

overseer ; it can work with advantage only at simple processes ; by repetition it acquires skill at a simple manipulation. The incessant repetition of one muscular act deadens into habit, and less and less brain work goes to its performance. When a process is reduced to simple steps, however, it is easy to invent some sort of machine that can perform it as well or better than the human drudge. Accordingly, division of labour gives occasion to labour-saving machinery. The human drudge cannot compete with the machine and is thrown out of employment and goes to the almshouse or perhaps starves. If he could only be educated and learn to see ideals, he could have a place as a manager of the machine. The machine requires an alert intellect to direct and control it, but a mere "hand" cannot serve its purpose. The higher development of man produced by science, therefore, acts as a goad to spur on the lower orders of humanity to become educated intellectually. Moreover, the education in science enables the labourer to easily acquire an insight into the construction and management of machines. This makes it possible for him to change his vocation readily. There is a greater and greater resemblance of each process of human labour to every other, now that an age of machinery has arrived. The differences of manipulation are grown less, because the machine is assuming the hand work and leaving only the brain work for the labourer. Hence there opens before labour a great prospect of freedom in the future. Each person can choose a new vocation and succeed in it without long and tedious apprenticeship, provided that he is educated in general science.

If he understands only the theory of one machine, he may direct or manage any form of it. He could not so easily learn an entirely differ-

ent machine, unless he had learned the entire theory of machinery. The wider his knowledge and the more general its character, the larger the sphere of his freedom and power. If he knows the scientific theory of nature's forces, he comprehends readily not only the machine, but also all of nature's phenomena as manifestations of those forces. Knowledge is educative in proportion to its enlightening power or its general applicability. The knowledge of an art is educative, because it gives one command in a sphere of activity ; it explains effects and enables the artizan to be both brain and hand to some extent. A science lifts him to a much higher plane educatively, because he can see a wide margin of possibilities or ideals outside of the processes in use and outside of the tools and machines employed.

There remains a permanently valid place for the manual training school, side by side with apprentice schools for all youths who are old enough to enter a trade and who are unwilling to carry on any further their pure culture studies. Cultivate the humanities first and afterwards the industrial faculties. In our civilization, there ascend, out of the abyss of the future, problems of anarchy on the one hand and of socialism on the other ; individualism carried to such extremes that all subordination to peaceable and established law is deemed a fetter to freedom. This centrifugal tendency to anarchy is paralleled by a centripetal tendency that wishes, not only to have the central government perform all the duties of establishing justice and securing the public peace, but also to have it own all the property and manage all the industries. In short, the "nationalists" propose abolishing the sphere of competition and individual enterprise. Education in the history of the world, and in the literature that reveals