

THE EDUCATIONAL WORLD
THE MANUAL TRAINING IDEA

Dr Frank A Hill

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...WHEN I began to teach in 1858 I sometimes heard it said that it would be a good thing if boys could be taught the use of tools in school. I regarded the notion at the time as a visionary one. The school had no business with tools; they belonged to the home, to the period of apprenticeship, to the workshop. It would be the wildest extravagance for the schools to take them up. What tools should they teach? What trades should take precedence? What should be done with the girls meanwhile? Does education lie that way? So I put the matter aside as a harmless speculation.

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Manual training came into my field, not in the slow, insinuating way of the laboratory, but suddenly, in a large way, with wealth and enthusiasm behind it. Among the munificent gifts by Frederick H. Rindge to his native city of Cambridge was that of an elaborate manual-training school. It was founded for the boys of the English High

School, of which I was principal at the time. On the shop and drawing side, the school was private; on the academic side, public. I was ready at the start to look upon it as a most natural and defensible extension of the laboratory idea from physics and chemistry to the constructive processes and principles of industrial life. The utility, in particular, of the new phase impressed me. Here are the visible, tangible, and endlessly varied witnesses on every hand of the constructive spirit of this busy world — houses, workshops, and machines; canals, railroads, and boulevards; palace cars, traffic fleets, and mighty navies; Atlantic cables, Suez canals, and Brooklyn bridges; vast public and private enterprises that have enlisted every grade of human energy and skill, from the nameless shoveller of dirt up to Michael Angelo. Why should not a system of education hold some close and carefully thought-out relation to important sections of the world's constructive activity like these as to those other sections where law, medicine, scientific attainment, and literary culture play each its active part?

There were many educated people, however, able friends of the schools, so trained in the old humanities, and so imbued with their spirit, that they could not be much impressed by views like the foregoing. They dreaded the taint of commercialism or materialism in the schools. To adapt courses of study to the demands of sordid, money-making times was a lowering of the high spiritual ideals which the school should uphold. To urge upon such people the utility of an educative process was practically to doom it for educative purposes.

It was to meet this skepticism about manual training that I found myself struggling to

see a little more clearly, if I could, those intellectual and spiritual values which I felt it had. The utility existed; it was obvious; it early won the approval of those who are not accustomed to see much more in school than that somehow it helps a boy to "get on in the world.» In presenting, therefore, the claims of manual training for a place in the school, it did not seem necessary — it was not good strategy — to waste much time on its mere utility when everybody admitted it. It was of more consequence to point out those higher values that people are not inclined, at first, to associate with manual training at all.

Thus it was that I found myself early distinguishing between that training of the hand to a single process that exalts the automaton and that other training of the hand to diversified and progressive exercises that keeps the mind alert and does not let up. The workman's skill, made sure and easy by habit, means swifter and better production by him, and therefore more pay. Moreover, this storage of skill in the form of habit frees his mind for new acquisitions in his trade or new possibilities outside of it. Still, in a scheme of education, the pushing of a process until it goes on with precision without the intervention of will is hazardous in that, as its industrial value tends to increase, its educational value tends to reduce. Just here is where the factory educationally fails. It cares more for the process than for the boy. It wants a thing done in the cheapest, quickest, and best way possible. This means dividing the manufacture into a score of processes, to one of which it assigns the boy. When he can do his work with his eyes shut, as a woman her knitting, the factory's interest in him has culminated. If he forever remained a boy, doing his tiny fraction as a machine, nothing

