

THE VALUE OF MANUAL TRAINING IN EDUCATION.¹

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THE contest between the Past and the Future, the approval of experience and the hopes of the untried, is hardly anywhere in human life more acute or more persistent than in Education. The Universities dictate, the Elementary Schools experiment, the ideals of the Schoolmaster are sacrificed to the wishes of the parent, there is a constant game of battledore and shuttlecock, and, as at tennis, nobody knows how the game is going except the professional marker.

So I am going to ask my readers to consider how far modern conditions have altered the means of Education, for whatever the aims of Education may be, I suppose that they, at any rate, do not alter with the changing centuries. First, I would refer to one of the *results* of Education, even if it would be begging the question to call it one of its aims. I refer to the happiness in after-life of the educated. Now I have a belief, which is grounded only on personal experience, and therefore is possibly quite mistaken, that if one divides adult mankind, as one quite fairly may, into those people who never do anything with their hands outside the demands of their profession or occupation, and those who can and do employ their leisure time in manual or mechanical work, we shall be safe in saying that as a whole the latter, the handy men, are incomparably the happier.

It may be argued that these are men with hobbies, and therefore happier than those with none, but I am not inclined to limit the conclusion so severely and am myself convinced that

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manual training, carried to such a point as to afford occasional occupation in later life, makes for the happiness of the individual.

Secondly, I should like to call attention to the fact that at the present moment, while many people who are studying Elementary Schools are profoundly discontented with the results achieved at the cost of millions, there is great enthusiasm in all the larger and more progressive centres about the results of manual training in Elementary Schools, i.e., for children up to the age of 14.

Centres like Liverpool, which I name because we have a recent book by Mr. J. E. Legge, on what he calls "Practical Education in the Elementary School," as seen in that city, are developing all kinds of handwork with astonishing rapidity and are doing it, not to provide trained workers for the nation, but because they have come to the conclusion that the "value of such training lies, not as a means to a definite profession, but rather to form habits of honest work, carefulness, thoroughness, foresight and to awaken real joy in work."

Even our latest educational excursionist, Madame Montessori, is convinced that we aim too soon and too much at teaching alphabets and axioms and the wisdom of the sages, and neglect an education equally or more efficient, through feeling instead of reading, and by doing rather than by books.

Though some people are in doubt as to whether we should endeavour primarily to educate the right hand only or attempt to educate both, the Gordian knot is cut in most of our Secondary Schools by the decision to educate neither.

Yet consider how changed are the conditions since our present system of Education in

its main lines was evolved.

The Public School in the time of Arnold was the school of the boy who came from the home of the country gentleman or the country rector. If he had to earn his living he would do it in Government employ or as a member of one of the learned professions. He would become, if wealthy, a country gentleman or a soldier, if poor, a civil servant in India or England, a barrister, a University don or a clergyman.

His boyhood had been spent in a house in the country; he had learnt to ride, to look after animals, to fish, and to shoot. He lived more often in a village than in a town; he had the run of the carpenter's shop and perhaps little pocket money and no catalogues of toys or books, or ready made appliances for all the hundred and one things which interested him at the moment.

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He cut his own hockey sticks out of the hedge, he built his own ferret hutches, he dug out his own rabbits, he filled his own cartridges, he cast his own shot. He had no organized games, for I believe that most people educated in or about the '50's will tell you that no master took any share and few any interest in games. The fields were there, no doubt, but it was left to the boys to arrange their own games. They might play if they liked, but a games master or a professional was foreign to the Educational Idea.

The Revival of Learning produced two roads to knowledge; one opened the door to all recent work in Law, Medicine and Science and rendered its votaries independent of the language difficulty throughout the civilized world—and this was Latin,—the other brought men in touch with a Philosophy and an Art of wider views and greater skill in expression than any the times could furnish—and this was Greek. What wonder that these became the groundwork of all serious study. Mathematics as taught to the schoolboy was infantile, there was no science or nature study taught at all.

