

**An inaugural address to the members of the Clapham Literary and Scientific Society ... To which is appended the constitution and regulations of the Society / [Thomas Hookham Silvester].**

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Clapham Athenæum.

**Publication/Creation**

Clapham : D. Batten; & Simpkin, Marshall, London, 1841.

**Persistent URL**

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CLAPHAM  
LITERARY & SCIENTIFIC SOCIETY.

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DR. SILVESTER'S ADDRESS.



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SILVESTER, T.H.

AN  
INAUGURAL ADDRESS  
TO THE  
MEMBERS  
OF THE  
CLAPHAM LITERARY AND SCIENTIFIC SOCIETY.

BY  
THOMAS HOOKHAM SILVESTER, M.D.  
MEMBER OF THE ROYAL COLLEGE OF PHYSICIANS, F. R. COLL. SURGEONS, FELLOW OF  
THE ROYAL MEDICO-CHIRUR. SOCIETY, CONSULTING PHYSICIAN TO  
THE SOUTH LONDON DISPENSARY, ETC.

TO WHICH IS APPENDED THE  
CONSTITUTION AND REGULATIONS OF THE SOCIETY.

CLAPHAM :  
PUBLISHED BY D. BATTEN: AND SIMPKIN,  
MARSHALL, & CO., LONDON.

1841.



IN publishing the following Address, at the request of my young friends, I think it right to state, that it was written without the slightest idea of publication, and delivered chiefly from notes. It has not been thought proper to make any essential variation from its original shape, and hence the familiar and unpremeditated character of the composition.

T. H. S.

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Ἀταλαίπωρος τοῖς πολλοῖς ἡ ζήτησις τῆς ἀλήθειας, καὶ ἐπὶ τὰ ἔτοιμα μᾶλλον τρέπονται.—*Thucydides.*

“ I had rather believe all the fables in the Legend, and the Talmud, and the Alcoran, than that this universal frame is without a mind. While the mind of man looketh at second causes scattered, it may sometimes rest in them, and go no farther; but when it beholdeth the chain of them confederate and linked together, it must needs fly to Providence and Deity.”—*Lord Bacon's Essays.*

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OF THE

**Clapham Literary & Scientific Society,**

FOR 1841.

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THOMAS HOOKHAM SILVESTER, M.D. F.R.C.S.

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# CONSTITUTION AND REGULATIONS

OF THE

## **Clapham Literary & Scientific Society.**

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1. THE Members of the CLAPHAM LITERARY AND SCIENTIFIC SOCIETY meet together on the first Monday in every month, for the purpose of discussing, in the way of debate, interesting subjects connected with History, Literature, or Science.

2. The Society consists of a President, Vice-Presidents, a Treasurer, two Secretaries, a Council of Five, and of Ordinary and Honorary Members.

3. The President, Vice-Presidents, and Treasurer, are appointed by the Society at large.

4. The Council supply all vacancies in their own body as they occur; and all the Officers of the Society are Members of the Council, ex officio.

5. The President, or Chairman, for the time being, has unlimited authority on all questions during the actual period of the monthly debate.



6. Any Member who shall not acquiesce in the decision of the Chairman, during a debate, is liable to suspension from the Society upon a ballot, which may be demanded by any Member of the Society ; and the suspension shall be carried if one-fifth portion of all the votes are in the affirmative.

7. All Members must be proposed and seconded at an ordinary Monthly Meeting, and be balloted for at the next. Four-fifths of all the votes must be in the affirmative, in order to ensure election.

8. Whenever practicable, Lectures are to be given before the Society as frequently as convenient; all the arrangements for these Lectures, if gratuitous, shall be at the discretion of the President.

9. The Subscription to the Society shall be Ten Shillings per Annum, payable half-yearly, together with a fee of Ten Shillings at admission.

10. All Bye-Laws relating to the admission of strangers, and other subjects not comprehended in the preceding regulations, shall be made from time to time at the discretion of the Council.

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The following COURSE of LECTURES will be delivered during the present year, and the Society will meet at the LECTURE ROOM of the CLAPHAM GRAMMAR SCHOOL :—

On BOTANY, by the PRESIDENT.

On POETRY, by HENRY WHITE, Esq. M.A.

On VOLTAIC ELECTRICITY, by the REV. C. PRITCHARD.



