—Some acquaintance, moreover, with the different branches of Knowledge, though far from being the ultimate aim, is necessary at the out-set, and will materially assist the student’s progress.

He should beware, however, of much and diffused reading. This has been the ruin of many an aspirant for fame. It was the great error in the rival of Newton. Leibnitz, it is said, read all books without exception; and, with talents formed for extraordinary success, he hardly effected one important object in Science.

The mere perusal of authors is too generally esteemed erudition: but whoever aims at the reputation of a Scholar or a Philosopher, must think more than he reads. He must

not content himself with indigested stores of learning, the *πολυμαθια* of mere memory. Still less should he be satisfied with the knowledge of title-pages, and the faculty of tea-table Literature.

The young must, especially, avoid books of an inferior character. The growing mind should not have, even for amusement, a work defective either in matter or expression; so easily is the taste corrupted, and habits formed of faulty composition.—The library should be small and select: and, by confining himself to the diligent study of a few of the best authors, the student will gain pure, stable, and satisfactory information. He will acquire, also, the habit of thinking correctly, and expressing his ideas with clearness and facility.

Ancient Literature must not be neglected. While aware of the fallacies, too often attendant on its speculations, and the unnatural and prejudicial restraints, which its systems imposed, the student must not overlook its many admirable qualities. Let him “enrich himself with the spoils, without encumbering himself with the trammels of antiquity.” Let him read the classic page, till he acquire its energy and tone, its sublimity, its splendour and vigour of expression.

But these preparative studies should not be too long pursued. When the mind has attained a due expansion and force, its efforts should be more confined. The genius of man cannot be master of many Sciences: and the secret of eminent attainments, is the concentration of the faculties on an individual study. To fix, therefore, on the subject best calculated for the



disposition of the mind, is of great importance. Where there is a well-marked bias to a particular Science, that should be especially regarded; for in that will the persevering student inevitably excel.

The opinion, that the faculties of every individual are capable of application to all studies with equal success, is contradicted by observation and biography. Yet, though the genius of some can attain eminence in one branch alone of Knowledge, it is also apparent, that to many, the choice of several is indifferent. With such, the election should be made from their comparative utility and convenience.

Experimental Philosophy is the widest and most satisfactory field of research, and deserves the attention of those who have no prepossession to other subjects. Mechanics, hydrostatics, and chemistry, should be particularly regarded by those connected with the manufactures of the West-Riding; though almost every branch of experimental Knowledge is advantageous. The economy of Leeds, as a town, the conducting of its public works and institutions, improvements in the structure of buildings and streets, are well deserving the attention of our society.

Nor is the literary taste of the town to be forgotten. This society, it is hoped, will give a general impulse to the minds of the inhabitants, and maintain a regard for correct and useful Learning. Hence its members will introduce to notice, those publications which subserve sound knowledge and morality.

English Literature merits general cultivation. It abounds, more than any other language, in works of genius and erudition, admirably calculated to animate, enlarge, and strengthen the mind.—The faculty of English composition confers no small distinction. It is a powerful weapon when skilfully wielded, and, more than any other branch of Knowledge, is it capable of serving the best or the worst of purposes. To the student of Science, also, it is important. It enables him clearly to arrange, concentrate, and express his ideas. It even assists materially his progress; for the best mode of learning a subject is to write on it.

The student must guard against a habit of slovenly composition. However trivial the subject, he should aim at expressing himself in the best manner. It was this, to which Pope and Congreve owed much of their success: and, though the graces of language are not requisite for Science, accuracy and precision are indispensable.—Simplicity should be especially regarded in philosophical composition. Those who are addicted to intricate and verbose language, forget that the object of Learning is to convey, not to disguise, Knowledge.

The utility of the Continental Languages, and the access they afford to various and important information, are universally appreciated.

