branches—craftsmanship and theory, and it is highly important that we should not get our ideas mixed about these two distinct things. The perfect technical artist has both craftsmanship and theory. We see at the outset that there is a difference between the teaching of the laws that control matter, *i.e.*, science, and that training of the hand and eye which is concerned in craftsmanship. A man may be a good craftsman, and know nothing definitely about scientific laws. He cannot, however, be a good craftsman without learning by experience something of the operation of those laws. The industrial arts were carried on for hundreds of years before the scientific principles governing them were apprehended with any clearness. Some of the best work in the world was done under these conditions. In the days when men thought there were four "elements," earth, air, fire and water, wonders of architecture, metal-working, weaving, dyeing and furniture-making were performed. But they were performed at considerable waste of effort, being accomplished, so to speak, in the dark. Moreover, there was plenty of time in those days to do things. With the increase of population has come a demand for more rapid production and less wasteful processes. It is unnecessary to enter on the vexed question as to whether the former days were better than these. Ruskin says they were. But we are face to face to-day with the fact that unless we use our materials in the best way, and unless we use the daylight that science has cast over all industrial processes, we as a community shall be left behind by others that are more progressive. Moreover, it is by means of technical knowledge that we find our way to new fields of operation. And the community that does not successively find its way into new fields is out of the running, out of the swim of evolution, is not the fittest, and, therefore, will not survive.

Returning to the two branches of technical education, craftsmanship and theory, it is evident that from the time the child goes to school there is a certain combination of them. Writing is craftsmanship—the training of the hand and eye to accomplish a certain physical result. So is drawing. So is sewing, which ought certainly to be taught to girls at school. But arithmetic is theory—is science—is the teaching of law. So are grammar and geography. Language-teaching is partly instruction in theory, and partly merely the memorizing of the codes of expression adopted by different nations. It is suggested that more craftsmanship or manual teaching may be grafted on the existing curriculum of our public schools. I think that under certain conditions of caution this may be done. Writing and drawing are successfully taught, and they are—strictly speaking—manual training. This might be extended by the inclusion of instruction in the use of typical tools. The gentlemen who recently made a report to the Toronto Board of Trade on the subject of technical education, if I understand their presentation aright, wish to abolish the teaching of drawing in our schools. But it is just as desirable to teach drawing in the early years of a child's education as to teach writing. Both are means of expression, and the signs and conventions are best learned in those days when the mind is plastic and the memory is active. Moreover, drawing is a beginning in craftsmanship. It is the foundation of all constructive work.

Some years ago I was under the impression that to introduce manual training into our public schools would tend to turn the ordinary subjects out of doors. But a study of the educational work that has been done on this line in France, Germany, Russia and the United States has convinced me that I was wrong, and that a judicious combination of theory and practice may be helpfully and wisely instituted. I do not believe that the schools will, under these circumstances, turn out finished workmen. To master any craft thoroughly will in most instances take longer hours of application than it would be wise to introduce into the