

Special Papers.

THE BEARING OF PSYCHOLOGY ON TEACHING.*

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SUPPOSE yourselves in an art gallery, standing before a statue—e.g. Monteverde's Columbus. So real is this boy of twelve, with his head slightly raised and thrown forward, with the wistful, wondering expression on his face, and the far-away look in his eyes as he tries to see the end of some long, long thought, that you step lightly lest you disturb him and half resolve to speak to him when he resumes his reading.

What does this or any sculpture imply in the sculptor? What does any work of art presuppose on the part of the artist? First, he must have had a clear ideal, created by the imagination and possessing in the harmony of its parts the elements of beauty; secondly, a strong impulse to give, as perfectly as possible, this ideal form and permanence in some material substance; thirdly, a knowledge of the properties of this material; and fourthly, a knowledge of the methods by which his ideal can best be embodied in it, and a practical knowledge of the tools to be used in the process.

The teacher is an artist: ay, if he be a true teacher, he is the highest of artists—almost a creator. And if what has been stated above be required of the sculptor, the painter, or the architect, much more should that higher artist, the teacher, possess equally correct ideals and equally good knowledge of material, methods, and tools.

First, as to *ideals*. What are teachers aiming to do? We can imagine Dr. Arnold replying, "We aim to make each individual a perfect type of full and rounded manhood or womanhood." Herbert Spencer says, "We aim to prepare the pupil to live completely—to rightly rule conduct in all directions and under all circumstances." One educational writer says, "We should aim at the complete and harmonious development of the pupil so that all his faculties shall be brought into the fullest vitality and none of his intellectual or moral resources shall be wasted." Another says that we aim at producing good citizens. But all these statements are at bottom nearly or quite identical: For the type of full and rounded manhood or womanhood will live completely; and complete living is the outcome of correct willing; and willing, to be correct, must have had its source in correct feeling, and must have been submitted to, and endorsed by correct thinking and a good conscience. This certainly implies the full and harmonious development of all the intellectual and moral faculties. That such an individual will be a good citizen goes without saying. And here we come face to face with our subject. What constitutes this harmonious development of all the faculties, intellectual and moral? What is the proper correlation between volition, and thought, and feeling? How does one depend on the others, and how should each influence the others? These are psychological problems, and in psychology alone can we find their solution.

It is no easy task which the teacher undertakes. His ideals are more complex and difficult to realize than those of the artist. The latter strives to represent some one phase of thought, or feeling, or character, or action. The Apollo Belvidere, in its exact and symmetrical development of muscle and limb, in its grace and dignity of pose, is the ideal of physique; there is in the Laocoon the most intense feeling; unconquered and unconquerable will is shown in the Dying Gladiator; Monteverde has made his Columbus the representation of deep and concentrated thought. In these master-pieces the sculptors had to embody ideals which were one-sided. But the teacher's ideal is many-sided. He strives to realize in each individual the perfection of thought, and feeling, and will, and physique.

Secondly, as to *material*. High ideals are not enough; they must be supplemented by practical knowledge. Could Michael Angelo have reared the dome of St. Peter's, had he known nothing of marble; or Guido have painted the Crucifixion, knowing nothing of colours; or Bartholdi have wrought out a Goddess of Liberty, had he no know-

ledge of bronze? Can the carpenter, or the smith, or the shoemaker, knowing nothing of wood, or iron, or leather, produce good articles for our daily use? If a knowledge of the properties of the material he works on is so important to the artist and the artisan, is it of less value to the teacher? No, a hundred times, no! For not only are the teacher's ideals higher and more complex than those of the artist, but his material is also more delicate and difficult to mould. For he deals, not with gross, dead matter, but with a living human soul. It is ever changing even while he works upon it. It is not quite the same to-day that it was yesterday or that it will be to-morrow. It is not quite the same in steady John, that it is in impetuous Harry or gentle Mary.

In infancy the mental life of the child is occupied mainly in the accumulation of percepts; soon he begins to form concepts; and later, to compare these in the operations of judgment and reasoning. All the while he has been acquiring new percepts, forming new concepts, recalling previous thoughts and impressions by memory, and forming new images in imagination. With the childish mind ever engaged in these complex mental processes the teacher has to deal, and only because it is so engaged is he able to mould and train it. Surely then it is not necessary to say that he should know something of the operations of sense-perception; that he should understand the manner in which abstract ideas and generalizations are formed; that he should be familiar with those laws of thought which underlie the processes of inductive and deductive reasoning; or that he should have mastered the principles which govern the association of ideas as shown in the operations of memory and the imagination? A knowledge of these facts and laws of our mental life must be sought in intellectual science.

But the teacher has to deal with more than the intellect; he should aim to purify and elevate the emotional nature. He should strive to promote right feeling no less than correct thinking;

"That mind and soul, according well,
May make one music."