Oriental Literature has of late received that attention, which it ought to have had before. Though it wants the sobriety and reflection, which suit an English taste, it is by no means deficient, either in beauty or vigour. Abounding in poetic imagery and the works of fancy, its study tends to impart a

richness and variety of expression.—The student of languages, whether ancient or modern, should beware, however, of regarding words rather than things: he must remember that an acquaintance with the signs of ideas is but an inferior attainment, valuable chiefly as the vehicle of Knowledge.

The character and faculties of man, is perhaps, of all studies the noblest; but requiring sound judgment, much abstract reflection, great acuteness and observation, it is not calculated for all to cultivate.

If a Science be chosen, we must first make ourselves acquainted with the facts already ascertained, carefully separating them from the erroneous or doubtful statements, with which they are so often encumbered. We should consider their comparative importance, the connexion they have with each other, and with Knowledge in general. We should examine doubtful doctrines, and search into the sources of error. Thus we shall gain a clear idea of the actual advance of the Science, of its deficiencies, and of the mode in which it may be improved.—The enthusiastic fervour, which marks the disposition of the great and successful inquirer, we should endeavour to imbibe. Nor should we be less anxious to maintain that sincerity of object, and rectitude of pursuit, so much commended, yet so rarely exhibited. Dauntlessly to follow truth, wherever she may lead, careless of consequences, and despising opposition and opprobrium, is the proudest distinction of the Philosopher and the man.—It is painful to review the character and pursuits of many of the votaries

of Learning. Dishonourable selfishness, the love of money, the ambition of power or favour,—sinister views in their various forms, have blotted the fair page of Knowledge, rendered discoveries nugatory, and mingled the products of bad passions with the fair fruit of truth.

Inquiries should be conducted with *forethought* and *method*. It is true that discoveries have often accrued from the mere “fortune of experiment;” and many valuable facts ascertained, which were unconnected with the object of research. The Alchemists, it is well known, while seeking for the Philosophers’ Stone, made many important, though isolated, additions to natural Knowledge.—But systems of Science and great discoveries, have rarely been the result of accident. Columbus did not spread his sails without reflection. A consideration of the figure of the earth, conjoined with other circumstances, induced him, during years of obloquy, neglect, and disappointment, to seek the means of accomplishing his object.—It was reasoning, followed up by experiment, which led Franklin to raise his kite to the clouds, and bring down lightning for examination.—Priestley, indeed, attributed much of his success to accidental observations. But his was a mind habituated to reflection, and always prepared for inquiry. The slightest object could elicit its energies. A brewer’s vessel could put his thoughts in a train which led to experimental research, and this to important discovery.

In forming a plan of research, we should aim at the best mode of interrogating nature, not seek for a confirmation of

our preconceived theory. In the individual experiment our opinions should be forgotten, and the results noted at the time without regard to their tendency. Thus from a mass of statements, simply made, and apparently heterogeneous, we shall afterwards deduce fair inferences and an honest theory. Unexpected facts, not immediately connected with the subject, will also be elicited, and may lead, at a future time, to important improvements.

We should endeavour to *apply the results of our Experiments*. Discoveries have often laid useless, because their practical tendency was not regarded. The compass was known long before its use improved and extended navigation; and the art of printing was invented in China, prior to the fifteenth century. The hydrometer was employed in Alexandria, in the fifth century, but was unknown in Europe till the sixteenth. Glasses, arranged as a telescope, were used by the illustrious friar of Oxford, nearly four hundred years before this instrument was generally introduced.—The bearings of isolated facts on general Science, ought to be constantly regarded. Philosophy should be subservient to the duties and occupations of life; and Knowledge disseminated and applied, not confined, like the miser's hoard, to its possessor.

Yet, though the "Cui Bono?" is a question which should be often asked, we must not, on the other hand, despise all information which has not an immediate and practical result. Facts, like shapeless stones dug from a quarry, may ultimately take their place in the temple of Science.

The habit of *forming theories, from doubtful premises or detached truths*, has been often and justly deprecated. A talent for generalization, moreover, is rare: and it is not every one that performs accurate and well-conceived experiments, who is able to form them into systems. In the path of careful inquiry, we are safe, but on the deceitful ground of theory, we must beware of an ignis fatuus.

