

THURSDAY, AUGUST 7, 1879

SCIENCE TEACHING IN SCHOOLS

SIR JOHN LUBBOCK, one of the two or three members of Parliament who know what science means, has again brought forward his motion for the introduction of science teaching into schools. As on former occasions, the motion was lost, though those who opposed it, and especially those connected with the Education Department, were at a loss to give any clear reason for not agreeing to it. One of the chief reasons apparently why the Department is afraid to hold out inducements for the teaching of scientific subjects, is that there is scarcely an inspector qualified to examine on the subject, a humiliating revelation of the lamentable state of education at our universities. But Sir John Lubbock also pointed out another apparently trivial but really powerful reason for our half-educated rulers shrinking from assenting to the introduction of science teaching into schools; the very name "science" acts as a bugbear. It is indeed a pity we have no such word as *Naturkunde* to indicate the sort of thing—"Natural Knowledge"—that Sir John Lubbock and the intelligent minority who are with him, wish to be taught to the boys and girls of our elementary schools. The fact is that what is wanted is a knowledge of things instead of mere words; it is really a question of how to use the eyes and how to train the mind; the pages of nature as opposed to the pages of a book; in brief, education *versus* mere instruction. How deeply working men feel the want of natural knowledge when they grow up is shown by the increasing number of technical schools that are springing up, evening classes for the teaching of science, popular scientific lectures, local scientific societies, and other similar efforts to make up for a deficient education in youth. It seems simply incomprehensible how any member of Parliament having at heart the real welfare of the people, physical, intellectual, and moral, should not heartily support Sir John Lubbock's attempt to give something like reality to our elementary education. Even the opponents of the motion seem to approve of "object-lessons," ignorant that science teaching, in Sir John Lubbock's acceptance, is just the same thing "writ large,"—simply object-lessons taught by competent teachers in a systematic and accurate manner. As to the outcry against increasing the burdens of teachers and pupils, those who raised it must have known that it was quite irrelevant. The advocates of science teaching do not wish to make it an additional, but only an alternative subject, to be taken at the option of the teachers, for grammar, geography, or other existing subject, for which payment is made. For indeed already is science put down as one of the subjects in elementary schools, but only as an extra subject for which no payment will be made, and for the teaching of which, therefore, no inducement is held out to the teachers. Then as to cost, Sir John Lubbock told the House—"Contrary to what was believed in some quarters, his proposal would really not involve any appreciable cost. The little books would come to no more than those on history or grammar; while the sun, moon, and stars, rain and dew, wind and light, air and water, heat and cold, stones and flowers, were before us all: and even if a few

objects as illustrations were required, they could be obtained for a few shillings. He wished for nothing difficult or abstruse, nothing beyond the range of the children's minds and daily experience. In mechanics the simple forces might be explained to them—why carts were put on wheels, how levers and pulleys acted, the use of the screw and wedge; then the nature and relative distances of the principal heavenly bodies, the primary facts relating to air and water in agricultural districts, the character of the soil, the reason for the rotation of crops, the origin and principal qualities of such substances as chalk, coal, iron, copper, &c.; the succession of the seasons, the flow of rivers, the growth of plants; the fundamental rules of health, the necessity for ventilation and cleanliness, and last, not least, the need for industry, frugality, and economy. Explanations of these simple and every-day things would be most interesting and useful to the children. So far from cramming and confusing them, you would introduce light and order into their little minds, and give them an interest in their lessons which under the present system they rarely felt."

And, as Dr. Playfair put it, of what use was it to spend a long time in teaching children in mining districts grammar? Would it not be of greater importance to teach them about the dangers they would have to meet in their calling—about fire-damp and after-damp, for instance? In the same way, should not a child destined to become an agricultural labourer be taught something about the earth, the properties of manure, and other subjects connected with cultivation?

The fact is that some means should be taken to enlighten members of Parliament themselves as to what education, as contradistinguished from instruction, and natural knowledge, as contradistinguished from book knowledge, really is; and our readers might do worse at the certainly approaching election than arouse the minds of candidates to the urgent necessity of bringing the country, in the matter of science teaching, up to the level of those countries which, by the superior knowledge of their manufacturers and technical skill of their working men, are rapidly outstripping us on our own ground.

MAUDSLEY'S "PATHOLOGY OF MIND"

The Pathology of Mind. Third Edition. By Henry Maudsley, M.D. (London: Macmillan and Co., 1879.)

GREAT as has been the growth, in recent years, of the tree of knowledge, there is no branch in which it has undergone so much actual development, as well as mere expansion, as that of psychology. Though formerly nearly isolated, being as it were but imperfectly grafted on to the main stock, curious rather than beautiful, looking irregular, dry, and withered by the blight of theology and bad metaphysics, it now presents a compact system of branches and foliage, arranged with all the symmetry of organisation; the main stem springing from the branch of biology as this does, in its turn, from that of the physical sciences; moreover, the process is still continuing, for fresh buds may be seen in the newly-formed structures, some of which, *e.g.*, sociology, philology, æsthetics, and the science of religious beliefs are already beginning to unfold. The causes of this accelerated growth it is needless here to discuss; the principal seems to be the gradually extended application of natural law