## INAUGURAL ADDRESS.

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GENTLEMEN,

It is, I assure you, quite opposite to my natural inclination to appear in public. Indeed, a sense of duty alone enabled me to overcome the reluctance I felt in accepting the honourable office which you pressed upon me, of taking the chair at your meetings, and of presiding over your discussions. After, however, a careful consideration of the objects of your Society, its principles, and the regulations by which it was intended to be governed, I could not refuse your request, or withhold the little assistance which it might be in my power to afford, notwithstanding any casual inconvenience to myself. To have declined the honour intended me, would have implied a carelessness about the welfare and happiness of many for whom I entertain the warmest feelings of friendship, and something like a disinclination to promote the general cause of intellectual advancement.

I congratulate you, my young friends, on the love of knowledge and spirit of enterprise which first gave origin to this Society, and on the perseverance which has carried you thus far in its formation: and I will likewise add, that whatever literary and scientific societies we may hereafter have the pleasure of seeing established at Clapham, to you will belong the claim and merit of priority; and it is no mean praise to be the first in a good cause.



From the paper placed in my hand, I learn that one great object of your Society is the discussion of literary subjects. A French statesman said, that speech was given to man to conceal his thoughts : an Englishman commonly finds it no easy task to express them. The faculty of delivering ourselves readily and properly, especially in public, is much neglected in this country. "Man," it has been well observed, "was not made to shut up his mind in itself, but to give it voice, and to exchange its thoughts for those of other minds. Speech is one of our grand distinctions from the brute—our power over others lies not so much in the amount of thought within us, as in the power of bringing it out. A man of more than ordinary intellectual vigour may, for want of expression, be a cypher in society. And not only does a man influence others, but he greatly aids his own intellect, by giving distinct and forcible utterance to his thoughts : and I doubt whether a man ever brings his faculties to bear with full force on any subject until he either speaks or writes on it for the instruction of others." To place it clearly before others he feels the necessity of viewing it more vividly himself. By attempting to secure his thoughts, and fix them, he not unfrequently finds them vague and unsatisfactory, to a degree which he did not suspect, and toils for precision of thought and expression of which he had never before felt the need. It is probable that the eloquence of the ancients, many splendid specimens of which have come down to us, is mainly attributable to the influence of the schools of philosophy, where their youth were exercised after the best models, in all the various graces and ornaments of language. Cicero acknowledges that he had formed his elocution *ex academiæ spatiis*. The animated and vigorous, but well-regulated discussions in the porch and grove must have greatly contributed to strengthen the intellectual powers of the disputants, and to polish their taste in respect to language and mode of expression. May we not trace to the same source much of that justness of thought, and severe beauty of style which characterize the classical writings of antiquity?

In the contact and collision of mind with mind,



through the intervention of language and gesture, innumerable thoughts and ideas are emitted, which otherwise would have lain dormant in the breast of each individual. These expressed thoughts, in all their multitudinous variety, form a common treasury, out of which each disputant takes what best suits his peculiar organization. A word or sentence will drop from the lips of one who scarcely knows its value, which, falling on another soil, will, under the influence of suggestion or association, develop itself, and be followed by a train of unexpected consequences. The same thoughts shoot forth in a manner quite different in minds of a different cast; in their natural soil, sterile—transplanted, they yield abundant fruit. Our German ancestors seem to have had some notion of the necessity of subjecting the mind to varied and opposite influences, in order to arrive at a just conclusion. Their method, as related by Tacitus, was rude; but it discovered a practical acquaintance with the principles of mental organization, and likewise a tolerably just appreciation of the value of unrestrained discussion. Every subject of importance was made a matter of debate twice—once around the intoxicating bowl, and again when sober; in this way they hoped to give to their measures both vigour and prudence. We shall do well, in very many instances, to adopt the principle on which these northern philosophers acted, although there is happily little necessity of imitating them in this no less wicked than whimsical practice.

