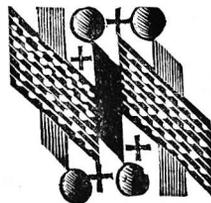


THOMAS HENRY HUXLEY, born at Ealing in 1825. Medical apprentice at thirteen; entered Charing Cross Hospital, 1842; assistant-surgeon on H.M.S. *Rattlesnake*, 1846-50; F.R.S., 1850; President of the Royal Society, 1883; retired from public work, 1885. Died in 1895.

LECTURES AND LAY SERMONS



THOMAS HUXLEY

LONDON: J. M. DENT & SONS LTD.
NEW YORK: E. P. DUTTON & CO. INC.

1910-1938

If these ideas be destined, as I believe they are, to be more and more firmly established as the world grows older; if that spirit be fated, as I believe it is, to extend itself into all departments of human thought, and to become co-extensive with the range of knowledge; if, as our race approaches its maturity, it discovers, as I believe it will, that there is but one kind of knowledge and but one method of acquiring it; then we, who are still children, may justly feel it our highest duty to recognise the advisableness of improving natural knowledge, and so to aid ourselves and our successors in our course towards the noble goal which lies before mankind.

T. H. Huxley

A LIBERAL EDUCATION; AND WHERE TO FIND IT

THE business which the South London Working Men's College has undertaken is a great work; indeed, I might say, that Education, with which that college proposes to grapple, is the greatest work of all those which lie ready to a man's hand just at present.

And, at length, this fact is becoming generally recognised. You cannot go anywhere without hearing a buzz of more or less confused and contradictory talk on this subject—nor can you fail to notice that, in one point at any rate, there is a very decided advance upon like discussions in former days. Nobody outside the agricultural interest now dares to say that education is a bad thing. If any representative of the once large and powerful party, which, in former days, proclaimed this opinion, still exists in a semi-fossil state, he keeps his thoughts to himself. In fact, there is a chorus of voices, almost distressing in their harmony, raised in favour of the doctrine that education is the great panacea for human troubles, and that, if the country is not shortly to go to the dogs, everybody must be educated.

The politicians tell us, "you must educate the masses because they are going to be masters." The clergy join in the cry for education, for they affirm that the people are drifting away from church and chapel into the broadest infidelity. The manufacturers and the capitalists swell the chorus lustily. They declare that ignorance makes bad workmen; that England will soon be unable to turn out cotton goods, or steam engines, cheaper than other people; and then, Ichabod! Ichabod! the glory will be departed from us. And a few voices are lifted up in favour of the doctrine that the masses should be educated because they are men and women with unlimited capacities of being, doing, and suffering, and that it is as true now, as ever it was, that the people perish for lack of knowledge.

These members of the minority, with whom I confess I have a good deal of sympathy, are doubtful whether any of the other reasons urged in favour of the education of the people are of much

value—whether, indeed, some of them are based upon either wise or noble grounds of action. They question if it be wise to tell people that you will do for them, out of fear of their power, what you have left undone, so long as your only motive was compassion for their weakness and their sorrows. And if ignorance of everything which it is needful a ruler should know is likely to do so much harm in the governing classes of the future, why is it, they ask reasonably enough, that such ignorance in the governing classes of the past has not been viewed with equal horror?

Compare the average artisan and the average country squire, and it may be doubted if you will find a pin to choose between the two in point of ignorance, class feeling, or prejudice. It is true that the ignorance is of a different sort—that the class feeling is in favour of a different class—and that the prejudice has a distinct savour of wrong-headedness in each case—but it is questionable if the one is either a bit better, or a bit worse, than the other. The old protectionist theory is the doctrine of trades unions as applied by the squires, and the modern trades unionism is the doctrine of the squires applied by the artisans. Why should we be worse off under one *régime* than under the other?

Again, this sceptical minority asks the clergy to think whether it is really want of education which keeps the masses away from their ministrations—whether the most completely educated men are not as open to reproach on this score as the workmen; and whether, perchance, this may not indicate that it is not education which lies at the bottom of the matter?

Once more, these people, whom there is no pleasing, venture to doubt whether the glory, which rests upon being able to undersell all the rest of the world, is a very safe kind of glory—whether we may not purchase it too dear; especially if we allow education, which ought to be directed to the making of men, to be diverted into a process of manufacturing human tools, wonderfully adroit in the exercise of some technical industry, but good for nothing else.

