

general intercourse, but for certain special dealings with one small part of nature.

But our boy drawing the straight line may acquire, besides this direct information about material, tools and his own movements and secondary ideas about his procedure. He may get a notion of accuracy, of the possibility of doing a thing precisely, or of thoroughness, of doing everything that should be done in a certain task. He may learn that to do a thing well you have to be patient and cautious and attentive and to know beforehand what you are trying to do. Of course, there is a chance to learn all such lessons in connection with a page of the spelling book or an example in arithmetic or a game of marbles. But it is easy to avoid all or some of them in most studies, whereas the teachers of hand work tell us that it is hard to do one of their tasks satisfactorily without learning them. It would, at least, seem harder than the other studies.

The mistake must not be made, however, of supposing that there is any necessity or even high probability that these most valuable general ideas will come from acts of manual skill. But there is an opportunity for them which teachers of hand work may improve. As to the claim that hand work excels other studies in this particular, there is little evidence. On a priori grounds one would perhaps surmise that for young children it did. On the other hand, one would perhaps surmise that the idea of industry or accuracy or order gained from hand work would be less likely to transfer itself to other fields and be operative in other

connections than would the same idea gained from work in science.

The scholar who takes a course in manual training under wise guidance acquires from the work not only the special information and, possibly, the general ideas so far described, but also a lot of habits, perseverance, orderliness muscular control, etc. There has been a tendency to confuse the habit, say of perseverance, in particular sorts of tasks, which does accrue as a result of hand work, and the habit in general, which neither manual training nor any other school study does much to advance. We do not reform the mental constitution and moral habits of children, by courses in hand work or in anything else, and it is time to stop making believe that we do. The habits acquired do not extend far beyond the particular sorts of circumstances in which they were formed. The same is true of the powers, such as adroitness, executive ability, artistic appreciation, which manual work may develop. They are narrowly confined to the particular sort of data with which the student has worked. Appreciation of design, yes, perhaps, but appreciation of poetry or music, no!

The scholars experience with hand work may further provide him permanent interests of a desirable sort, interests in construction, design, technical skill, the lives and conditions of artisans and manual workers of all sorts.

We have said nothing of any "energizing of the brain centers," "strengthening of the will," or "beneficial reaction of the body on the mind." We have not invoked as the triumph of participation