The foregoing are among those advantages which naturally arise out of the exercise of debate and discussion; but it should be ever borne in mind by the disputants, that the proper end of their enquiries is the discovery of truth, which, though eloquence may enforce, it is the peculiar province of discussion to reveal. The ear, indeed, is pleased with a discourse delivered in elegant and polished language, the imagination is delighted with the charms of oratory, but truth alone is all satisfying to the virtuous mind; without her there can be no certain science, no pure morality, no real religion. “Before all other things,” says the Roman orator, “man is distinguished by his pursuit



and investigation of truth ; and hence, when free from needful business and cares, we delight to see, to hear, and to communicate, and we consider a knowledge of many admirable and abstruse things necessary to the good conduct and happiness of our lives. Ex quo intelligitur," he adds, "quod *verum*, simplex sincerumque sit, id esse naturæ hominis aptissimum." With what force and beauty does Lord Bacon say, "that the essential form of all knowledge is nothing but a representation of *truth* ; for the truth of being, and the truth of knowing are one, differing no more than the direct beam and the beam reflected."

But I must not forget to remind you, that however powerful the agency of discussion may be in the detection of error, and in the discovery of truth, it is naturally confined within somewhat narrow limits, beyond which it cannot be profitably exercised. Discussion is an analytical, and, only in an inferior degree, a synthetical operation. In discussing a subject with others, the matter becomes sifted in all its bearings ; new lights are thrown upon it, unseen before ; errors are discovered and exposed, and fallacies detected : but it is not in the ardour of debate that facts are collected and arranged, inferences drawn, and generalizations effected. The patient evolution of a theory belongs rather to the study than to the arena, and is the result of a synthetical operation. A highly talented author, who seems to have disregarded this distinction, thus expresses himself : " Few arguments, orally conducted, reach any useful result, even where there are no motives of prejudice, interest, or personal feeling, to pervert the judgment of the disputants. One of the parties in the controversy (and perhaps both) is thrown out of his track at almost every step, by the fortuitous suggestions that spring from sounds, terms, and allusions ; and his opponent, either weary of bringing him back to the line, or taking advantage of his erratic course, abandons the question, and thinks only of triumphing in the personal combat : or, as frequently happens, even if the antagonists are equally sincere in their pursuit of truth, and pretty evenly matched too in intellectual power, yet the organic power, that



is to say, the organs of thought and expression, of the one fail much sooner than those of the other, and the more infirm party, to conceal his conscious exhaustion, and to cover his retreat, betakes himself to sophistry and evasion." Notwithstanding the imperfections here alluded to, which necessarily accompany this particular mode of investigation, enough has been said, I hope, in favour of discussion to recommend it to you as an admirable means of intellectual improvement, a happy way of employing a portion of your leisure time, and one not unfitted to render you both agreeable and instructive members of society.

It was originally intended that History, and more particularly that of our own country, should furnish you exclusively with subjects for discussion. History is, indeed, in a moral point of view, especially useful, as it points out the issues of things, and exhibits, as its general result, the reprobation consequent upon vice, and the glory attendant upon virtue. It may also be regarded as the handmaid of religion—opening to us, as it does, the most wonderful prospects of the Divine interposition in the government of the world.

Natural Philosophy, however, the study of which is capable of imparting to the mind the most agreeable impressions, filling it with a sense of power, and exercising some of its highest faculties, may very justly lay claim to a share of your attention; I shall therefore, in the remainder of this Address, take a summary view of the more popular branches of natural science, and endeavour to give you such an idea of each as shall induce you occasionally to select them as interesting topics of debate. And first of Geology, or the past and present history of the earth.

So vast are the boundaries of knowledge, that every mind may find something to its taste amidst the variety with which we are surrounded; and so deeply interesting has the search become, that works of mere imagination are likely henceforward to be, in some degree, neglected. Natural philosophy has supplied us with wonders far beyond what the imagination, at its utmost stretch, could have reached. Are we not astonished, nay, is not the mind well-nigh overwhelmed,