And, finally, these people inquire whether it is the masses alone who need a reformed and improved education. They ask whether the richest of our public schools might not well be made to supply knowledge, as well as gentlemanly habits, a strong class feeling, and eminent proficiency in cricket. They seem to think that the noble foundations of our old universities are hardly fulfilling their functions in their present posture of

half-clerical seminaries, half racecourses, where men are trained to win a senior wranglership, or a double-first, as horses are trained to win a cup, with as little reference to the needs of after-life in the case of the man as in that of the racer. And while as zealous for education as the rest, they affirm that if the education of the richer classes were such as to fit them to be the leaders and the governors of the poorer; and if the education of the poorer classes were such as to enable them to appreciate really wise guidance and good governance, the politicians need not fear mob-law, nor the clergy lament their want of flocks, nor the capitalists prognosticate the annihilation of the prosperity of the country.

Such is the diversity of opinion upon the why and the wherefore of education. And my hearers will be prepared to expect that the practical recommendations which are put forward are not less discordant. There is a loud cry for compulsory education. We English, in spite of constant experience to the contrary, preserve a touching faith in the efficacy of acts of parliament; and I believe we should have compulsory education in the course of next session if there were the least probability that half a dozen leading statesmen of different parties would agree what that education should be.

Some hold that education without theology is worse than none. Others maintain, quite as strongly, that education with theology is in the same predicament. But this is certain, that those who hold the first opinion can by no means agree what theology should be taught; and that those who maintain the second are in a small minority.

At any rate “make people learn to read, write, and cipher,” say a great many; and the advice is undoubtedly sensible as far as it goes. But, as has happened to me in former days, those who, in despair of getting anything better, advocate this measure, are met with the objection that it is very like making a child practise the use of a knife, fork, and spoon, without giving it a particle of meat. I really don’t know what reply is to be made to such an objection.

But it would be unprofitable to spend more time in disentangling, or rather in showing up the knots in, the ravelled skeins of our neighbours. Much more to the purpose is it to ask if we possess any clue of our own which may guide us among these entanglements. And by way of a beginning, let us ask ourselves—What is education? Above all things, what is our

ideal of a thoroughly liberal education?—of that education which, if we could begin life again, we would give ourselves—of that education which, if we could mould the fates to our own will, we would give our children? Well, I know not what may be your conceptions upon this matter, but I will tell you mine, and I hope I shall find that our views are not very discrepant.

Suppose it were perfectly certain that the life and fortune of every one of us would, one day or other, depend upon his winning or losing a game at chess. Don't you think that we should all consider it to be a primary duty to learn at least the names and the moves of the pieces; to have a notion of a gambit, and a keen eye for all the means of giving and getting out of check? Do you not think that we should look with a disapprobation amounting to scorn, upon the father who allowed his son, or the state which allowed its members, to grow up without knowing a pawn from a knight?

Yet, it is a very plain and elementary truth that the life, the fortune, and the happiness of every one of us, and, more or less, of those who are connected with us, do depend upon our knowing something of the rules of a game infinitely more difficult and complicated than chess. It is a game which has been played for untold ages, every man and woman of us being one of the two players in a game of his or her own. The chess-board is the world, the pieces are the phenomena of the universe, the rules of the game are what we call the laws of nature. The player on the other side is hidden from us. We know that his play is always fair, just, and patient. But also we know, to our cost, that he never overlooks a mistake, or makes the smallest allowance for ignorance. To the man who plays well, the highest stakes are paid, with that sort of overflowing generosity with which the strong shows delight in strength. And one who plays ill is checkmated—without haste, but without remorse.

My metaphor will remind some of you of the famous picture in which Retzsch has depicted Satan playing at chess with man for his soul. Substitute for the mocking fiend in that picture a calm, strong angel who is playing for love, as we say, and would rather lose than win—and I should accept it as an image of human life.

Well, what I mean by Education is learning the rules of this mighty game. In other words, education is the instruction of the intellect in the laws of nature, under which name I include not merely things and their forces, but men and their ways;

and the fashioning of the affections and of the will into an earnest and loving desire to move in harmony with those laws. For me, education means neither more nor less than this. Anything which professes to call itself education must be tried by this standard, and if it fails to stand the test, I will not call it education, whatever may be the force of authority or of numbers upon the other side.

It is important to remember that, in strictness, there is no such thing as an uneducated man. Take an extreme case. Suppose that an adult man, in the full vigour of his faculties, could be suddenly placed in the world, as Adam is said to have been, and then left to do as he best might. How long would he be left uneducated? Not five minutes. Nature would begin to teach him, through the eye, the ear, the touch, the properties of objects. Pain and pleasure would be at his elbow telling him to do this and avoid that; and by slow degrees the man would receive an education which, if narrow, would be thorough, real, and adequate to his circumstances, though there would be no extras and very few accomplishments.