We should bear in mind the necessity of close observation, reiterated experiment, and copious induction, for the establishment of a single fact or a general rule. Fifty experiments, it is stated, have been made by a practical chemist, with the same result: yet, after the publication of the inference, nearly fifty others, by the same person, on the same materials, entirely contradicted the preceding ones.

To seek for causes with too great anxiety, however natural to the ardent mind, is generally prejudicial to Science. It is far safer, in the present state of Philosophy, to collect, arrange, and compare phenomena, than to search out the causes, whose operation we perceive.

We should be cautious in launching into the troubled waters of *literary contention*. Controversy has been said, indeed, to sharpen the intellect and elicit truth. But it more frequently perverts the understanding, depraves the temper, and merges Philosophy in personal feeling. Newton dreaded nothing so much as controversy.—An unfortunate, though reluctant, junction in a theological dispute, made the learned and benevolent Grotius, a fugitive and an exile.—Still more to be

deprecatèd is the spirit of idle wrangling. It is the offspring of ignorance and conceit.

We must guard also against a *love of display*. An anxiety to produce what is called effect, to dazzle rather than instruct or learn, is highly prejudicial to the culture of that Philosophy, whose very name originated in the modesty of its author.

Those who prosecute Philosophy must beware of *fickleness and impatience*. Volatility is unhappily the frequent associate of talent. It is the wind which dissipates the fragrance of genius, and destroys the half-formed fruit. The eloquent Rousseau remains a striking monument of fallen and corrupted faculties. Savage owes his remembrance to the friendship of Johnson. The fame of Lessing, a man of intellect calculated for the highest branches of Science, rests chiefly on plays, fables, and songs. But unhappily, instances of dissipated talents are familiar; though the worst, and the most numerous, can never be known. Not a line marks the memory of many a heaven-born genius.

The hill of Science, with all its grandeur, its various beauties and its rich productions, rises to the delighted view of the aspirant for fame. But let him beware of ranging from side to side. Firm to renounce allurements, resolute to surmount obstacles, let him fix his eye on a prominent object, and keep an undeviating track. He must remember that discursive habits are insidious in their approach, and fatal in their consequences: that impatience of disappointment and difficulty is a spirit subversive of scientific progress.

I would conclude the advice which I respectfully offer, by a caution of especial importance. Let us *not apply the principles of Philosophy to subjects foreign to its nature and capacity*. We have seen the mischiefs, to which this error has given rise, as well in modern as in ancient times. We must not mount on waxen wings to approach the brightness of the sun, nor endeavour to ascertain the nature and secrets of the Deity, supported by the fallacious aids of vain wisdom. Revealed religion is not a subject for Philosophy.



KNOWLEDGE has created a rank of its own; nay, it has founded an empire;—and an empire of more power and influence, than any state however rich or extensive. Philosophy confers a dignity and superiority, which monarchs have been anxious to obtain: and when they failed to acquire its honours by their compositions or discoveries, have been glad to gain its regard by their patronage and largesses. Men of genius, though once the too frequent subjects of distress and persecution, and though a few, even at this period, pine away in neglect, are now the objects of general respect, and almost of idolatry. The credit, moreover, which the right application of great talents obtains, is not confined to their age and nation; for posterity studies and guards their productions. Their names, more durable than the marble of their statues, descend to posterity with accumulated honour; and generations yet unborn, shall rise to call them blessed. Compare with this well-earned celebrity, the credit which wealth confers. The cold-hearted



and short-lived respect, which the mere man of property acquires, alloyed also, as it often is, with the envy of inferiors and the animosity of equals, is a poor compensation for the toils and deprivations required by traffic. His remembrance, moreover, does not continue; and the very individuals who reap the fruits of his industry and talent, soon forget to whom they owe the lands which they inherit. But the votary of letters leaves behind him a name and a memorial, which not all the shafts of envy, not all the efforts of public or of private malice, not all the vicissitudes of character and manners, not even the ruin of his country, can bury in oblivion.

