

4. Opposing forces. These must be made to antagonize each other and contribute to promote the school interests.

Skillful management makes the difference between success and failure. The results of good management are manifold. Armed with these mighty elements of governing power, let the teacher be content only with the highest results. Discipline the pupil to self-control. Train him to the habit of self-acting. Develop in him mental power. Lead him up to a noble manhood. Inspire him for achievement.

Teaching is incomparably the greatest work on this earth. Minds are only immortal. The noblest creations of art fade and crumble. Cities and nations and worlds grow old and pass away. The teacher's work alone endures. Minds grandly developed; hearts attuned to the true, the beautiful and the good; lives devoted to every ennobling work; spirits occupying a lofty position among the tenantry of God's boundless universe—these are to be the everlasting monuments of the teacher's toils.—*American Journal of Education*.

Science in Schools.

An Address delivered before a Public School Meeting, by
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I have agreed to say a few words on this occasion regarding science-instruction in schools, and I make bold to think that the occasion is one which presents a highly favourable opportunity for stating the claims of science to be regarded as a power of mean kind in ordinary education. Teachers and parents and friends are assembled here in goodly array, and if, through what follows, I may be unable to obtain your assent to all the propositions and suggestions I may make, I may at least hope that some of my hearers will agree with the main tenor of my remarks. In no sense do I appear here in an official capacity,—except, indeed, you accord to me the position and status of an apostle of a power which is regarded by many amongst us as affording a certain measure of “sweetness and light” to the world at large. If that can be said to be an official position in which a person takes upon himself the office of an advocate of a certain system in the value of which he thoroughly believes, then indeed I may lay claim to that designation. But I shall depend upon, or presume on, no right of address to invite your earnest attention to the subject before me. I shall rather ask you to “hear me for my cause,” and I would fain hope that, for the cause’ sake, you will feel no weariness in the hearing.

I presume it is well known to all here that there exist in this school special provisions for science-teaching. A special teacher is deputed to conduct science-classes, and his work receives definitive recognition as a part of your educational programme. The duty which lies before me, then, is hardly that of asking your recognition of science, since that is already an accomplished task. I therefore think I may more profitably ask you to consider the advantages which are likely to accrue from the science teacher's work, and the best modes of stimulating and encouraging the science master's labours. In the science side of your school, I observe you give due prominence to those branches which are included under the collective name of “Natural Sciences;” whilst the more purely physical branches of inquiry, such as chemistry, natural philosophy, and geology, are not by any means neglected. I observe that special attention is given to such studies as botany,

zoology, and physiology—sciences, in short, which are included under the single name Biology. I shall fulfil very perfectly the aims set before me, if I succeed in showing you the use and advantage of this great “Science of living beings,” as the term Biology may very appropriately be rendered. The physical sciences are quite able to look after their own interests, for there are very few who can and who will deny the utility of chemistry; and natural philosophy, I think, can also take care of itself. But there are very many persons who cannot see the value of botany, zoology and physiology, when applied to ordinary education, and it is to the task of endeavouring to show the positive good wrought by such studies, that I must chiefly and at once address myself.

It will readily be admitted that the true end of all education is that of imparting such culture to the individual as will fit him or her for taking a due place in the world, and for becoming, in some fashion or other, a useful and creditable member of society. Whatever acuteness of perception, largeness of intellect, or breadth of mind we see developed in a man or woman, must be laid to the credit of education as a foster-parent. Nay, I will even go the length of asserting that qualities of even more superficial kind, such as mere urbanity and politeness, for example, which tend to make the wheels of life roll pleasantly along, are the direct result of the fostering and softening influences of education,—although I dare say there are some who may elect to believe, in opposition to Dogberry, that whilst reading and writing are the gifts of fortune, “to be a well favoured man” “comes by nature.” As regards the means whereby education effects her work of moulding the disposition, and of forming the character, it cannot be denied that the present age has witnessed an immense improvement on the past. Not only are our education programmes more liberal than in former years, but we also find that branches which our grandfathers and grandmothers regarded as mere accomplishments and “extras,” are now included as every-day and ordinary subjects in a school course. The best proof that education has progressed, in fact, consists in the abolition of the “extras.” Why should an educational course of any include subjects which are the property of the few, and which are denied to the many? Or why should any typical system of education include within its limits branches which are accessible to a favoured minority alone? Thus music, for example, has gradually, and happily for the chances of refinement, passed from the sphere of a mere accomplishment to occupy the place as an essential element to the education not only of girls, but of boys also. And the same may be said of drawing, and of other branches, the utility of which we term “culture,” is now universally admitted and recognized.

It is somewhat remarkable however, when we think of it, that until within very recent years no attempt was made to include in the instruction of youth a knowledge of the world itself, and of the living and non-living things which everywhere surround us. However highly accomplished a boy or girl might leave school, one could hardly expect of old, that the work of education had included that of imparting information regarding animals and plants, rocks and stones, or the relations of this universe to other worlds than ours. I am sorry to think that this state of matters is, in too many instances, still typical of the negative results of the education in many schools of established repute; and that there are men and women growing up around us whose ideas of natural history are as indefinite as those of the student who, in answer to an