

AN ESSAY,
ON THE BEST METHOD OF CONDUCTING THE
KINGTON MECHANICS' INSTITUTION,
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"Knowledge is power."—Lord Bacon.
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MECHANICS' Institutions are societies which have of late years been established in many towns in the kingdom, for the purpose of applying the principle of combination in affording scientific instruction to all persons, and especially to the working classes. They are distinguished from Literary and Philosophical Societies, principally by attempting to diffuse information on the various branches of practical science, and more particularly on those which relate to the mechanical and other arts; and though they may at times be made available for diffusing a taste for the higher branches of science, general literature, and the fine arts, yet their main object ought never to be lost sight of; for when that is the case, the class for which they are principally intended become less benefited. Keeping these principles in view, but endeavouring to modify them, so as to suit the present case, we proceed to the immediate matter of the Essay.

In order to discover how the funds of the society may be most profitably disposed of to meet the end in view, it is necessary to consider, first, what is most necessary for the well-being of the institution; and, in the next place, what should be attended to as of secondary importance. In a town like this, where of course persons of every grade of intellect and variety of opinion are

so magnificent in its object (nothing short indeed of the moral and intellectual amelioration and aggrandizement of the human race), the blessing of heaven I humbly trust will not be implored in vain—if in this institution we seek to obey the mandate which has gone forth, that knowledge shall be increased—if we act in obedience to the injunction that in all our gettings we should get understanding;—if we succeed in proving that for the existence of the mental wilderness, the continuance of which we all deeply deplore, we ought to blame the culture not the soil;—if by rendering man more percipient of the order, harmony, and benevolence, which pervade the universe, we more effectually assert eternal Providence, and justify the ways of God to man;—and if thus we shall be the happy means of rendering it palpable that the immortal essence within us, when freed from the deformity of ignorance and vice, has been created in the express image of God, then may we confidently hope that Omniscience will favorably behold our rising structure—and that in its future progress Omnipotence, without whose assistance all human endeavours are vain, will confer upon us a portion of his powers. Whilst I remind you that the illustrious Bacon long ago maintained that "knowledge is power," I may apprise you that it has since his time been established that "knowledge is wealth, is comfort, is security, is enjoyment, is happiness." It has been found so completely to mingle with human affairs, that it renders social life more endearing, has given to morality more sprightliness, and politically has produced more consistent obedience; it takes from adversity some of its bitterness, and enlarges the sphere as well as augments the sweetness of every laudable gratification; and lastly, unquestionably one of its brightest influences, it becomes at once an avenue and a guide to that 'temple which is not made with hands, eternal in the heavens!'"

gathered together, it is necessary to awaken the attention and satisfy the wants of all in a general point of view. This may be done by a large supply of the best periodical publications, including of course some London and country newspapers, and a few literary as well as scientific magazines; but we would at the same time recommend that, in accordance with the principles with which we commenced, the main object should be constantly kept in view, and that, consequently, not too much of the funds should be expended in general literature, but that as great a variety of scientific publications as possible be obtained. Perhaps it may here be objected that such works will not be soon read, but lie uncut upon the table; probably for a time this may be the case—but it is the society's duty, both to supply the materials for diffusion of scientific and historical information,—and by subsequent proceedings, which we shall point out, endeavour to create or increase a taste for seeking it. A sufficient balance of funds each year should always be left to purchase some standard works of science, biography and history, for the formation of a permanent library of reference—which, with the donations that may from time to time be received, will soon become both valuable and exceedingly useful. This plan has already, in a great measure, been adopted by the institution—and, with a few alterations, seems all that can be desired.