as we listen to the fervid eloquence of one among us who points to animals and beings of such doubtful shape, "*undique collatis membris*," that we scarcely know by what term to designate them? A world is exhibited to us untrodden by the foot of man, but peopled by creatures, living existences of whom the traces only remain, but who are as well known to the Palæontologist as those which now walk the earth. With such profusion are these stores of instruction and entertainment spread before us, that one can scarcely take a step without stumbling over something, a pebble, perhaps, or a stone, which would, if questioned, read to us its lesson of useful information and humbling astonishment. "It has sometimes happened," says Mr. Owen, "that a few scattered teeth have been the only indications of animal life throughout an extensive stratum, and yet by these alone have been determined the true affinities of the gigantic *Megatherium*, those ancient giants of the South American continent, who could, with ease, uproot and haul down the loftiest trees of the tropical forest, and whose descendants are scarcely to be recognized in the comparatively puny sloth." Myriads of fossil beings are collected from the sand, chalk, and flint under our feet, some far too minute to be seen by the unassisted sight, others of incredible magnitude. Ehrenberg found, by mixing Canada balsam, by the assistance of heat, with the dry chalk, in a fine state of division, that the chalk contained an immense number of microscopical animalculæ hitherto unknown, varying in size from  $\frac{1}{24}$  to  $\frac{1}{288}$  of a line. A cubic inch possessed upwards of a million of them; consequently, a pound weight of chalk contains above 10,000,000 of these animalculæ. The teeth and tusks of the mammoth and elephant, imbedded in mud, form immense local accumulations in the arctic regions. They are found in New Siberia in so great abundance as to become important articles of commerce, many thousand pounds weight being exported from thence every year. Fossil reptiles, of no less monstrous and gigantic dimensions, have been discovered in England. Of these the British Museum contains a unique collection made by Dr. Mantell,



from the Wealden formation of Kent and Sussex. The researches of geologists have been hitherto chiefly confined to the surface; a deeper exploration into the interior of the earth will undoubtedly reward future investigators. "Only a very small part," says Sir J. Herschell, "of the surface of our globe has, however, been examined in detail, and of that small portion we are only able to scratch the exterior; for the deepest mines which have been sunk penetrate to a depth hardly surpassing the ten thousandth part of the distance between its surface and its centre." The French have reached to a depth of 508 metres, by means of an Artesian well, which has been bored in the Abattoir de Grenelle. Regular reports, of a more or less interesting nature, have been made to the Academy of Sciences, in reference to the character of the strata, and other matters. M. Walfendin, in a communication to the Academy last September, showed that the temperature of the globe increases one degree for every 31.9 metres of depth. The limits of this brief Address will allow me merely to mention, as novel and important objects of research and enquiry, the depth of the ocean, its temperature, the encroachment of the sea, land slips, and volcanic eruptions.

If the present condition and the past history of the earth or this world attract our attention, there are other worlds above and around us which seem to claim almost an equal interest in our regards. Who can, for instance, look up at our companion-world—the *Moon*—without feeling an ardent desire to know something of it and its inhabitants? What are those marks which deface its bright surface? Will science ever enable us to measure her mountains, explore her volcanoes, and view her seas and plains? It has done so in part; and, in all likelihood, much more will be disclosed in the course of time. It has already enabled us to discern stars at a distance so enormous that the mind toils in vain to comprehend its extent,—even our imagination is baffled in the attempt: the nearest of the fixed stars is supposed to be thirty-eight millions of millions of miles from us, so that a canon-ball, at its usual rapid rate, would take between four and five millions of years



to reach some of them. How wonderful the intellect of man, which is able to penetrate so deeply into the boundless regions of space! Who but the Creator shall assign any limit to the efforts of the human mind? Astronomy, in the vastness and sublimity of the objects of which it treats, undoubtedly ranks first in the scale of the sciences. With what awful emotion do we trace down the blue vault of heaven, that galaxy of glittering orbs, the milky way, within whose circumference, perhaps, are included suns and worlds far beyond the most distant star of our system. Among the inexplicable wonders of astronomy is the loss of brilliancy which some stars sustain. This has been the case with Orion, which has, it is said, during the last year, lost nearly half its light: and among the most remarkable discoveries of modern times is that of the existence of revolving double stars, which to the naked eye appear single, but if examined with high magnifying powers, are found to consist of two individuals, placed almost close together, revolving in regular elliptic orbits about each other, and obeying the same laws as those which regulate the planetary movements. Connected with astronomy is the subject of meteorites. Specimens of these extraordinary stones are now so numerous, that they are to be found in most of the museums throughout Europe; but no satisfactory explanation has hitherto appeared in regard to their origin or mode of formation: their descent (for they descend from the sky) is generally accompanied with a loud noise; they are too hot, when first picked up, to admit of being touched; and they always contain a metal called nickel.