Would it not be fair to say that the boy was *educated* at home in the practical working of his particular world and that the School Education was intended to prevent his becoming narrow-minded or insular, by showing him the lives of other nations in the study of Latin or the philosophy of the sages in the study of Greek?

Now things are very different. Into the Public School and the Grammar School re-vivified by the introduction of Public School methods, swarm not only the boys of the country, with their practical first-hand knowledge, but the boys of the town. No profession or trade, except the Navy, considers that the years from 13 to 17 can be better spent than at a Public School. The proportion of boys who go into commerce varies with the School, but if it is now true that 45 per cent. of the men taking a degree at Trinity College, Cambridge, go into trade, it is clear that the demands of Education must have greatly changed in the last 40 years.

Schools now congratulate themselves because all the boys are compelled to play certain games under the eyes of the masters on every afternoon in the week, and this surely shows that the opportunities of a general self-education become smaller and smaller.

What is the result? Proficiency in Latin and Greek for

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perhaps 10 per cent., interest in English or any foreign language or literature certainly not 10 per cent., a good working knowledge of the theory of games probably 90 per cent., and a practical pleasure in them probably 60 per cent. Is this a satisfactory result of our best

educational efforts?

I should like here to quote Mr. Fielding Hall's² description of the mental characteristics of the product of a Public School, as seen by him in the Civil Service in Burmah.

"Thus in the old days the embryo official came out young, free from prejudices, full of enthusiasms, ready to learn, to read, to mark, learn and inwardly digest all phases of oriental custom. . . . But it is not so now. Young civilians come out with their minds already closed, and as a rule closed they remain. The harm is done in England, before they start. Let me give instances. One such was sent to me ten years ago, and if I give an account of him it will do for all. He was, I think, twenty-three years of age, of good people, educated at a public school and Oxford, and was as nice a boy as could be found. He had passed high in the examinations. He was said to be clever, and as regards assimilating paper knowledge he was able, but his mind was an old curiosity shop. He had fixed ideas in nearly everything. He was full of prejudices he called principles, of 'facts' that were not true. He had learnt a great deal, he knew nothing and worse—he did not know how to obtain knowledge. He wanted his opinions ready-made and absolute first, and only sought for such facts as would support those principles. He had no notion how to make knowledge by himself. He wanted authority before he would think. Give him 'authority,' and he would disregard or deny fact in order to cling to it."

While there is, at any rate here and there, some dissatisfaction with the finished article, it is natural that reforms should be in the air. These reforms, as presented by the professional educationalist, seem to take two somewhat differing lines, according as they come from the State Authority, the Board of Education, or from the Schoolmasters, the primary difficulty being that there is much to teach and little time to teach it in.

The view of the Board of Education is that it is impossible to give a good education to a boy who leaves school at about 16 and that a first grade school should keep a large proportion of its boys till they are 18 or 19. The curriculum is overcrowded, it is

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truthfully said, and some subjects should therefore not be begun with the beginning of a Public Schoolboy's career, but be deferred for study at a later time, a time when, unfortunately, the obnoxious parent persists in removing the boy from school altogether.

The schoolmasters, on the other hand, have their remedy, less philosophical, perhaps, but more practical, and it is that as soon as a boy has had a short general education it should be decided on what lines he requires to be educated, and by dividing the top classes of the School into Classical, Modern, Army, Science and Engineering classes, each boy has an opportunity of economising in some subjects and so achieving a more adequate result in others. This is called specializing in education, and it results in classical boys who know nothing of Science and very little of English or Modern History, and of Science boys to whom the whole of the classics and most of the results of literary cultivation are sealed books.

I do not at present see any alternative to the schoolmasters' methods, but it is clear that the result must be somewhat belittling to the intellect, and it is not unnatural to look round for something which may be common ground for these prematurely specialized and dwarfed scholars.

This common ground at the present moment is found in games, universal, organized, absorbing, and even now the parent and the schoolmaster alike are beginning to whisper a humble question as to whether too much is not being made of games.

I should like to suggest that the domination of games may be shaken while the overcrowded curriculum is not interfered with by the introduction or greater encouragement of Manual Training.