There appears, however, to be a preponderance of general news, over permanent and standard works. We would therefore recommend that one at least of the five newspapers should be discontinued: perhaps the Leeds Mercury, as being neither a London nor a Local paper; also the Penny Magazine, and Magazine of Science, which are of almost too trifling a nature;—and perhaps Tait's Magazine, one literary periodical being sufficient. Instead of these, either the Athenæum (one of our most valuable periodicals) ought to be taken, and the Annual Reports of the British Association, or some other valuable literary journal be obtained; or the whole of the sum thus gained may be annually devoted to the formation of a permanent library—which, as we before mentioned, should be made an express object, as it is of the greatest importance. The Penny Cyclopædia we trust will be made complete, for, with the other volumes already obtained, it will form a good foundation for a valuable library. Periodical publications, even the best and most scientific, cannot be expected to do more than advert to general principles, and describe improvements and extensions of science as they occur—but they cannot treat fully upon any one subject, much less on the whole range of human knowledge. By these alone, therefore, curiosity is excited, but not satisfied, which state of feeling, if long continued, generally leads to indifference or disgust. A library of good and valuable books will obviate this, by giving each an opportunity of studying whatever he may consider most interesting or useful. Among the works we consider worthy of being first obtained by the society, are the Natural

History and Natural Philosophy, Volumes of the Cabinet Cyclopædia, Loudon's Encyclopædia of Agriculture, Plants, &c., Lyell's Geology, Murchison's Silurian System, Kirby and Spence's Entomology, Lindley's Natural System of Botany, Brande's Chemistry, George Coombe's Constitution of Man, and other works—Dr. Channing's works, Humboldt's Personal Narrative, &c. &c.

The materials for diffusing information being thus prepared by the institution, it becomes desirable to create a taste for its acquirement, and to promote an interest in scientific and literary pursuits. To do this, lectures are of great avail; and whenever persons can be found willing to undertake the delivery, they should be immediately requested to do so; and diagrams, or any other necessary apparatus, should be prepared under the direction of the lecturer, at the expense of the society, and kept for use at any future period. But besides this, it is proper that some more regular and effectual means should be adopted to promote the much-to-be-desired spirit of enquiry; this we conceive may be best done in the following manner:—Every member residing in or near the town, without exception, should take his turn on an appointed evening in the week, to do one of the following things—either first read a paper of his own composition on any scientific subject,—or secondly, commence a discussion on any subject, or ask a question, or propose a subject for discussion. Each person should put his name and the subject in a book for the purpose, at least three days or a week previous; and if such subject is suggested by any work in the institution, he should state the volume and page, in order to give other members an opportunity of preparing themselves. Should a member wish to bring any thing before the society at any other time than in his regular turn, he may be permitted to put his name and the subject in the book—and should there be no time for it to be discussed after the regular business of the evening, it might be adjourned to the next day. On all such occasions a chairman should of course be appointed, to keep order and see that each speaker expressed himself without interruption. A majority of the company present should, at the conclusion, determine who had argued in the most convincing and efficient manner; this would help to give to the members not only a facility of argument, but also a capability of expressing themselves so as to be readily understood by others: it would bring all in turn to take an interest in some scientific subject, and might perhaps lead them to make it their study;—it would excite enquiry and research, and might perhaps draw out some sparks of hidden fire, which wanted but the excitement of discussion to elicit. It would be thereby ascertained how far the capabilities of the members were adapted for imparting instruction to others, and those who in these discussions evinced a more than ordinary knowledge of a particular subject might be requested to deliver a lecture thereon; which would be the means of both making themselves more thoroughly acquainted with it, and of giving to others

the advantage of their researches: great good would result from such meetings and such discussions; they would be of the greatest importance in giving every one an opportunity of comparing his ideas with the opinion of others—thus shewing him what is inaccurate, and confirming whatever correct opinions he may have imbibed.

The *Mechanics' Magazine*, during the first years of its existence, by giving insertion to the statement of every person who fancied he had discovered the perpetual motion, has perhaps done more to abolish, among young mechanics, fruitless search after that philosopher's stone of modern times, than the most able arguments of our men of science could accomplish. The correction of false ideas and incorrect opinions on well-known principles of science are not among the least benefits that would accrue from such a course as we have recommended.