The next branch of Natural Philosophy to be noticed, will undoubtedly, from its importance, its interest, and its almost boundless extent, occupy much of your attention—I allude to Chemistry. “One of the chief causes,” says Sir J. Herschell, “of its popularity is perhaps to be sought for in this, that it is, of all the sciences, the most completely an experimental one; and even its theories are for the most part of that generally intelligible and readily applicable kind which demand no intense concentration of thought, and lead



to no profound mathematical researches." Much of its popularity, I imagine, must be set down to its extensive usefulness, the satisfactory result of its experiments, and the ease and readiness with which they may be performed. It is difficult to keep up with the rapid strides of this descendant of Alchymy: every year makes further additions to its facts and generalizations; and new fields are continually being opened to its research. The chief advances lately made relate to hydrogen; its state of combination with oxygen in the formation of water and the oxides, the exploration of organic substances, and the discovery of their radicles. An attempt, likewise, to imitate organic compounds has proved successful in the case of uric acid and pepsine, or the gastric juice. One of the most singular phenomena demonstrated by chemistry, is that of the constant existence in healthy saliva of a virulent poison, the sulpho-cyanic acid. The fair part of my audience may possibly be interested in the discovery of the essence of tea, or Thein, which possesses all the characteristics of the Chinese leaf, and will enable them to obtain this favourite beverage without the usual infusory process. No familiarity with the science of chemistry lessens our admiration of its wonders: that the diamond, charcoal, and black lead should be composed of precisely the same materials, and that they should differ only in the addition of oxygen, or vital air to the latter substances, though well known, is still wonderful; that the respiration of man and animals, the burning of fuel, and the rusting of iron, should be the same operation, though familiar to all as a well-known fact, seems never to lose any of its interest.

Electricity and Galvanism consist no longer of a few amusing experiments: the extensive application of the latter to the fine arts is likely to effect the most extraordinary and unlooked-for results. It has already changed the face of chemical philosophy: its influence has even extended to medical jurisprudence, the readiest and most certain method of detecting arsenic, in minute proportions, being that derived from Galvinism.

The principles of Botany are sufficiently regular to give it the form and precision of a science, and one



which contains ample materials for discussion. It has yet to be determined where the animal kingdom ends, and that of the vegetable world begins; whether we shall place the sponge in the same kingdom as ourselves, or associate it with the less noble subjects of the vegetable race. The cause of motion in the mimosa, or sensitive plant, which shrinks from our approach, will afford much room for speculation; and were this point satisfactorily settled, I am not sure that the same principle would account for the murderous grasp of the *dionæa muscipula*, or fly trap, which closes its petals only at the actual contact of the fly, its poor victim; resembling, in this particular, that of the nervous system in man, called the excito-motory.

We may carry our enquiries with much advantage into the internal structure of plants. It may, perhaps, be reserved for some fortunate individual of our Society to discover the precise use of parts whose office has hitherto remained unexplained. An accurate chemical analysis of the sap in many plants is still a desideratum: a wide field of interest in regard to classification is opened to our view, in which we may investigate the wonderful correspondence of external form with hidden properties, in the system first propounded by Jussieu, and more recently improved by continental and British botanists. There is another line of investigation connected with this subject which has been somewhat neglected, but which will not, I fear, come within the scope of your researches,—I mean an experimental enquiry into the precise virtues and properties of plants. I look forward with fervent hope to a period when many of those diseases which are now accounted mortal will find a remedy in the vegetable world. The industry of man, and not the bounty of nature, has hitherto been wanting, or consumption, perhaps, would not continue to rank among the most fearful scourges of our race. Until the discovery of cinchona the mortality from ague in the metropolis alone was frightful. Many plants, once thought poisonous or worthless, are now reckoned of great value in medicine. Some vegetable productions, formerly used only in the construction or decoration of our habitations, have been converted into



food. Out of the unpromising and unfruitful elm has the wand of the chemist created bread, the staff of life; and I can assure you, that an elm biscuit is very little inferior to Mr. Dodson's unfermented brown bread, which, in appearance, it greatly resembles. There are plants, which, eagerly sought by some animals, are rejected by others: the water hemlock (*cicuta virosa*) is poisonous to most animals, except the goat. The *aconitum napellus* is eaten with impunity by the horse only. Species of fungi, poisonous in this country, are eaten in Russia without danger. Many plants growing in wet situations are poisonous, but harmless when found in dry places. The powers of the vegetable kingdom are capable of exercising a dominion over every part of the human body, either during health or disease. In the cells of the graceful foxglove is elaborated a juice, under whose influence the pulse falters, the unwearied beating heart quickly submits, and the vital stream ceases to flow.