This cultivation of feeling is an indirect process, and, so far as the teacher can carry it on, must be accomplished chiefly through the medium of the imagination. What then are the relations between these two faculties? How can one be influenced through the other? Psychology must again give the answers to our questions.

But the mind does more than think and feel, it wills. And while correct thinking is *good*, and right feeling *better*, the proper outcome of these two, right willing, is *best*. The will, too, must be trained. But all will training is indirect, effected through the emotions and the intellect. What then is the interdependence of these three faculties? How is the will incited to action by the emotions? How does thought restrain it or give it additional impulse? How can the impulses of the will be best subjected to the dictates of reason and conscience? How can the intellect be prevented from keeping these impulses under consideration so long that the impulse itself vanishes? What is the relative value of motives as incentives to action? What is their moral value? How can good motives be fostered and bad motives repressed? In short, how can the best motives be kept before the mind, and how can the will be made to act from them at all times? Before the teacher can know the material upon which he works well enough to do effectual and systematic will-training, a thousand and one such questions must be asked, and it is to mental science that we must look for their answers. Even it is not sufficient, for it gives general principles only; and these must be supplemented by the results of the most critical introspection and the closest observation of the workings of others' minds. The facts and laws of mental science are meaningless, unless we find them illustrated in our own mental life, the operations of the minds of others can be scientifically interpreted only by aid of some knowledge of mental science as a key.

Thirdly, as to *methods*. It may be laid down as a general principle that all good methods in teaching must be based on and in harmony with the facts and laws of mental activity; and that all methods which cannot be justified on psychological grounds are presumably bad. For since it is only by taking advantage of the natural activity of the child's mind that the teacher is able to educate

him, it is not reasonable to expect success if the methods followed are not in harmony with this mental activity. Spencer says, "Psychology discloses to us a law of supply and demand, to which, if we would not do harm, we must conform." And again, "There is a natural process of mental evolution which is not to be disturbed without injury. We may not force on the unfolding mind our artificial forms." And while a knowledge of mental science is of such vital importance to the teacher in what may be called his positive work, it is certainly not less important to him in what may perhaps be termed his negative work, the rectification of mistakes and the correction of bad habits. For this knowledge helps him, by following the working of the child's mind, to discover the exact point at which the mistake was made, and so enables him to rectify it in the easiest and most effectual way; and in a case of bad habits it enables him to make a mental and moral diagnosis of the case, and so aids him in devising and applying the best remedy for it.

Take a few of the fundamental principles of good methods and see how they are founded on facts disclosed by psychology. "We should proceed from the simple to the complex." Why? Because the child acquires ideas thus. "Our lessons should start in the concrete and end in the abstract." Why? Because the child begins by thinking of the concrete and ends by reaching the abstract. "We should proceed from the empirical to the rational." Why? Because the child first acquires through the senses a stock of ideas which, for convenience, are ultimately arranged and condensed into generalizations. "Children should be led to make their own investigations and draw their own conclusions." Why? Because strength, mental as well as physical, comes only as the result of activity. A child exemplifies this fact from its earliest exhibition of consciousness. The presence in all persons of uneasy sensations only relieved by activity in work or play, the consciousness of power, the desire to exercise it, and the longing to know, all have the *raison d'être* in the same fact. It is for this reason that all spontaneous activity is pleasurable; and therefore that in general school-room work should give pleasure to the pupil.

There has been a radical change in educational methods during the last two or three decades. Compare the methods followed a generation ago with those of the present time. Teaching by rote instead of training the child to observe and investigate for himself; teaching abstract definitions instead of teaching by the concrete; teaching generalizations instead of leading the child to make them; teaching him rules instead of helping him to arrive at principles; long hours and long lessons instead of short hours and frequent changes of work; the forcing process instead of the natural and spontaneous activity of healthy mental life; a total disregard of the natural likes and dislikes of the pupil instead of some attention to that index of healthy activity—pleasure. In brief, there has been an increasing conformity to the methods of nature, a growing perception of the fact that nature's methods—which are God's methods—are wisest and best. As one of the most acute thinkers of our time has said, "In education we are finding that success in teaching is achieved only by rendering our methods subservient to that spontaneous unfolding which all minds go through in their progress to maturity." For this better knowledge of nature's methods we are largely indebted to psychology; and as that science becomes more scientific and more generally studied, we may expect improvement in teaching methods to follow *pari passu*. I do not say that a teacher cannot adopt and follow good methods without a knowledge of psychology; but I do say that he will follow them more intelligently and successfully, if he is acquainted with the facts and principles of the science upon which they are based.

Fourthly, as to the *means* by which the teacher-artist's material is to be moulded to the form of his ideal. This brings up all the questions in regard to studies, discipline, etc. What, apart from its bread-and-butter value, is the *man-making* worth of any study? This must be determined by the answer to a few questions like the following:—What faculty or faculties does the study exercise? Does this boy or girl or this class of boys and girls require that faculty or those faculties to be developed? Is the proposed study the best for the purpose? At what period in the child's school life

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