How many having imbibed a false opinion, and having embraced it for a time, as a certain and undoubted fact, are, on seeing it contradicted without a clear explanation, more apt to doubt the truth of the principle they have misunderstood, than willing to acknowledge that they have been so long in error. As the means of inciting to the acquirement of knowledge on all subjects, of creating a wish for information on what have been hitherto considered as abstruse branches of knowledge, but which are frequently among the most interesting and generally useful,—and of inspiring a desire for diving deeper into its inexhaustible stores not yet exposed to the scrutinizing gaze of man, such an institution as this, conducted in the way we have described, will be invaluable.

How many of our great men, of whom as Britons we may justly be proud, have arisen from comparative obscurity; but we shall find that all who have become really great have had the desire, and in some degree at least, the means of obtaining knowledge; and may we not conclude that as knowledge and the means of acquiring it are more generally diffused, increased numbers of men (who without such means would have plodded on through life unknown) will burst forth and shine in all the splendour of their talents, to keep up the honorable name which England has obtained among the nations of the earth. All have doubtless heard how the celebrated Dr. Herschell was, in his youth, a musician in a foreign military band—but think you not that the love of knowledge must have been most powerful in him whose name is now known in every corner of the civilized world?—think you, that he who has added the knowledge of worlds to our own system, and penetrated further than the mind can conceive into the regions of space,—and whose intellect enabled him, from every appearance of those innumerable worlds, to add immensely to our knowledge of the structure of the mighty universe, and point out the great changes which for millions of ages it has undergone, could have done this without the desire and the means of acquiring informa-

tion in his youth? Sir George Stephenson, lately knighted by her Majesty, Queen Victoria, who may be said to be the father of English railways, and whom many nations of Europe have sent for to superintend similar structures abroad, was a poor minor, working in the bowels of the earth for his daily bread; and without the desire and the means of obtaining knowledge, would have been a minor still. Dr. Simpson, who as a mathematician is universally known, was a Spitalfields weaver, and first made his talent known at the Spitalfields Mathematical Society, established by the weavers of those days, who were a very different set of men from what they are at present. As a last, though by no means the least eminent example that may be cited, the celebrated James Watt, the benefactor not only of England but of the whole world, was a working mathematical instrument maker; and it is said that a model of a steam-engine sent to him to be repaired first induced him to turn his mind to the improvement of that important machine: how well he succeeded all know;—but he was not, as is too frequently supposed, an uneducated man; far from it—he united in the highest degree practical and theoretical knowledge—was an excellent mechanic, and a profound mathematician; had he not been so, the steam-engine would not be as it is at present, one of the noblest examples of the ingenuity of man.

Many more instances might be adduced, if more were necessary, to shew that great discoveries do not arise from the chance thoughts of the uneducated, but from the laborious studies of the wisest men; and is it not therefore the surest way to increase the number of such men, who are an honor to our nature, to give information and knowledge to all—to nourish every spark of genius that may appear, till it burst into a flame that diffuses light and life on succeeding generations. How know we that we have not a Herschell, a Stephenson, a Simpson, or a Watt, within this town, who want but the means of acquiring that knowledge which they might give back one hundred fold to the world.

It is our duty then to disseminate all the information in our power, and to use every means for exciting all, especially the young, to the acquirement of knowledge—knowing that we shall thereby promote their own happiness as well as benefit the community. In pointing out the method by which we conceive the desirable end may be most practically, easily, and advantageously accomplished, we have studied conciseness rather than display, and have preferred the statement of practical means rather than adverting solely to theoretical truths; and it will be our greatest pleasure to find that the plan we have proposed should in such a cause be thought worthy of adoption.

THE SAVING'S BANK.

A Saving's Bank was established and opened for business on the third day of May, 1837, when thirteen noblemen and gentlemen