

of a laboratory course is to teach physics, the pupil should not be required to make much of his own apparatus. The student who makes his own apparatus is likely to do nothing else. He will spend weeks of time upon trifles and will finish his course with the skill, the pride and the intellectual standards of a jack-at-all-trades. I believe that boys should be taught the use of tools, but the physical laboratory is not the place for such teaching. Manual skill is an extremely useful accomplishment, or rather endowment; I devoutly wish I possessed it. But when I see how those who are distinguished for it are tempted to spend their time in the delight of exercising it to the harm of more important interests, I sometimes fall back with a certain comfort upon the remark of a college class mate, "I wouldn't be a good fiddler for a thousand dollars."

It is equally important that the teacher should not have to manufacture much of the apparatus. His time and strength should not be devoted to manual labour which a mechanic could do more rapidly and better.

I find my justification for the added expense and work of the laboratory method in the increased interest and mental activity of the pupils, whereby the teacher becomes a guide and leader rather than a driver; the stronger hold which the student gets upon the fundamental facts and principles of the science from having come into hand-to-hand engagements with them; the consequent greater command of these facts and principles in the emergencies of life, in the continual study of science, in the practice of a learned profession, in commercial ventures, in the common experience of the ordinary householder. — *Educational Review*.

EDUCATION.*

Mr. President, Ladies and Gentlemen:

IF it is "more blessed to give than to receive" this is a blessed audience, for I do not know any class of our people who give so largely in excess of their receipts as the instructors of the young and especially the female teachers.

It gives me great pleasure to stand for a few moments in your presence, and to receive this cordial expression of your respect and interest. It is quite as appropriate, I think, that the President of the United States should review the teachers of the land, as that he should review its army or its militia. For, after all, the strength

and defence of our institutions, not only in peace but in war, is to be found in the young of the land who have received from the lips of patriotic teachers the story of sacrifices which our fathers recorded to establish our civil institutions, and which their sons have repeated on hundreds of battlefields. The organized army of the United States, if we include the militia of the states, is insignificant when put in contrast with the armies of the other great powers of the world. Our strength is not in these; it is in that great reserve to be found in the instructed young of our land who come to its defence in the time of peril. It was not of the brawlers; it was not of the frequenters of the tavern of which our army in the civil war was made, or of which

* An address delivered before the National Educational Association by Hon. Benjamin Harrison, President of the United States.