*The love of renown* is the principle calculated to animate to noble achievements. It is this, which, in all ages, has excited to literary exertion, and supported under incessant labours and severe disappointments. Moralists, indeed, and the retailers of undigested maxims, often remind us of the worthlessness of glory. But they forget that the passion which they reprobate, is stamped on the human mind by the Author of the creation, destined to be its noblest characteristic, and to glow even beneath the cold hand of death.

Though the ardent study of Science has its immediate pleasures, and general Knowledge its independent and serene gratifications, these are such chiefly by comparison. We must not look to present success and present enjoyments; for human life, aided even by letters and Philosophy, affords little of stable delight. Our present existence is like the glimmering taper; its petty light rises and declines, till it suddenly cease in

darkness. No man, who either views with attention the workings of his own mind and the painful ebullition of his feelings, or who reflects on the character, affections, and pursuits of those around him, will consider our state one of satisfactory happiness. The intervals of pleasure, which cheer the desponding spirit and gladden the sorrowful heart, are not the beams of a southern sun, but the flashes of lightning, which burst upon the darksome path of the traveller, and leave a more vivid impression of his wretchedness.

The chief terrestrial alleviation for the children of men, is the vigorous employment of their faculties; the consolations of life are the boon of wisdom. Nay, the very blessedness of a future state is referred by an inspired apostle to enlarged capacities and increased Knowledge: "there we shall know, even as we are known."

The uncertainty of our continuance in this state of probation, also urges us to action. Sudden summons to every age and rank is familiar. The venerable philosopher, the zealous patriot, and the intelligent merchant, await the rapid shaft, which recoils at no supremacy either of talents or virtue. We see the meritorious youth sinking in premature decay, and death plucking the fresh-blown flowers of man's hope and glory. But these, in dissolution itself, are fragrant. Their honours are ever verdant, as the cypress which shades their remains. Mourn not then for the dead. They who fall in the ranks of duty and public usefulness, are objects rather of envy than regret. Let the lustre of their names, be a pharos to guide and animate surviving students.

If there be any thing we would acquire, let us seize the fleeting moment—if there be any discovery, information, or advantage, we would communicate to mankind—let us exert ourselves, ere the power of exertion ceases;—if there be any whose remembrance we honour, and if especially the founders of our Society be still dear to memory, let us listen to the cry from their tombs, “whatever thine hand findeth to do, do it with all thy might; for there is no work, nor device, nor knowledge, nor wisdom in the grave, whither thou goest.” The recollection on the couch of death, of a life spent in the energetic employment of our faculties, for the advancement of human knowledge and human happiness, will, in subordination to higher principles, render the “clods of the valleys sweet.”—The votary of Science has exclaimed, amidst the agonies of mortal disease, “*Ne frustra vixisse videar.*”

The call to exertion is made upon all classes and all ages. Those in the prime of life, and in the activity of commercial enterprize, should not forget, that their faculties are afforded them for higher purposes than the mere accumulation of wealth, and that traffic, even amidst its most active occupations, leaves intervals for the prosecution of Knowledge.—Our Society contains many respectable and intelligent men, who are not, however, disposed to be efficient members. They content themselves with the “*otium cum dignitate,*” forgetting that the dignity of listlessness and apathy is but a poetic fiction, and that talents and learning are meritorious only when devoted to the public good. If there be a moral responsibility, if for our faculties we are accountable to the Giver, surely

the recollection of time wasted, and abilities buried without a memorial of their existence, is serious indeed. Permit me, respectfully, yet earnestly, to solicit your efforts. Your names are inscribed in the lists of the Society; you are, therefore, pledged to support it. Say not, your object is to gain, rather than to communicate Knowledge. All are learners: all who really respect Philosophy, or understand the obligations of its votaries, are humble inquirers. The greatest proficient has learnt just enough to make him diffident of his individual capacity. For the progress of Science, united efforts are requisite; and if the members of this institution will heartily, fearlessly, and perseveringly join in the prosecution of its important objects, we cannot fail of success.

