

Since 1852 the population of Great Britain has increased by two and a half millions. The total population is more than twenty-four and a half millions. It will be readily seen that the appliances for educating the young Britons are inadequate, that they have not increased in the ratio of the increase of population, and that Mr Fawcett and his friends are quite right in agitating for a more efficient school system.

—The Right Hon. W. E. Gladstone, M P, distributed the prizes awarded to the successful competitors at the examination of the pupils connected with St. Martin's College, Castle-street, London. The college has evening classes for instruction in English, French, Latin, and Mathematics. In the course of a short address, Mr. Gladstone said: I rejoice to see the features by which this institution is characterized, and the help and countenance which are given to it by the authorities of the locality. I understand that the prizes are founded by the goodwill of certain individuals. Above all, I rejoice to think—which is the pith and substance of the whole—that there is such a willingness on the part of young men to take advantage of it. Many of the pupils contrive to find the requisite time after long hours of labour. They find "odds and ends" of time, the wise application of which, steadily continued, produces after a period, great results. That saving of odds and ends is a very humble art, but it is one which none ought to neglect. There is a very curious story told, and which I believe is true, of a Frenchman named Lafitte, who was a boy with but poor means of subsistence. He applied to a banker in Paris to take him into his service. The banker said he could not, as he had no room for him. Lafitte turned away very much down-hearted, but as he was crossing the banker's floor he saw a pin on the ground. He stooped down and picked it up. The banker was so struck by this indication of care and thought that he called him back, and said that he would find him a place. He did so, and Lafitte became the founder of a bank which still exists, and which for a long time was a most famous one. It was a very slight indication, and very curious that so much should depend upon the little, wretched, miserable pin. I will not say that it is upon the pins you pick up; but this I will say, that very much depends upon the moments you pick up. There are many who think that we have nothing to do but to look to the great masses and bulk of time. If, however, you look to the moments, the hours, the days, the years will take care of themselves. It is this manifold devotion of time for the purposes of study, after hard labour has been performed, and which would afford, perhaps grounds of excuse for not so applying them, that proves your earnestness, and for which you must receive benefit. The state of society in which we live is very peculiar and very anxious. We live in a state of society in which the power of the community is growing with enormous rapidity, and in which the means of enjoyment are also being multiplied very rapidly. It is a state of society in which I am thankful to say that the shares of the profits of industry which accrue to working men have been largely increased. And in the definition of working men, I at this moment wish to include those who labour with the pen or head, supposing them to be dependent upon their labour, just as much as I include the skilled mechanic or artisan. The latter have a larger augmentation of their means of living than those who pursue the labours of the desk. But although they are still in many cases insufficiently paid, they are much better paid than they were twenty or thirty years ago. This fact is owing to the unequalled prosperity of the country during the past twenty-five years. It was more needed that the number of rich men should be increased than the enjoyments of rich men should be multiplied. It was very desirable that those who had to labour so hard, who had so arduous a battle to fight, should be better rewarded. But it would be a false assumption to suppose because labour is better paid that the labouring man is richer. That does not follow. There are two kinds of wealth and two kinds of poverty. There are wealth and poverty absolute and measured by the wealth of money's worth, and poverty which are relative and not measured by the mere amount of money or money's possession, but by the relations money or money's worth brings to the views and character and habits of the possessor. In consequence of this you will often find that a man who uses small means is not unprepared to confess that he is rich; so, conversely, you will find a man, whose great means are outstripped by the greater greediness of his desires, complaining of his poverty; and that even while he is rolling in abundance. When the last happens—and I believe and trust that it does not often happen—it is one of the most lamentable cases of human debasement that can be found upon the face of the earth. What I want to point out is that, along with the increase of means, the standard of want rises. It is a critical period in the habits of individuals or society when, although the means may increase, the wants increase faster than the means—when the wants and wishes of a man increase more rapidly than the value of his labour rises. The man then is poorer. The question is not what the condition of each man shall be but that each be master of his own condition. Of those instruments by which a man may become master of his own condition, by far the most powerful is to be found in the religious motive. That I now pass by. It is not one which we have met to consider, though it will dictate that which I am going to mention—that each one in his own station should labour earnestly for the improvement of his own mind, humbly thinking that the knowledge he acquires is but as a grain of sand compared to that which he does not acquire. Pursue knowledge with confidence and perseverance,