At present Manual Training means, generally speaking,

1. Carpentry, done in or out of school hours by all the boys at most Preparatory Schools and usually taught by a carpenter.

2. Drawing, also usually taught to all boys at Preparatory Schools, sometimes by a special master at an extra fee.

When the time comes for the boy to leave his Preparatory School it is really astonishing to see how good his carpentry often is, and though I dare say there are boys whose work is mostly that of the instructor, it does seem justifiable to say that most boys do profit by instruction in carpentry.

At the Public School things have somewhat changed; there is a carpenter's shop, with an instructor who has nothing to do

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with either the mathematics or the drawing of the school. The instruction has a special fee and is obtained at the expense of the games. In most cases, after a few terms, the boy begins to tell his father he has no time for these classes.

The drawing is taught in the Junior School to everyone by an art master, who is rarely a mechanic and whose aims, he would be proud to tell you, are not utilitarian. A little later drawing is crowded out.

If, however, there is specialization in the direction of engineering the workshop becomes part of the school work, mechanical drawing and the direct application of mathematics are continuously studied, and in such schools as Tonbridge and Uppingham boys go on to work in metal.

On science sides drawing often remains, but the definite use of the workshop often goes.

It seems, then, that manual training is not an essential part of general education. Yet it is for the classical and literary sides that its chief value lies. All literary education has certain weaknesses. However stern the attempt to get application and accuracy in the favoured few who may hope to become "scholars," it is certain that many boys can affect a stupidity which leaves a very small result in acquired knowledge. The modern idea is to do away to a great extent with competition, to eliminate examinations, and to keep the boy's attention by interesting him, with the result that almost every Board of Education Inspector talks of teachers being lecturers, of the master doing so much that the boys are lifted over their difficulties, the papers set are not corrected, accuracy is not considered to be so important as a general grasp of methods, and generally the work is done *by* the teacher, and only *for* the boy.

Stevenson seizes the point of view of the pupil when he says "the ingenious human mind, face to face with something it downright ought to do, does something else. But the relief is temporary."

Now Manual Training trains in an opposite, or complementary way. No boy who has looked out of the window most of his lesson will have advanced his job much, though he might, with luck, have kept his place in a Latin class, or construed his little bit with credit. No wood ever became smooth by looking at it, and if you try to make up in a few minutes for the time

lost in an hour, the material will resent its treatment and show it
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clearly, while a lost temper will have to be paid for whether the master is willing to overlook it or not.

The methods of Sloyd were directly dependent on these considerations—the boy had no help—he might take a term to do his bit—he might spoil it a dozen times—ultimately he had to get it right.

Possibly it may be better to give the dull boy and the clumsy boy the encouragement of a bit of work finished, even if badly finished, but no one can doubt that this meticulous accuracy is magnificent for the superior intellect.

I believe in theory most recent writers are with me. Dr. F. Paulsen in his book on German Education, Past and Present, writes: “There is a reverse side to this recent social development which I will not pass by unnoticed. The Educational influences of family life are on the wane. It becomes less and less usual for youth to be trained for practical life by taking part in the work of the parents. In the primitive conditions of rural life the children grow into their work, as it were in the domestic community. Town life tends to blight the welfare of this small community. The father goes to work in the factory or in the office, while even for his wife, domestic work is reduced to a scanty remnant. The old home production of commodities of all kinds is decaying: everything is bought ready-made at a shop or in the market. Cooking and washing-up, mending and scrubbing is all that has still to be done at home; but even for these duties a substitute can be found so that the wife can go out to work like her husband. The home then becomes a mere night-shelter and the children a nuisance and a burden” (p. 267).

This is no doubt intended for the children of the artisan class—now let us hear Dr. Littleton, who speaks with experience of the needs and results of Eton.