The social state requires the exertions of every individual. The solitary savage, if indeed such a being exist, is alone exempt from its obligations. Civilized man must improve himself, that he may improve others. Each generation must exceed the wisdom of its predecessors, or decline deeply and rapidly in the scale of intelligence; and he who knows no more than his ancestors, wants the noblest of those acquirements, which distinguish the man from the brute. Take away the faculty of improvement, and you destroy the preeminence of our species.

Age, also, has opportunities, peculiar to itself, for the dissemination of Knowledge. Those who are advanced in years, have generally much leisure, and this leisure may be advantageously and pleasantly employed in forwarding the progress of Science. If they plead, that they never cultivated Knowledge before;

it may be replied, that former omissions, instead of being an excuse for continued neglect, aggravate the offence.

A philosophic old age is a state of peculiar distinction: grey hairs are never so venerable as when crowned with wisdom. The fire of Science has glowed in the embers of life. Euler, under the pressure of age, blindness, and calamity, produced seventy distinct memoirs in seven years, and left two hundred posthumous essays.—Without referring to Cicero's Cato, or the ancient worthies, whose energies years mellowed, but did not destroy; modern times, and our own country, present examples of persons who might say with Solon, "se senescere multa indies addiscentes." The time forbids me to speak of the numerous patrons and supporters of Literature, whose latest years have been spent in this honourable employ; and in the town of Leeds will be found, I trust, many in the decline of life, whose efforts in behalf of humanity and science will claim universal respect.—If you resign the aim at invention or great philosophical attainments, your exertions will still be of high value, employed on the collection of those materials, which are the basis of research.—The Society wants a Museum. Your leisure, or commercial connections, and perhaps foreign intercourse, enable you to procure specimens and curiosities.—The Society wants a scientific Library; it requires a large Apparatus: and in the acquisition of these, your assistance will be gratefully acknowledged.

The young I would particularly exhort. It is to you we look with feelings of the deepest interest. Prospects spread before you, presenting objects of discordant attraction; and your

minds assume their permanent character from the election of youth. The choice of Hercules is offered to all,—Pleasure and her fascinations,—Virtue, her dignity and her toils. The weak, the volatile, and the gay, fly to the embraces of Pleasure; gazing on her bloom, they forget its evanescence; enchanted by her blandishments, they think not of the woe, which her smile scarcely conceals,—of the worm of remorse, which undermines her charms and preys upon her vitals. In her arms the noble energy of intellect is exchanged for the idle languishment of love. Her votary sinks into a deliquium animi, insensible to stimulus and to hope. In vain for him, rises the sun of fame, or springs the gale of enterprize. Ensnared he lies in the languor of impotence, or rises only to feel the power of his thralldom; as

——“The fond insect’s fault’ring pinions wave,  
Clasp’d in his fav’rite sweets, a lasting slave.”

Wretched and diseased, the victim of dissipation soon hides his dark blush of confusion in the darker pall, and sinks into an early and dishonoured grave.

The attractions of Virtue, on the other hand, and the effects of her exertions, I need not detail. History, Biography, the annals of Science, and daily observation, exhibit in her train all the real enjoyments allotted to man. Let yours, then, be the choice of reason and reflection, of manly and unwavering resolution.—Now is your season of vigour. The glow of imagination, the ardour of activity, and the fervour of desire, give a tone of enthusiasm, which is impaired by the anxieties and toils of life. To you it may be said, with peculiar