And if to this solitary man entered a second Adam, or, better still, an Eve, a new and greater world, that of social and moral phenomena, would be revealed. Joys and woes, compared with which all others might seem but faint shadows, would spring from the new relations. Happiness and sorrow would take the place of the coarser monitors, pleasure and pain; but conduct would still be shaped by the observation of the natural consequences of actions; or, in other words, by the laws of the nature of man.

To every one of us the world was once as fresh and new as to Adam. And then, long before we were susceptible of any other mode of instruction, nature took us in hand, and every minute of waking life brought its educational influence, shaping our actions into rough accordance with nature's laws, so that we might not be ended untimely by too gross disobedience. Nor should I speak of this process of education as past, for any one, be he as old as he may. For every man the world is as fresh as it was at the first day, and as full of untold novelties for him who has the eyes to see them. And nature is still continuing her patient education of us in that great university, the universe, of which we are all members—nature having no Test-Acts.

Those who take honours in nature's university, who learn the laws which govern men and things and obey them, are the really

great and successful men in this world. The great mass of mankind are the "Poll," who pick up just enough to get through without much discredit. Those who won't learn at all are plucked; and then you can't come up again. Nature's pluck means extermination.

Thus the question of compulsory education is settled so far as nature is concerned. Her bill on that question was framed and passed long ago. But, like all compulsory legislation, that of nature is harsh and wasteful in its operation. Ignorance is visited as sharply as wilful disobedience—incapacity meets with the same punishment as crime. Nature's discipline is not even a word and a blow, and the blow first; but the blow without the word. It is left to you to find out why your ears are boxed.

The object of what we commonly call education—that education in which man intervenes and which I shall distinguish as artificial education—is to make good these defects in nature's methods; to prepare the child to receive nature's education, neither incapably nor ignorantly, nor with wilful disobedience; and to understand the preliminary symptoms of her pleasure, without waiting for the box on the ear. In short, all artificial education ought to be an anticipation of natural education. And a liberal education is an artificial education—which has not only prepared a man to escape the great evils of disobedience to natural laws, but has trained him to appreciate and to seize upon the rewards which nature scatters with as free a hand as her penalties.

That man, I think, has had a liberal education who has been so trained in youth that his body is the ready servant of his will, and does with ease and pleasure all the work that, as a mechanism, it is capable of; whose intellect is a clear, cold, logic engine, with all its parts of equal strength, and in smooth working order; ready, like a steam engine, to be turned to any kind of work, and spin the gossamers as well as forge the anchors of the mind; whose mind is stored with a knowledge of the great and fundamental truths of nature and of the laws of her operations; one who, no stunted ascetic, is full of life and fire, but whose passions are trained to come to heel by a vigorous will, the servant of a tender conscience; who has learned to love all beauty, whether of nature or of art, to hate all vileness, and to respect others as himself.

Such an one and no other, I conceive, has had a liberal education; for he is, as completely as a man can be, in harmony with nature. He will make the best of her, and she of him. They will

get on together rarely; she as his ever-beneficent mother; he as her mouthpiece, her conscious self, her minister and interpreter.

Where is such an education as this to be had? Where is there any approximation to it? Has any one tried to found such an education? Looking over the length and breadth of these islands, I am afraid that all these questions must receive a negative answer. Consider our primary schools and what is taught in them. A child learns:—

1. To read, write, and cipher, more or less well; but in a very large proportion of cases not so well as to take pleasure in reading, or to be able to write the commonest letter properly.

2. A quantity of dogmatic theology, of which the child, nine times out of ten, understands next to nothing.

3. Mixed up with this, so as to seem to stand or fall with it, a few of the broadest and simplest principles of morality. This is, to my mind, much as if a man of science should make the story of the fall of the apple in Newton's garden an integral part of the doctrine of gravitation, and teach it as of equal authority with the law of the inverse squares.

4. A good deal of Jewish history and Syrian geography, and perhaps a little something about English history and the geography of the child's own country. But I doubt if there is a primary school in England in which hangs a map of the hundred in which the village lies, so that the children may be practically taught by it what a map means.

5. A certain amount of regularity, attentive obedience, respect for others: obtained by fear, if the master be incompetent or foolish; by love and reverence, if he be wise.

