

and the children from a large city. But even the former unlearn their habit of observation during the time they spend at school, and one can almost say that the more school-taught they are the more their observation of the outside world becomes blunted. As against this, what they have got is to have their heads stuck full of all sorts of fine knowledge, which, as a general thing, lies ready in their memory for school use, and, when that is done with, is forgotten. A self-acquired habit of observation is not so easily forgotten; it is a thing which, once learned, is learned for ever. So also the mind, which in grammatical instruction is prone to contract itself, in the workshop is brought through the senses into full play; just as the blood which, through the long time spent perched on the school forms, is dammed up in the interior organs, is circulated throughout the body. The brightness and health induced by the gymnasium do not pass away with the time spent in the exercises, but entirely change the boy; and just so the bright look, the mind open to every impression, which is what the boy gains in the workshop, is serviceable to the other branches of instruction. It is this which elicits the unanimous praise of the Swedish teachers in favour of work-instruction, this which gains the favourable verdict of the older German pedagogues, that theoretical instruction does not suffer through the practical employment of the scholar, for what is lost in time is richly replaced by the brightness, the mental flexibility of the pupil. One must not count as lost to learning every hour which the scholar does not pass screwed to the school form. By the constant habit of observation, the mind receives matter for reflection, the mental life becomes more active, many things which the pupil would formerly have passed without notice, now excite his interest, and render him more susceptible to other impressions; so that it is no contradiction to maintain that, even in the interests of mental cultivation, proper weight must be attached to the preservation of perfect bodily health and the proper exercise of the senses; and inverting the case, if the body is neglected and the senses are permitted to become incapable of being the transmitters and mediators of mental life, this last must suffer terrible injury.

This habit of observation—the constraining the mind to be always on the alert—is a most important effect of work-instruction, more important even than the exercising of the *dexterity of the hand*. Not that this is to be undervalued either; whoever knows how clumsy most scholars are and remain, through want of exercise; whoever reflects that this general unskilfulness is only increasing in proportion as the industries tend to make life pleasant, and even more, that the small mechanical works are being taken out of the hands of the scholar, will wish that some compensation should be found through some means specially bearing upon this state of things; and such a means is the work-instruction. The scholar of to-day no longer covers a single book—the covers are already given to him ready made; he never thinks of stitching and covering his copybooks; he rules no more lines for himself, they are already printed for him; even the sheets of blotting paper are sold neatly cut for him; it is almost as if the boy no longer needed any hands; and in the same way instruction is applied as if what exists of the human creature besides the brains were merely a disturbing and unnecessary addition. If it really is the office of the school to train the human creature, to develop the faculties bestowed upon him, just as a gardener helps his plants to develop into what they are capable of becoming through his care—if training is not to be so managed as that certain parts of human nature shall be artificially encouraged and others stunted by neglect, just as if one were to break off the flowers of the tobacco plant in order to force the productive power into the leaves; we are justified in demanding that, in the culture of the understanding, the exercise of the hand shall not be neglected. One would not think that it would often be necessary to point out the importance of the hand to human creatures. If one comes to reflect that most people live by the work of their hands, it seems strange that an institution which watches over and guides the development of human beings, should be open to the objection that it allows this important instrument to remain comparatively undeveloped and disregarded.

It is seen at once here that work-instruction is especially necessary where a counterpoise to the preponderating influence of mental employment is required. Therefore the upper schools need the supplementing of their instruction by practical work more than the public schools; indeed, in comparison with the pupils of the upper schools, the scholars of the public schools show themselves the more handy. Here and there they are employed in household tasks; instruction does not entirely absorb their capabilities. Of the two kinds of upper schools the work-instruction would be more advantageous to the grammar-school, because here instruction in language is a prominent subject; and this, however important and indispensable it may be, from its very nature renders the scholar disinclined to use his powers of observation. And this supplementing of the instruction in language by practical employment will be so much the more to be desired when the grammar-school has not yet adopted drawing as an organic subject of its plan of instruction. The necessity for exercising the hand may be shown by an example. Is it not astonishing that the young medical student, in accordance with the training he has received, should only be required to give the first proof of his dexterity when the dissecting scissors are put into his hands in the operating hall? And this is done just where so fine and so secure a mastery of the hand is presupposed! Just imagine yourself beginning anatomy under these circumstances. Before now how many must have seen themselves obliged, by their own want of dexterity, to renounce a profession for which they had otherwise the strongest inclination? Is not the truth of the saying proved here that "He who would master a subject must begin early?" It is not intended to insinuate by this that the preparation for the future vocation should be taken up by the school. I wish particularly to impress upon you that the exercising of the hand is demanded as an organic part of the training of young people on general educational grounds; otherwise it must always remain incomplete.

Another gain for pedagogy through work-instruction is the cultivation of the *sense of beauty of form*—the development of *taste*. Here, too, practical employment goes hand in hand with drawing; the one subject helps to strengthen the other. And who will deny that the strengthening of the moral element in the present system of instruction is a very wholesome thing? In