propriety, “*Καιρος ψυχῆν πραγματος.*” Adopt it as your motto, and bear upon your minds the exciting feeling, that “the soul of action” is now yours, but yours only for a season. Your lives may be short; let them be distinguished. The ambition, I would inspire, has its basis neither in servility nor bloodshed. If the trophy of Miltiades would not allow Themistocles to do any thing with negligence, and hardly suffered him to sleep; surely the trophies, not less honourable, which a library presents,—those noble remains which the sepulchre cannot hide, nor the worm destroy, should, not only be monuments of the dead, but incitements to the living.—Still more urgently should present names, the Philosophers and ornaments of your own day, stimulate to exertion. Shall the fields of scientific celebrity, open to all; be reaped by a few? Shall others fill their barns, and you hardly glean a handful? Shall others bear the palm, while apathy leaves you the anguish of fruitless regret? If you feel any glow of emulation, cultivate the faculties, with which you are endowed; aim at the distinction, which neither wealth nor rank can confer; seek to have your names enrolled in that list of literary worthies, which posterity will gratefully review.

Fear not to grapple with difficulties. Among the effeminate would-bes of a modern day, exhibit that nobility of mind, which not only contemns indolence, but rejoices in surmounting obstacles;—

“Proud of the strong contention of her toils.”

While others stand shivering on the brink of Knowledge, plunge you fearlessly into the fountain. The shock will but

make the heart beat stronger; the conflict with the new element, will soon be followed by the glow of delight; and the faculties receive an impulse and a tone, from the very obstacles which threatened to overwhelm their energy.

Be not content with present attainments, nor wrap yourselves in the idle consciousness of learning or of talents. In learning you will soon be surpassed by your compeers, and by inaction your powers will rapidly decline. "I cannot," says Milton, "praise a fugitive and cloistered virtue, unexercised and unbreathed, that never sallies out and sees her adversary, but slinks out of the race, when that immortal garland is to be run for, not without dust and heat." The olive chaplet was not obtained without the straining effort; the Pythian laurel waved only on the brow of the active and the resolute. In Philosophy there is full scope for your glowing courage. Here is an ample stadium for the exercise of your vigour, competitors enow to excite emulation, and a prize glorious enough for your ambition. Your labour is nobler than that of the Grecian games; it is the effort, not of physical but of mental force. Its prize is not the Olympic olive or Isthmian pine, the shouts of a fickle multitude, nor the pageantry of a triumph; but the internal satisfaction which Knowledge confers, the god-like delight of propagating wisdom and improving mankind.

Let not the diffidence of youth repress your efforts. Modesty indeed, is commendable; it is the offspring of ingenuous thought and observation; but the indolence, which assumes its name, is highly discreditable.—Much has been accomplished in early years. Lalande, at the age of eighteen, was so dis-



tinguished in Astronomy, as to be appointed, by the Academy of Sciences, to an important mission. Cowley was an author at thirteen. Dominic Cassini was chosen professor of Mathematics at Bologna, when but fifteen. Haller, when a child, was a Philologer and a Poet. Some persons scoff at the efforts of youth,—efforts, which they in maturer years, cannot equal,—and would repress that ardour, which stigmatizes the apathy or incapacity of grovelling minds. Such men may be allowed their only solace, the vanity of censure; but aspiring youths, disdaining alike their aid and opposition, will press forward in the career of distinction.

To the culture of Knowledge, *genius* is especially devoted,—genius, the noblest gift of God, the sun of the moral world. But talents must be unfolded. The diamond has no lustre in the mine. The richest endowments of nature are worthless or baneful, if not improved by study and art. Cherish then the rising faculty,—promote its expansion, by learning, observation, and thought.—Beware, however, of regarding it to the exclusion of common duties, or with the hope of immediate reward. Genius has erred frequently and fatally, by bursting, at once, through the restraints of situation and connection. Society has not yet arrived at that state, in which talents will be successful and applauded, so soon as they are displayed. Men of the highest genius must still occasionally submit to the drudgery of labour, which requires no effort of mind,—to petty concerns, for which intellect seems drawn out, only to be wasted. It is a hard, but a useful discipline. It corrects the flights of fancy, and gives a steadiness to character; it forms a habit of

observation; and it leads the faculties to practical points. The instances of its permanently obscuring, or suppressing talents of high character, are probably not numerous.