So far as this school course embraces a training in the theory and practice of obedience to the moral laws of nature, I gladly admit, not only that it contains a valuable educational element, but that, so far, it deals with the most valuable and important part of all education. Yet, contrast what is done in this direction with what might be done; with the time given to matters of comparatively no importance; with the absence of any attention to things of the highest moment; and one is tempted to think of Falstaff's bill and "the halfpenny worth of bread to all that quantity of sack."

Let us consider what a child thus "educated" knows, and what it does not know. Begin with the most important topic of all—morality, as the guide of conduct. The child knows well enough that some acts meet with approbation and some with

disapprobation. But it has never heard that there lies in the nature of things a reason for every moral law, as cogent and as well defined as that which underlies every physical law; that stealing and lying are just as certain to be followed by evil consequences as putting your hand in the fire, or jumping out of a garret window. Again, though the scholar may have been made acquainted, in dogmatic fashion, with the broad laws of morality, he has had no training in the application of those laws to the difficult problems which result from the complex conditions of modern civilisation. Would it not be very hard to expect any one to solve a problem in conic sections who had merely been taught the axioms and definitions of mathematical science?

A workman has to bear hard labour, and perhaps privation, while he sees others rolling in wealth, and feeding their dogs with what would keep his children from starvation. Would it not be well to have helped that man to calm the natural promptings of discontent by showing him, in his youth, the necessary connection of the moral law which prohibits stealing with the stability of society—by proving to him, once for all, that it is better for his own people, better for himself, better for future generations, that he should starve than steal? If you have no foundation of knowledge or habit of thought to work upon, what chance have you of persuading a hungry man that a capitalist is not a thief “with a circumbendibus?” And if he honestly believes that, of what avail is it to quote the commandment against stealing when he proposes to make the capitalist disgorge?

Again, the child learns absolutely nothing of the history or the political organisation of his own country. His general impression is, that everything of much importance happened a very long while ago; and that the Queen and the gentlefolks govern the country much after the fashion of King David and the elders and nobles of Israel—his sole models. Will you give a man with this much information a vote? In easy times he sells it for a pot of beer. Why should he not? It is of about as much use to him as a chignon, and he knows as much what to do with it, for any other purpose. In bad times, on the contrary, he applies his simple theory of government, and believes that his rulers are the cause of his sufferings—a belief which sometimes bears remarkable practical fruits.

Least of all, does the child gather from this primary “education” of ours a conception of the laws of the physical world, or of

the relations of cause and effect therein. And this is the more to be lamented, as the poor are especially exposed to physical evils, and are more interested in removing them than any other class of the community. If any one is concerned in knowing the ordinary laws of mechanics one would think it is the hand-labourer, whose daily toil lies among levers and pulleys; or among the other implements of artisan work. And if any one is interested in the laws of health, it is the poor man, whose strength is wasted by ill-prepared food, whose health is sapped by bad ventilation and bad drainage, and half whose children are massacred by disorders which might be prevented. Not only does our present primary education carefully abstain from hinting to the poor man that some of his greatest evils are traceable to mere physical agencies, which could be removed by energy, patience, and frugality; but it does worse—it renders him, so far as it can, deaf to those who could help him, and tries to substitute an Oriental submission to what is falsely declared to be the will of God, for his natural tendency to strive after a better condition.

What wonder then if very recently an appeal has been made to statistics for the profoundly foolish purpose of showing that education is of no good—that it diminishes neither misery nor crime among the masses of mankind? I reply, why should the thing which has been called education do either the one or the other? If I am a knave or a fool, teaching me to read and write won't make me less of either one or the other—unless somebody shows me how to put my reading and writing to wise and good purposes.

Suppose any one were to argue that medicine is of no use, because it could be proved statistically that the percentage of deaths was just the same among people who had been taught how to open a medicine chest and among those who did not so much as know the key by sight. The argument is absurd; but it is not more preposterous than that against which I am contending. The only medicine for suffering, crime, and all the other woes of mankind, is wisdom. Teach a man to read and write, and you have put into his hands the great keys of the wisdom box. But it is quite another matter whether he ever opens the box or not. And he is as likely to poison as to cure himself, if, without guidance, he swallows the first drug that comes to hand. In these times a man may as well be purblind, as unable to read—lame, as unable to write. But I protest that, if I thought the alternative were a necessary one, I would rather

that the children of the poor should grow up ignorant of both these mighty arts, than that they should remain ignorant of that knowledge to which these arts are means.

