he has also passed his life in diffusing knowledge, and therefore conferring important benefits upon all those to whose reach the means of instruction have been extended.

### EDUCATIONAL DIFFERENCE BETWEEN THE PRESENT AND FORMER TIMES.

There is one important difference between the times in which we live and former times. There were in former times men eminent perhaps beyond example—men eminent in discoveries and in the acquirement of knowledge—but the great mass of the nation were enveloped in comparative ignorance. We know for example, that, long after the days of Bacon and Newton, the absurd notions of astrology and witchcraft were entertained by many persons in the kingdom. The difference in the present age is, that knowledge is widely spread through every class of society, and thereby not only has the happiness of each individual been increased, but the wealth, prosperity, and greatness of the nation have been augumented.

# VALUE OF MECHANICS' INSTITUTES AND NIGHT SCHOOLS-MISTAKES CORRECTED.

Of all the instruments for the diffusion of knowledge, there is none, perhaps, that excels mechanics' institutions. Some objections, nevertheless, have been taken to them. People say that the working classes, for whose use these institutions are mainly intended, are too much occupied in daily toil to be able of an evening to bring their minds with the freshness requisite for improvement to study of any kind. That is a great and fundamental mistake. There is nothing more natural to the human mind and the human body than the combination of labour and study, and those men who have passed the greater part of the day in laborious employment find recreation and relief when in the evening hours they are able to enjoy the pleasures of literature, or to improve their minds by the acquisition of scientific knowledge. But it has been said by some that these opportunities are so short, or are sometimes so little likely to be availed of, the knowledge acquired must be shallow and And then we have dinned in our ears the old and trite small. quotation that "a little learning is a dangerous thing." It is true that a little learning is a bad thing—that is to say, it is a bad thing to have only a little learning; and the less learning a man has the worse it is for him. But there is one thing worse even than having a little learning, and that is having no learning at all.

#### VALUABLE ADVICE IN REGARD TO ONE'S CALLING.

# THE GREAT COMFORT AND PLEASURE OF A PUBLIC LIBRARY.

I see it is intended that there shall be an ample and copious library. That is a great comfort and a great pleasure, and I would not recommend those who frequent the library to confine themselves solely to books of serious reading and of practical or scientific utility. The human mind requires variety of exercise for its different quali-ties and its different functions. The imagination was implanted in man not merely for the pleasure of others by the works of imagination, but for the pleasure of the individual in exercising that faculty. That pleasure is great and laudable, and therefore, though I would not recommend a man to waste his time in what is called novel-reading, uninstructive and not improving, yet works of imagination, the works of great poets and our distinguished novelists, such as Walter Scott, and others, are works which teach him good principles by Scott, and others, are works which teach him good principles by examples in the recitals they contain; tend, in the first place, to improve the moral feelings of the man, and, in the next place, give a legitimate and proper enjoyment, by exercising and cultivating the imaginative faculties of the readers. I presume there would be in this library those works, which now fortunately abound, in which the general outlines of the history of this and other parts of the world whose history is useful and interesting are brought into a condensed form, so that they may be read and remembered without difficulty. I presume also that general works of literature will be found in the library ; but the one main object of institutions of this kind must be to give to the members that instruction which will be useful to them in their avocations in life.

## SCIENCE SYNONYMOUS WITH KNOWLEDGE IN ITS FULLEST SENSE.

Let no man be daunted by the term science, or think that science is something which can only be usefully and successfully approached by men who pass their days in their study, and their nights over the lamp. Science is only another word for knowledge, and knowledge, in whatever branch, is useful, and, to a mind disposed to learning, if properly imparted, is easily acquired. I see there are to be in-structions in chymistry; and that there is to be a laboratory. There cannot be a more useful department of knowledge in a manufacturing district than instruction in chymistry. A knowledge of chymistry is essential to those branches of industry in which most of the members of these institutions will be engaged, and though to acquire a deep knowledge of that science it may be necessary to devote much time to it, yet all that can be expected or desired by persons engaged in active pursuits is to have that elementary knowledge of the fundamental principles which may be useful to them in their avocations in life. That which is useful in the domestic economy of men, to know the composition of the atmosphere, the nature of the different gases of which it is composed—which are conducive to healthful life, and which on the contrary, are fatal or injurious to human existence.

#### VALUE OF SCIENTIFIC KNOWLEDGE TO THE PRACTICAL WORKING MAN.

Depend upon it that, more especially to the working classes, who necessarily live in comparatively contined dwellings, the knowledge of the importance of fresh air, the knowledge of the importance of an abundance of water, are kinds of knowledge that are essential to comfort, and conducive to healthful existence. We know that to a labouring man health is wealth, for when sickness comes upon him, his labour, of course diminishes in value or ceases to be of any value whatever. Well, gentlemen, I should hope, too, that certain branches of physical knowledge and science will also be imparted; the working classes who attend it will learn the laws of motion, the nature of gravitation, of the progressive velocity of falling bodies—all matters elementary in their nature, but applicable to the daily pursuits of life. I hope that there will be taught the theory of the mechanical applications of the wedge, the inclined plane, the lever, and matters of that sort. I should hope, also, that those will not be the only subjects to which their attention will be directed, and to which their instruction will apply.

## INTERESTING CHARACTER OF THE STUDY OF NATURAL SCIENCE.

They will, no doubt, turn their attention to that which is a most interesting study-namely, the natural history of the animal creation. Those who live in towns and are confined to one spot have fewer opportunities of witnessing the diversity, the infinite prodigal variety of the animal creation. In these lectures they will be taught how, descending from man, the animal creation, goes by progressive graduations down to those minute animals and insects which we call microscopic, because they can only be seen distinctly by having the aid of the miscroscope, but which are creatures having a blood organization and hossessing all the elements requisite for life and for motion. They have joints, and skin, and bloodvessels with blood or fluid in them, though not perceptible to human sight without the aid which I have mentioned. The contemplation of these organic beings must fill the mind with admiration of the amplitude of the creation, and of the care and skill and wisdom which have directed the Great Creator to whom they owe their origin. This contemplation of the descending scale tends, no doubt, to make man fancy that he is the lord of creation, and that he stands high among the creatures of the Almighty. But then I hope that this institution will direct the mind to the upward as well as to the downward scale, that not only will it teach those elementary principles of what is commonly called geology, most useful to all the mining industry of the country-I mean the general formation of the crust of the earthbut I hope, further, that it will teach the general outline of the planetary system; and that those who are told and who see what a small and a comparatively insignificant portion of that system this earth, which the ancients used to think the whole almost of the created universe, really forms, will have abated those feelings of pride which, perhaps, the other and descending scale, when contem-But there is no plated, might have been calculated to inspire. reason why the working classes should not learn the general outlines of a still further science, and be taught the main principles of the organization of the universe. There is no reason why they should not be taught that those innumerable bright spots which bespangle the sky on a clear night are not simply ornaments in the Heavens, but that they consist of millions of suns, larger, many of them, far than our own earth, surrounded by a planetary system like ours, and extending to such an infinity of space that, whereas the light which comes from our sun, which is 95,000,000 miles from the earth, reaches us in eight minutes, the light from some of the distant suns is calculated to have been hundreds, and in some cases thousands of These contemplations are useful and years in reaching the earth.