first of all for the great value which it possesses in itself, and the great value that is not in itself but beyond itself; it acts upon the mind, strengthening it, enlarging it, enlightening it, giving it power of tissue, a subtlety and elasticity of movement, capacity for application to all the purposes of life, raising the human being, not in outer circumstances, alone—though it has a most powerful tendency to do that—but ennobling the character and the faculties with which the mind is endowed, and in consequence of which men alone, of all created beings, has the high and noble title "that he was made in the image of God." You have shown that you understand this because you practise it. I most cordially wish well to your labour. May every one of you, each in his own home, each in his own heart, each in his own private labour and occupation, each in the bosom of his family, each in the day of adversity, each in the day of prosperity, reap the fruits which diligent, honest, manifold labour never will fail to produce. They may come sooner or later. In some the faculties are developed earlier than in others. With some it takes much time and labour before their fruits are seen. But depend upon it there is not a man, excepting those who have the misfortune to be born blind, or deaf, or idiotic, but speaking generally of those who are recognized as in the ordinary condition of free agents—there is not a man, whatever his difference in talent and endowment, who has not a sufficient store, if he will only use it aright, to enable him to live for the benefit of himself, for the benefit of his fellow creatures and for the honour and glory of God.—*Papers for the Schoolmaster.*

In Mr. Lowe's vehement speech on the occasion of the third reading of the Reform Bill he thus points out the bearing of that measure upon our National Education.

"I have been one who thought that our institutions in respect to the education of the people were as efficient as they could well be. I shrunk from the notion of forcing education on people. It seemed more in accordance with our institutions to allow the thing to work and freely to supplement the system. That whole question has now completely changed. All the opinions I held on that subject are scattered to the winds by this measure of the Government. It appears to me that before we had intrusted the masses—the great bulk of whom are uneducated—with the whole power of this country we should have taught them a little more, and not having done so, this rash and abrupt measure having been forced upon them the only thing we can do is as far as possible to remedy the evil by the most universal measure of education that can be devised.

"It will not be unworthy of a Conservative Government, at any rate, to do what can be done in that direction. I was opposed to centralisation. I am ready to accept centralisation. I was opposed to an education rate. I am ready now to accept it. This question is no longer a religious question, it is a political one. From the moment that you entrust the masses with power their education becomes an absolute necessity, and I believe that the existing system is one which is much superior to the much vaunted Continental system. But we shall have to destroy it; it is not quality but quantity we shall require. You have placed the Government in the hands of the masses, and you must therefore give them education. You must take education up the very first question, and you must press it on without delay for the peace of the country."—*Ibid.*

#### SCIENTIFIC INTELLIGENCE.

—Artificial meerschaum is now prepared for commerce, according to the Chemical News, by mixing 100 parts of silicate of soda, at 35 degrees, with 60 parts of carbonate of magnesia and 80 parts of native meerschaum or pure alumina—the mixture to be carefully pulverized, finely sifted, boiled with water, and placed in porous moulds. It is presumed the "silicate of soda at 35 degrees" means silicate which, when in solution, would stand at 35 degrees Reaume; and the further presumption is in order that much of the "genuine meerschaum" displayed in big windows of pipe manufacturers is mixed according to the foregoing, or some other recipe.

*Animal electricity.*—To the agency of friction, the amber of the ancients, the chemical action of modern voltaism, the mysterious properties of natural and artificial magnets or loadstone, and that peculiar vital principle inherent in certain animals, are due all the effects generally included in the comprehensive term electricity. If to these primary causes we add those of terrestrial currents and inequality of temperature, we provide, at least in theory, for all those atmospheric phenomena hitherto inexplicable upon any known data. If, as a certain eminent ecclesiastic remarked, "chance is a word to express our own ignorance," what a "chance" electricity must be. It is to the savant and the philosopher what "heart disease" is to the coroner and the faculty. Exactly a century ago galvanism was first discovered, and the term was applied to describe a species of electrical excitation, presumed at that time to differ materially in its origin from all other similar effects. Evidently the cause was referred to some muscular agency, which produced a peculiar sensation or taste when two dissimilar metals were applied, one upon the upper and the other upon the lower surface of the tongue. Sulzer who made this discovery, ascribed it to some vibratory motion produced in the nerves of the tongue, naturally a highly sensitive organ, and inferior in that respect only to the eye. Galvani, whose name is familiar with the celebrated experiments upon the limbs of frogs freshly killed, more fully developed this theory, and was the father of a new school, which, while recognizing