It may be said that all these animadversions may apply to primary schools, but that the higher schools, at any rate, must be allowed to give a liberal education. In fact they professedly sacrifice everything else to this object.

Let us inquire into this matter. What do the higher schools, those to which the great middle class of the country sends its children, teach, over and above the instruction given in the primary schools? There is a little more reading and writing of English. But, for all that, every one knows that it is a rare thing to find a boy of the middle or upper classes who can read aloud decently, or who can put his thoughts on paper in clear and grammatical (to say nothing of good or elegant) language. The "ciphering" of the lower schools expands into elementary mathematics in the higher; into arithmetic, with a little algebra, a little Euclid. But I doubt if one boy in five hundred has ever heard the explanation of a rule of arithmetic, or knows his Euclid otherwise than by rote.

Of theology, the middle-class schoolboy gets rather less than poorer children, less absolutely and less relatively, because there are so many other claims upon his attention. I venture to say that, in the great majority of cases, his ideas on this subject when he leaves school are of the most shadowy and vague description, and associated with painful impressions of the weary hours spent in learning collects and catechism by heart.

Modern geography, modern history, modern literature; the English language as a language; the whole circle of the sciences, physical, moral, and social, are even more completely ignored in the higher than in the lower schools. Up till within a few years back, a boy might have passed through any one of the great public schools with the greatest distinction and credit, and might never so much as have heard of one of the subjects I have just mentioned. He might never have heard that the earth goes round the sun; that England underwent a great revolution in 1688, and France another in 1789; that there once lived certain notable men called Chaucer, Shakespeare, Milton, Voltaire, Goethe, Schiller. The first might be a German and the last an Englishman for anything he could tell you to the

contrary. And as for Science, the only idea the word would suggest to his mind would be dexterity in boxing.

I have said that this was the state of things a few years back, for the sake of the few righteous who are to be found among the educational cities of the plain. But I would not have you too sanguine about the result, if you sound the minds of the existing generation of public school-boys on such topics as those I have mentioned.

Now let us pause to consider this wonderful state of affairs; for the time will come when Englishmen will quote it as the stock example of the stolid stupidity of their ancestors in the nineteenth century. The most thoroughly commercial people, the greatest voluntary wanderers and colonists the world has ever seen, are precisely the middle classes of this country. If there be a people which has been busy making history on the great scale for the last three hundred years—and the most profoundly interesting history—history which, if it happened to be that of Greece or Rome, we should study with avidity—it is the English. If there be a people which, during the same period, has developed a remarkable literature, it is our own. If there be a nation whose prosperity depends absolutely and wholly upon their mastery over the forces of nature, upon their intelligent apprehension of, and obedience to the laws of the creation and distribution of wealth, and of the stable equilibrium of the forces of society, it is precisely this nation. And yet this is what these wonderful people tell their sons:—"At the cost of from one to two thousand pounds of our hard-earned money we devote twelve of the most precious years of your lives to school. There you shall toil, or be supposed to toil; but there you shall not learn one single thing of all those you will most want to know directly you leave school and enter upon the practical business of life. You will in all probability go into business, but you shall not know where or how any article of commerce is produced, or the difference between an export or an import, or the meaning of the word "capital." You will very likely settle in a colony, but you shall not know whether Tasmania is part of New South Wales, or *vice versâ*.

"Very probably you may become a manufacturer, but you shall not be provided with the means of understanding the working of one of your own steam-engines, or the nature of the raw products you employ; and when you are asked to buy a patent you shall not have the slightest means of judging whether

the inventor is an impostor who is contravening the elementary principles of science, or a man who will make you as rich as Cræsus.

“You will very likely get into the House of Commons. You will have to take your share in making laws which may prove a blessing or a curse to millions of men. But you shall not hear one word respecting the political organisation of your country; the meaning of the controversy between freetraders and protectionists shall never have been mentioned to you; you shall not so much as know that there are such things as economical laws.

“The mental power which will be of most importance in your daily life will be the power of seeing things as they are without regard to authority; and of drawing accurate general conclusions from particular facts. But at school and at college you shall know of no source of truth but authority; nor exercise your reasoning faculty upon anything but deduction from that which is laid down by authority.

“You will have to weary your soul with work, and many a time eat your bread in sorrow and in bitterness, and you shall not have learned to take refuge in the great source of pleasure without alloy, the serene resting-place for worn human nature—the world of art.”

Said I not rightly that we are a wonderful people? I am quite prepared to allow, that education entirely devoted to these omitted subjects might not be a completely liberal education. But is an education which ignores them all a liberal education? Nay, is it too much to say that the education which should embrace these subjects and no others would be a real education, though an incomplete one; while an education which omits them is really not an education at all, but a more or less useful course of intellectual gymnastics?