To eminence in Science, a capacity for thought and research is requisite, and the appropriate stimulus, to bring this capacity into action. The first light to great discoveries or improvements, has generally been a ray emitted by genius, but the prosecution of research, the surmounting obstacles, the glory of success, have ever been the result of fervent and undeviating application. The impulse of his genius, led Galelei to Mathematics and natural Philosophy; but it was the persevering devotedness of his after-life, which completed his discoveries. An eclipse of the sun gave an impulse to the youthful mind of Tycho Brahe; but it was the firmness of his character, superior to the hostility of his family, and the vexations of his public life, which raised him to the first rank in Science. But of all examples of genius, supported by persevering and vigorous exertion, that of our own illustrious Newton is most marked. His immortal discoveries he ascribed to the steadiness and patience, with which he regarded his subject.

Greatness in Philosophy, as well as in other pursuits, demands a decision of character,—an “intensity of will,” which having once beheld its object, though at a distance, that even imagination dares not measure, pierces in a direct line to its attainment. It is

—————“the strong divinity of soul,  
Which conquers chance and fate,”—————

tramples on obstacles, despises opprobrium, and mocks opposition. It is endowed alike with courage to act, and fortitude to

suffer. It rises superior to mental anxieties—to corporeal pains, and shrinks not in the grasp of death. This astonishing impulse has led the explorers of Africa to almost certain destruction. This urged the elder Pliny to the horrors of a volcano, and buried him in its ashes. Archimedes, with the sword at his throat, refused to leave his problem, and his life was the instant forfeit.

Of such an energy of mind, the efforts are beyond calculation and limit; and for men of inferior intellect to define the bounds of Knowledge, is utterly vain and ridiculous. The flights of genius have been finely compared by Milton, to an “Eagle muing her mighty youth, and kindling her undazzled eyes at the full mid-day beam; purging and unscaling her sight at the fountain itself of heavenly radiance; while the whole noise of timorous and flocking birds, with those also that love the twilight, flutter about, amazed at what she means.”

’Tis the dictate of inspiration which actuates men of exalted talents, and leads them to discovery. Not only are Painters and Poets, but scientific men, of all classes, dependent often on an impulse and direction, which they know not how they acquired. What taught Pascal, when a child, to solve the problems of Euclid, though Euclid’s writings he had never seen? What made Ferguson an Astronomer, and led a shepherd’s boy, without aid or instruction, to form a celestial globe and to prosecute Mechanics. What led James Bernoulli, destitute of instruments, to the advancement of Mathematics? Even the mineralogical studies of Werner, were directed by a feeling, which he compared to inspiration: and the mechanical improvements of Watt seemed dependent on intuition.

In the animating love of Science then, and the ardent spirit of research, you have a beam from Heaven. It is the fire of genius. Beware of quenching it by the excessive cares of merchandise, and the amor habendi,—or suffering it to die from the want of support. Neither let your own diffidence, nor the ignorant reproaches of those around you, subdue the excitement. If you suffer that mournful feeling or trembling agitation, which frequently accompanies inventive genius, remember that the first poet, of modern times, generally produced his admirable compositions with a flood of tears.—Your talent, cherished and improved, (and cherished and improved it may be, without neglecting the duties of your station,) will lead to greatness and immortality. Fear not then to commit yourselves to the winds and waves; for the swell of the ocean is in your favour, and the gale waits to waft you to renown. Confide yourselves to Him who gives the impulse to the mind, as well as to the universe, and simply relying on His aid and direction, you shall not err.

Avail yourselves of the facilities afforded by the public spirit of your townsmen,—a public spirit of which this Building is so noble a monument. Remember also that genuine Philosophy is allied to virtue,—that “the torch of genius never burns so bright, as when kindled at the altar of Religion;” and while cultivating Science, forget not the obligations of social life, nor your duty to God.