At the touch of the lurid belladonna the muscles yield up their contractile faculty. The juice of the aconite deprives the nerve of its sensation: the poppy, like as by a potent spell, cuts man off for a time from the external world; and, lastly, masses of bone from disease are rapidly dissolved and ejected from the system by the apparently worthless sea-weed. But I must proceed to notice the animal world.

Nature is so prodigal in the production of animals, their variety of form and structure is so amazing, their habits and propensities so diversified, that from this source alone we are furnished with innumerable objects of enquiry, amusement, and instruction. And while these investigations extend our acquaintance with nature, and with the sources of intellectual enjoyment around us, they enlarge the boundaries of physical science, and extend our views of that harmony which pervades the universe. They ought likewise to exalt our veneration for the Great Author of Nature, by demonstrating his power, goodness, and infinite wisdom. The laws which regulate the vital movements are not yet unfolded; there can be no doubt, however, that



they are as definite as those which govern the vegetable kingdom, or inorganic nature; and nowhere do we discover clearer proofs of wisdom and design than in animal organization.

There are no less than one hundred and fifty thousand species of beings, having motion and feeling, included in the same class with man, and having more or less resemblance to him, in shape and structure, in some part of his existence. It would not be easy for the uninstructed observer to discover much resemblance between the fin of a whale and the hand of man, and yet there is the nearest relation between these organs, both in the number and form of the bones, and in the motions of the respective joints. The same may be said of the knee and hock of the horse, which correspond, in most respects, with the wrist and ancle of man. The same may be observed of the wing of the bird. Little more would be necessary in order to convert an arm into a flying instrument, than fringing the elbow and hand with feathers, and effecting some slight alteration in the relative length of the bones and development of the muscles.

There remain to be noticed a host of other interesting matters, the very mention of which would occupy too much of your valuable time. The Microscope has opened up to our view other worlds of life and happiness, abounding with creatures of every conceivable shape and form, enjoying the boon of life imparted to them by Almighty goodness—protected by their very littleness from a thousand evils which afflict their gigantic brethren. The microscope may be expected, in a few years, to supersede the opera-glass, and to occupy a place in every ladies' drawing-room. I may just, by the way, mention that the leech, which we are apt to view with fear or disgust, possesses under the lens ten brilliant shining black eyes, arranged in a crescentic form around its radiant forehead—a most beautiful and unexpected sight.

In contemplating the various objects presented to us by nature, and the laws which govern her operations, our thoughts naturally tend upward to the Omnipotent



tent and Omniscient ; and, although he is not present to mortal sight, yet we perceive Him on all sides, and feel Him every where around us :—

“ Though thou canst not perceive God, yet is He in all his works—  
 Infinite in grand outline, infinite in minute perfection.  
 Nature is the chart of God, mapping out all his attributes :  
 Thou knowest the laws of matter to be emanations of his will,  
 And thy best reason for aught is this—Thou, Lord, would'st have it so.  
 Yea, what is any law, but an absolute decree of God ?  
 Or the properties of matter and mind ? but the arbitrary fiats of  
 Jehovah.”

Serious charges have been brought against science, and the rapid progress and diffusion of knowledge. We may, some time or other, make this a subject of careful discussion ; suffice it to say, that a more intimate acquaintance with the power and goodness of the Creator cannot naturally lead to a denial of His existence ; and that as regards knowledge of every kind, I am inclined to take the prophecy in Daniel, which says “ knowledge shall increase,” in its literal, ample, and widest sense. If, therefore, the decree for the universal diffusion of science (which is merely knowledge methodized) be gone forth, who shall withstand the power of the Almighty, and seek by puny efforts to stem the current of that stream at which it is designed that all nations are to drink ? Let us, by our utmost efforts, direct it in its right channels, then shall we become blessings to our race—to all mankind. Go on, my young friends, to improve the faculties of your mind ; enlarge your acquaintance with Nature and her operations ; study the laws which govern this vast universe ; be not ignorant of your own mental and corporeal organization, and then turn the whole to account for the benefit or contentment of human-kind, and if the principle on which you act be but the right one, your reward shall be great both here and hereafter.