For what does the middle-class school put in the place of all these things which are left out? It substitutes what is usually comprised under the compendious title of the “classics”—that is to say, the languages, the literature, and the history of the ancient Greeks and Romans, and the geography of so much of the world as was known to these two great nations of antiquity. Now, do not expect me to depreciate the earnest and enlightened pursuit of classical learning. I have not the least desire to speak ill of such occupations, nor any sympathy with those who

run them down. On the contrary, if my opportunities had lain in that direction, there is no investigation into which I could have thrown myself with greater delight than that of antiquity?

What science can present greater attractions than philology? How can a lover of literary excellence fail to rejoice in the ancient masterpieces? And with what consistency could I, whose business lies so much in the attempt to decipher the past, and to build up intelligible forms out of the scattered fragments of long-extinct beings, fail to take a sympathetic, though an unlearned, interest in the labours of a Niebuhr, a Gibbon, or a Grote? Classical history is a great section of the palæontology of man; and I have the same double respect for it as for other kinds of palæontology—that is to say, a respect for the facts which it establishes as for all facts, and a still greater respect for it as a preparation for the discovery of a law of progress.

But if the classics were taught as they might be taught—if boys and girls were instructed in Greek and Latin, not merely as languages, but as illustrations of philological science; if a vivid picture of life on the shores of the Mediterranean two thousand years ago were imprinted on the minds of scholars; if ancient history were taught, not as a weary series of feuds and fights, but traced to its causes in such men placed under such conditions; if, lastly, the study of the classical books were followed in such a manner as to impress boys with their beauties, and with the grand simplicity of their statement of the everlasting problems of human life, instead of with their verbal and grammatical peculiarities; I still think it as little proper that they should form the basis of a liberal education for our contemporaries, as I should think it fitting to make that sort of palæontology with which I am familiar the back-bone of modern education.

It is wonderful how close a parallel to classical training could be made out of that palæontology to which I refer. In the first place I could get up an osteological primer so arid, so pedantic in its terminology, so altogether distasteful to the youthful mind, as to beat the recent famous production of the head-masters out of the field in all these excellences. Next, I could exercise my boys upon easy fossils, and bring out all their powers of memory and all their ingenuity in the application of my osteo-grammatical rules to the interpretation, or construing, of those fragments. To those who had reached the higher classes, I might supply odd bones to be built up into animals, giving great

honour and reward to him who succeeded in fabricating monsters most entirely in accordance with the rules. That would answer to verse-making and essay-writing in the dead languages.

To be sure, if a great comparative anatomist were to look at these fabrications he might shake his head, or laugh. But what then? Would such a catastrophe destroy the parallel? What, think you, would Cicero, or Horace, say to the production of the best sixth form going? And would not Terence stop his ears and run out if he could be present at an English performance of his own plays? Would Hamlet, in the mouths of a set of French actors, who should insist on pronouncing English after the fashion of their own tongue, be more hideously ridiculous?

But it will be said that I am forgetting the beauty, and the human interest, which appertain to classical studies. To this I reply that it is only a very strong man who can appreciate the charms of a landscape as he is toiling up a steep hill, along a bad road. What with short-windedness, stones, ruts, and a pervading sense of the wisdom of rest and be thankful, most of us have little enough sense of the beautiful under these circumstances. The ordinary school-boy is precisely in this case. He finds Parnassus uncommonly steep, and there is no chance of his having much time or inclination to look about him till he gets to the top. And nine times out of ten he does not get to the top.

But if this be a fair picture of the results of classical teaching at its best—and I gather from those who have authority to speak on such matters that it is so—what is to be said of classical teaching at its worst, or in other words, of the classics of our ordinary middle-class schools?¹ I will tell you. It means getting up endless forms and rules by heart. It means turning Latin and Greek into English, for the mere sake of being able to do it, and without the smallest regard to the worth, or worthlessness, of the author read. It means the learning of innumerable, not always decent, fables in such a shape that the meaning they once had is dried up into utter trash; and the only impression left upon a boy's mind is, that the people who believed such things must have been the greatest idiots the world ever saw. And it means, finally, that after a dozen years spent at this kind of work, the sufferer shall be incompetent to interpret a passage in an author he has not already got up; that he shall loathe the sight of a Greek or Latin book; and that he shall never open, or

¹ For a justification of what is here said about these schools, see that valuable book, "Essays on a Liberal Education," *passim*.

think of, a classical writer again, until, wonderful to relate, he insists upon submitting his sons to the same process.