“The great difference in all headwork between one boy and another is in the faculty of sustained attention. Is it not almost impossible to exaggerate the importance of the training of this power? Everything in life that is really well done is done by its exercise, by what is called giving the whole mind to it: but there are so many things in life badly done that it is safe to say the power in a vast majority of cases is insufficiently trained. . . . Now there are very many boys who in linguistic work rise so far superior to the obstacles of uncertainty of aim, abstraction from life, indefiniteness, etc., that they do progress and the sense of progress gives them a certain stimulus

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to concentration. But the stimulus is feeble and the concentration fitful. They have never, in school at least, known what it is to think for a good time of nothing whatever except the job they have undertaken. The young craftsman knows it and the memory of his efforts in “the shop” uplifts him elsewhere. Thus it is not surprising to learn from the Report of the Moseley Educational Commission to America that the Cleveland University School, training boys especially in manual work, turns out scholars who hold their own with the products of the purely classical schools.”

Besides the advantages which result from an interest which appeals to the delight in construction which is strong in many boys, there is a physical gain. Any oculist would tell of boys who are good at books, high in their class, non-athletic, and readers out of school whom they have watched developing short sight, year by year requiring stronger glasses until at 19

they are “chucked” for the army to the great disappointment of their parents. Then there is the social advantage derived from one class learning by the pursuits which occupy its leisure time what is involved in the work which another class has to do for its living; and lastly, there is the development of the sense of beauty—a matter too much left to the chance leading of the master who happens to win the boy’s confidence, instead of relying on its natural growth,—which comes through a knowledge of the difficulties of achievement at the same time as the eye is trained in similarities and differences of curves and outlines.

Dr. Thring, of Uppingham, educationally the soundest of philosophers and the sternest of classics, wrote thirty years ago: “There is another subject almost as much within reach as language which is entirely neglected as a training subject for mind, though equally open to all, which demands nicety of hand and eye, great mechanical skill, and introduces the dullest at once to strange discoveries in common things; that greatest point of true education. It is marvellous that the grand training of Drawing has never taken its place as a teaching power. The learner is met on the very threshold by the truth of truths, that he has eyes that see not and hands which cannot do his will. He finds out that the lines go in a way he knows not, though they are known. He looks at a wall and sees what he sees, but he is utterly unable to record what he sees: all is wrong the moment he begins. He is brought face to face with that grand fact of the

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wondrous perfection of accurate power in the midst of which he has moved unknowingly, and he comes in sight of the highest truth that men can attain to, a perception of his own unconscious ignorance, utter incapacity and clumsiness. A fresh secret leaps out of every leaf, there is not a pebble which is not turned into a world. The transformation which follows immediately the smallest child is made to draw and get to observe the what? and the why? in things, and attention turned on to the endless discoveries of ignorance, which are disclosed in this way, is more rapid and complete perhaps than in any other exercise of mind.³

I went to a public school not long ago—it was wet and there was no one in the fields or the fives courts so I was taken into the workshop. In one corner four boys had their heads touching one another over some work in a lathe. In school it might have been guessed that they were looking at a skit on a master or at a cricket record—in the manual training shop they were so interested in their work that they did not notice a master coming up until he spoke to them. I talked a little while to the instructor. He had all the disadvantages of the comparatively uneducated man, but as I talked I watched a boy waiting to ask him about the work, and I thought he would have stamped with impatience if I had kept on a little longer. This is the spirit we want, and it is for the parent to see that it is made the most of, both by using it and by educating it, by making it lead on to higher mathematics and accurate drawing, by using it to construct much of the school appliances for chemistry and physics, and by seeing that the instructor in this is a man of culture with the knowledge of cognate subjects and their bearing on life which a university education aims at giving.

D’Arcy Thompson, a schoolmaster and a literary man wrote: “In general, parents dread new-fangled ways and cling piously to old Scholastic superstitions,” but now there is a chance for the parents who might bear down the forces of lethargy, give the reformers their head, and wipe out the reproach that a public school literary education is wasted on a boy who is only happy when he is doing something with his hands.

¹ A paper read before the Surbiton Branch of the P.N.E.U.

² *The Passing of Empire*. H. Fielding Hall, 1913, p. 43.

³ *Theory and Practice of Teaching*. Thring, p. 169. Pitt Press Series.