

tion of the eyes. Girls are expected to become proficient in algebric exercises, and spend hours in using Latin lexicons; and, by way of recreation, are allowed to amuse themselves with minute embroidery. Boys are compelled to master every exception in Greek and Latin construction, until they utterly lose sight of the real spirit and beauties of these languages, only varying their tedious work with grammar and lexicon by written exercises in translation or in algebra. Furthermore, many of the school books are abominably printed with fine and worn type, upon thin paper, requiring yet more needless strain of the visual organs.

But whatever may be said, in general, as to the equivocal advantages of the turning out from our schools of machine-made pupils, in whom, as in Waltham watches, every part of every finished article shall be precisely like the same parts of every other, it is of the first importance that, at least, there should be discrimination as to the studies permitted to children of strong myopic tendencies. They cannot, without danger, be allowed to follow the usual routine, sitting hour after hour with eyes intent and heads bent forward. By so doing, they risk losing all advantage for what they sacrifice their eyes in acquiring, and being debarred from the exercise of pursuits for which they have fruitlessly labored to qualify themselves,—happy if they do not eventually become helpless and dependant.

The same reasons which require caution during the years of study, render the choice of an avocation a matter for serious consideration at a later period.

But, if misfortune ended with the individual, it might be less a matter of public concern. Unhappily it is not so. In nurturing the germ of myopia to its full development, the subject of this infirmity not only compromises his own future, but entails upon his offspring a like predisposition, to be followed, if circumstances should favor by a like calamity.

The proportion of near-sighted persons in the educated classes is evidently constantly and fast increasing. It is time to look seriously at the facts, and inquire if a matter of so much importance should not be taken into account as an element in our system of public and private instruction; even if it should call for large modifications of the undeviating methods at present in favor.—*Massachusetts Teacher.*

EDUCATION.

The Drill-Master—The Teacher—The Educator.

The distinction suggested by these words is more or less familiar to every one who has given any attention to the subject of education. In a general sense, indeed, all who are engaged in the work of instruction are called teachers; but it is well understood, not only that they differ from each other as good or bad teachers, but that there are certain radical differences which separate them into classes, and which entitled some to be called *Educators*, others in a more restricted sense *Teachers*, and others still mere *Drill-Masters*. It is of these fundamental class distinctions that we wish briefly to speak.

1. The *Drill-Master* is distinguished by his dependence on *memory* and *rule* in his instructions. He treats the mind of the pupil as a vessel, whose only office is to receive what is poured into it; or, at the best, a mere machine, worked not from any force within itself, but wholly by outward appliances. In either aspect it is surpassed by the Oxford Tables, or a good encyclopedia, or Babbage's Calculator. In his esteem, the best text-book is that which demands the least thought from him or his pupil; the catechism is the ideal form,—stereotyped question and answer admirably superseding the necessity of reflection and research. With him, he is the *medal* scholar—for it is this class of instructors who are the most obstinate sticklers for prizes, medals and floggings—who can rattle off most glibly pages of

history, long strings of meaningless dates and names, and innumerable formula, tables, rules, with those formidable lists of exceptions, which are found to form such juicy and nourishing food for the young mind. To him all teaching is comprised in the one word, *drill, drill, drill*, the beginning, middle and end of his lifeless work. He regards the memory as the leading faculty of the mind, that which more than any other is essential to high scholarship and distinction, which especially placed Everett above all others of his time as a peerless scholar. A description this, which might seem an absurd caricature, were we not almost literally quoting the recent language to ourselves of the principal of a popular and much lauded school. Of this mechanical, memoriter style of teaching there are indeed, even yet, far too many examples, both in text-books, instructors, and schools. It is deliberately asserted, for instance, that any attempt to interest the pupil in his studies, or lead him to an intelligent appreciation and enjoyment of the Greek and Latin authors, is utterly absurd,—a mere waste of time; that the translation of Cicero and Virgil and Homer and Xenophon is simply a matter of grammar, syntax and the lexicon, with which the memory alone is concerned. If the mind is to be so treated in one department, then as well in every other; and one who so treats it has surely not risen above the grade of a petty drill-master.

2. The *Teacher* is on an altogether higher plane. He deals with ideas rather than words; principles rather than rules; the spirit more than the letter. The mind to him is a living organism, moved by internal forces; to be fed, nourished, developed, by its own active thought. He kindles interest and enthusiasm by taking the pupil away from the dry page, and imparting personality to the subject by his living voice. The text-book he likes best to use is one which does not give the dead rule, showing what crank to turn in order to grind out the required result, or merely seek to cram the mind with rote-learning; but which does the most to excite individual thought, call into exercise the ingenuity of the pupil, and lead his mind to perceive the underlying principles from which he can deduce his own processes, and reach an intelligent result without the conscious use of any set rule. Thomas Hill's Second Book in Geometry, and Chase's and Dana P. Colburn's Arithmetics, are admirable examples of the kind of book we mean. They are the abomination of the Drill-master. The average teacher does not like them. There is no refuge or comfort in them for the lazy, indolent or ignorant, whether instructor or scholar. But the *genuine* teacher gives them hearty welcome, as efficient helps in his great work. For in his school-room is found no "grindstone," so pithily denounced by D'Arcy Thompson (1)—only such agencies as are fitted to influence the living mind, not dead matter. The mere correctness of the result is to him of less moment than a thorough understanding of the process. All his means and appliances are mental, not mechanical. The best scholar in his eye, is he whose mind is roused to independent thought; who is ingenious in suggesting original proofs and methods; who seeks rather to master the fundamental thought and essential principle than to reach a certain dead result; who is excited to an intelligent appreciation and enjoyment of his work, whether it be the analysis of an English sentence or of a wild-flower, the reading of Shakespeare or Cicero or Homer or Molière, the construction of the *pons asinorum* or of the locus of the hyperbola, the study of history or of mineralogy, the drawing of maps or the solution of a problem in algebra. Such is the *teacher*,—as much superior to the *drill-master* as mind is nobler than matter. "Rule Teaching," says Herbert Spencer, "is now condemned as imparting a merely empirical knowledge; as producing an appearance of understanding, without the reality.

To give the net product of inquiry, without the enquiry that leads to it, is found to be both enervating and inefficient. . . . While rules, lying isolated in the mind, not joined to its other contents as outgrowths from them, are continually forgotten, the principles which those rules express piecemeal, become, when once reached by the understanding, enduring possessions. Between

(1) Day-Dreams of a Schoolmaster.