These be your gods, O Israel! For the sake of this net result (and respectability) the British father denies his children all the knowledge they might turn to account in life, not merely for the achievement of vulgar success, but for guidance in the great crises of human existence. This is the stone he offers to those whom he is bound by the strongest and tenderest ties to feed with bread.

If primary and secondary education are in this unsatisfactory state, what is to be said to the universities? This is an awful subject, and one I almost fear to touch with my unhallowed hands; but I can tell you what those say who have authority to speak.

The Rector of Lincoln College, in his lately published valuable "Suggestions for Academical Organisation with especial reference to Oxford," tells us:—

"The colleges were, in their origin, endowments, not for the elements of a general liberal education, but for the prolonged study of special and professional faculties by men of riper age. The universities embraced both these objects. The colleges, while they incidentally aided in elementary education, were specially devoted to the highest learning. . . .

"This was the theory of the middle-age university and the design of collegiate foundations in their origin. Time and circumstances have brought about a total change. The colleges no longer promote the researches of science, or direct professional study. Here and there college walls may shelter an occasional student, but not in larger proportions than may be found in private life. Elementary teaching of youths under twenty is now the only function performed by the university, and almost the only object of college endowments. Colleges were homes for the life-study of the highest and most abstruse parts of knowledge. They have become boarding schools in which the elements of the learned languages are taught to youths." (P. 127.)

If Mr. Pattison's high position, and his obvious love and respect for his university, be insufficient to convince the outside world that language so severe is yet no more than just, the authority of the Commissioners who reported on the University of Oxford in 1850 is open to no challenge. Yet they write:—

"It is generally acknowledged that both Oxford and the country at large suffer greatly from the absence of a body of learned men devoting their lives to the cultivation of science, and to the direction of academical education.

"The fact that so few books of profound research emanate from the University of Oxford, materially impairs its character as a seat of learning, and consequently its hold on the respect of the nation."

Cambridge can claim no exemption from the reproaches addressed to Oxford. And thus there seems no escape from the admission that what we fondly call our great seats of learning are simply "boarding schools" for bigger boys; that learned men are not more numerous in them than out of them; that the advancement of knowledge is not the object of fellows of colleges; that, in the philosophic calm and meditative stillness of their greenswarded courts philosophy does not thrive, and meditation bears few fruits.

It is my good fortune to reckon amongst my friends resident members of both universities, who are men of learning and research, zealous cultivators of science, keeping before their minds a noble ideal of a university, and doing their best to make that ideal a reality; and, to me, they would necessarily typify the universities, did not the authoritative statements I have quoted compel me to believe that they are exceptional, and not representative men. Indeed, upon calm consideration, several circumstances lead me to think that the Rector of Lincoln College and the Commissioners cannot be far wrong.

I believe there can be no doubt that the foreigner who should wish to become acquainted with the scientific, or the literary, activity of modern England, would simply lose his time and his pains if he visited our universities with that object.

And, as for works of profound research on any subject, and, above all, in that classical lore for which the universities profess to sacrifice almost everything else, why, a third-rate, poverty-stricken German university turns out more produce of that kind in one year, than our vast and wealthy foundations elaborate in ten.

Ask any man who is investigating any question, profoundly and thoroughly—be it historical, philosophical, philological, physical, literary, or theological; who is trying to make himself master of any abstract subject (except, perhaps, political economy and geology, both of which are intensely Anglican

sciences), whether he is not compelled to read half a dozen times as many German as English books? And whether, of these English books, more than one in ten is the work of a fellow of a college, or a professor of an English university?

Is this from any lack of power in the English as compared with the German mind? The countrymen of Grote and of Mill, of Faraday, of Robert Brown, of Lyell, and of Darwin, to go no further back than the contemporaries of men of middle age, can afford to smile at such a suggestion. England can show now, as she has been able to show in every generation since civilisation spread over the West, individual men who hold their own against the world, and keep alive the old tradition of her intellectual eminence.

But, in the majority of cases, these men are what they are in virtue of their native intellectual force, and of a strength of character which will not recognise impediments. They are not trained in the courts of the Temple of Science, but storm the walls of that edifice in all sorts of irregular ways, and with much loss of time and power, in order to obtain their legitimate positions.