would suit the factory better. But how dwarfing and stupefying it all is,— the work–life plodding on through the dull years, unrelieved and dreary, the doer sacrificed to the monotonous thing he does! It means daily bread for the body, but how about life outside of the humdrum, the neglected areas of the brain, the daily bread of the soul ? It is right here, in this unutilized realm of vast possibilities, that the manual–training school leaves the factory as an educational agency hopelessly behind. The boy is now the supreme thing, not something to be made and sold. One process mastered in principle and fairly fixed in practice, the next is taken up, and the next, for, although it is surprising to how few typical tools and processes the endless operations of constructive industry can be reduced, there are many to be learned, and life is short. Always the thought is present that the intellectual value of processes is exhausted before commercial success therein is assured. And always there is active that best and most natural of all correlation — the application of scientific principle with its theoretical study, each reinforcing, illumining, and permanently fixing the other. Thus I could not well avoid the conclusion that the trade school proper either has no place

in an ideal public school system, or, if a place, then only at the top. Like other highly specialized schools, it presupposes a basis of general training below. The doctrine of electives is abused when it permits any choice of studies to the exclusion of the foundations on which they rest. The trade school should not, therefore, precede the manual–training school, nor compete with it, nor serve as a substitute for it, but should

follow it. In the last year of a high manual-training school, for instance, the pupils might legitimately specialize for the conquest of specific trades. The place of the trade school in philanthropy is a matter for separate consideration.

To sum up, the factory is intent on some finished product. It lets the boy slide as soon as he gets to contributing his mite to that product. The trade school takes up the boy himself and trains him to the various processes of a single occupation; it is intent on making him master of that occupation. The utility of the factory is here, and much beside.

The manual-training school generalizes numerous occupations. It trains the boy in their common elements. It is intent on making the most of the boy on his executive side as well as on his reflective. Doing without thinking, thinking without doing, the one soulless and mercenary, the other barren and profitless — these are the Scylla and Charybdis on either of which one's education may go to \vreck. Nature puts the doing and the thinking together; the manual-training school aims to keep them together. It has enough of the utility of the factory and the trade school to brighten the prospects of a livelihood, but in all else it rises immeasurably above them.

The distinctions we make between the real and the nominal, the true and the false, belong to the schools as to many things else. There are schools in reality and schools in name only, with all degrees between. We need a new word, some antonym for school, that shall properly name the worst *type*. I read in the « Popular Science Monthly » some years ago an article on the artificial production of stupidity in school. The

product is a feasible and not uncommon one. Ever since its possibility dawned upon me it has been my *bite noir* as a teacher. The process has its philosophy, such as it is, best seen in the light of that opposite philosophy which underlies the natural production of intelligence.

Observe a well-taught manual-training class — a class of forty or fifty boys in woodworking, for instance, such as I have often seen in the Mechanic Arts High School of Boston, under Mr. Eddy. The model exercise has been given and explained. The boys follow it intently, for they are to reproduce it. Thereafter the teacher folds his arms while the boys saw and plane and chisel the lesson into the very substance of their being, doing it all in the most approved psychological way without knowing it. Or if the teacher drops a word of caution here, shows the handling of a tool there, or brings out the reason of a process somewhere else, it is all done so quietly, easily, comfortably, that shallow on-lookers might query whether he is earning his salary or not. The fact is that he is more than earning it, because of his superb success with that highest of the teacher's functions — the vitally essential one of keeping all his pupils continuously and effectively at work. The manual-training school, with its special equipment, lends itself happily to this result, but its philosophy is for every school, and for none more than the school for little children. The unequipped and barren schoolroom, bricks to be made without straw, the teacher impotent to make them if he had straw, fifty children with unharnessed energy running wild — here are conditions at the antipodes; it is a marvel that any school survives them. Horace Mann reported that when he began his supervision of the Massachusetts schools, some sixty years ago, from three hundred

to four hundred schools a year were broken up — totally wrecked, out of sheer incapacity in their pilots. The same ratio would now give us fifteen hundred wrecks a year. Happily the days for total wrecks are over with us, thanks to improving views of the educative process. I do not withhold from the traditional school my mite of tribute to its worth. I am deeply grateful for the good it did me as a pupil, and, in view of my experience in it as a teacher, not disposed to be unduly critical of its shortcomings. It has done, and is still doing, a work for the pupil and the State whose value cannot