Our universities not only do not encourage such men; do not offer them positions in which it should be their highest duty to do thoroughly that which they are most capable of doing; but, as far as possible, university training shuts out of the minds of those among them, who are subjected to it, the prospect that there is anything in the world for which they are specially fitted. Imagine the success of the attempt to still the intellectual hunger of any of the men I have mentioned, by putting before him, as the object of existence, the successful mimicry of the measure of a Greek song, or the roll of Ciceronian prose. Imagine how much success would be likely to attend the attempt to persuade such men that the education which leads to perfection in such elegances is alone to be called culture, while the facts of history, the process of thought, the conditions of moral and social existence, and the laws of physical nature are left to be dealt with as they may by outside barbarians!

It is not thus that the German universities, from being beneath notice a century ago, have become what they are now—the most intensely cultivated and the most productive intellectual corporations the world has ever seen.

The student who repairs to them sees in the list of classes and of professors a fair picture of the world of knowledge. Whatever

he needs to know there is some one ready to teach him, some one competent to discipline him in the way of learning; whatever his special bent, let him but be able and diligent, and in due time he shall find distinction and a career. Among his professors he sees men whose names are known and revered throughout the civilised world; and their living example infects him with a noble ambition, and a love for the spirit of work.

The Germans dominate the intellectual world by virtue of the same simple secret as that which made Napoleon the master of old Europe. They have declared *la carrière ouverte aux talents*, and every Bursch marches with a professor's gown in his knapsack. Let him become a great scholar, or man of science, and ministers will compete for his services. In Germany they do not leave the chance of his holding the office he would render illustrious to the tender mercies of a hot canvass, and the final wisdom of a mob of country parsons.

In short, in Germany, the universities are exactly what the Rector of Lincoln and the Commissioners tell us the English universities are not; that is to say, corporations "of learned men devoting their lives to the cultivation of science, and the direction of academical education." They are not "boarding schools for youths," nor clerical seminaries; but institutions for the higher culture of men, in which the theological faculty is of no more importance or prominence than the rest; and which are truly "universities," since they strive to represent and embody the totality of human knowledge, and to find room for all forms of intellectual activity.

May zealous and clear-headed reformers like Mr. Pattison succeed in their noble endeavours to shape our universities towards some such ideal as this, without losing what is valuable and distinctive in their social tone! But until they have succeeded, a liberal education will be no more obtainable in our Oxford and Cambridge Universities than in our public schools.

If I am justified in my conception of the ideal of a liberal education; and if what I have said about the existing educational institutions of the country is also true, it is clear that the two have no sort of relation to one another; that the best of our schools and the most complete of our university trainings give but a narrow, one-sided, and essentially illiberal education—while the worst give what is really next to no education at all. The South London Working-Men's College could not copy any of these institutions if it would; I am bold enough to express the conviction that it ought not if it could.

For what is wanted is the reality and not the mere name of a liberal education; and this college must steadily set before itself the ambition to be able to give that education sooner or later. At present we are but beginning, sharpening our educational tools, as it were, and, except a modicum of physical science, we are not able to offer much more than is to be found in an ordinary school.

Moral and social science—one of the greatest and most fruitful of our future classes, I hope—at present lacks only one thing in our programme, and that is a teacher. A considerable want, no doubt; but it must be recollected that it is much better to want a teacher than to want the desire to learn.

Further, we need what, for want of a better name, I must call Physical Geography. What I mean is that which the Germans call *Erdkunde*. It is a description of the earth, of its place and relation to other bodies; of its general structure, and of its great features—winds, tides, mountains, plains; of the chief forms of the vegetable and animal worlds, of the varieties of man. It is the peg upon which the greatest quantity of useful and entertaining scientific information can be suspended.

Literature is not upon the College programme; but I hope some day to see it there. For literature is the greatest of all sources of refined pleasure, and one of the great uses of a liberal education is to enable us to enjoy that pleasure. There is scope enough for the purposes of liberal education in the study of the rich treasures of our own language alone. All that is needed is direction, and the cultivation of a refined taste by attention to sound criticism. But there is no reason why French and German should not be mastered sufficiently to read what is worth reading in those languages with pleasure and with profit.

And finally, by and by, we must have History; treated not as a succession of battles and dynasties; not as a series of biographies; not as evidence that Providence has always been on the side of either Whigs or Tories; but as the development of man in times past, and in other conditions than our own.

But, as it is one of the principles of our College to be self-supporting, the public must lead, and we must follow, in these matters. If my hearers take to heart what I have said about liberal education, they will desire these things, and I doubt not we shall be able to supply them. But we must wait till the demand is made.