

of the phenomena of the mind possessed much interest; but it was only recently that the science of psychology had been cultivated as a branch of physiology; and from the material advances made by men like Lewes, Wundt, and others, we may anticipate much light will be thrown on the formation of the brain as the organ of the mind. Those advances had been of such a character that the education in mental philosophy which did not comprise a comparative study of the forms lower than man, especially as regards the psychic phenomena, must of necessity be one-sided. The history of the earth, anthropology, ethnology, and linguistic sciences, would be absolutely closed to him who was ignorant of living forms and biology. The study of living forms was so essential it could not be neglected with impunity by any one who had to enter on the battle of life. A love of exploring nature opened an inexhaustible source of pleasure; and to youths it would give more genuine enjoyment than hunting postage stamps, crests, and the like. In considering the second point, he said that in some schools more attention than was desirable was given to the study of natural sciences; for no infringement upon the ordinary literary studies was justifiable. A knowledge of the Greek and Latin languages was an inestimable auxiliary to the study of nature. It was stated that "systematic teaching of biology could not be attempted with success until the student had attained to a certain knowledge of physics and chemistry; for though the phenomena of life are dependent neither on physical nor on chemical, but on vital forces, yet they result in all sorts of physical and chemical changes, which can only be judged by their own laws." Since the last clause was written biologists recognized it as more imperative than ever that chemistry and physics should precede their own study; for the human body, as a German physiologist expressed it, like that of every other animal, is an organism in which, by the chemical changes of its constituent parts, potential is connected with Kinetic energy. Such a statement was a vindication of the fact that the further physiological investigations were carried, the more it became apparent that the laws which regulated changes in the animal and vegetable body were those which were operative in the inorganic world. It was imperative that the statement should acquire the accuracy of method which characterized the science referred to. Kant said that the scientific value of any branch of knowledge might be measured by the applicability of mathematical method in it. Huxley energetically combatted a similar statement of Comte's; but there was much truth in it. The student should be impressed with the desirableness of encouraging a certain habit of thought. Haeckel, at Munich, in 1877, said, "After all, it is always the recognition of the effecting causes, not the mere knowledge of facts, which satisfies—the constant want of causalities of our mind, the recognition of common, simple causes for the most various and complicated phenomena leads to the simplification as well as to the deepening of our education and culture, only by casual conception dead knowledge becomes living science—not the quantity of empirical knowledge, but the quality of its causal conception, is the true measure of the education of the mind." That that was the sort of mental education which they wished to give was only too evident from the deficiency in it which all of them experienced more or less. Faraday in one of his lectures ably advocated the value of the more exact of the physical sciences in cultivating judgment. A careful study of mathematics, and the acquisition of the art of drawing, should precede a study of the physical sciences. During the time of probation the curiosity of the youthful student should be encouraged as much as possible. On the third point, he said that the introduction of the study of biology into the schools had led to the publication of text books of very unequal merit. Most of them in pleasant and sometimes accurate language attempted to convey a simplified general view of the facts and principles of the science in question. Their effect was merely to give the student the veriest superficial view of the question. Some books, on the other hand, aimed at an exhaustive study of certain commanding points, and pointed out the pleasant lands lying beyond. Of the two kinds he preferred the latter. All teaching should be from the simple to the more complex. An elementary biological course should be in the main observatorial, and the teacher should, in addition to the faculty of imparting knowledge, be a man of catholic sympathy, and encourage a liking for out-door work among his pupils.

#### RELIGION IN PUBLIC SCHOOLS.

Mr. Buchan, High School Inspector, said he had noticed lately that there was something like an educational scare among a por-

tion of the public in reference to the matter of moral training in schools. They seemed to hold the idea, that there was a lack of religious instruction in the schools, and that as a consequence these institutions were degenerating. They held that the absence of it leads to absence of moral training. This feeling, he had noticed more recently, was shared in by some of the teachers, who proposed that moral text books should be introduced into the schools, and that there should be a distinct training given in morality, the same as in geography and history. Much of the misapprehension existing in this respect arose out of a want of clear ideas as to the nature of morals, and a distinction between morals and religion. Our moral notions were based on the idea of duty that was present in every man's mind. The capacity for distinguishing between right and wrong was developed at an exceedingly early age. Very young children gave indications of possessing this faculty. All systems of religion were based on something totally different. They were based on a relation between human beings and supernatural beings. There was a conception at the bottom of every religion, whereas a fundamental feeling lay at the bottom of morals. Religion was not moral. The ancient Greeks were a case in point. They had gods for everything, even a god of thieves. It didn't cover the moral sphere. Ours did, and sanctioned whatever it was our duty to do. We lived together in society, and it was to that class of duty, viz., the duty we owed to society, that the word was applied. In the same way, it was customary to apply the word religion to religious duty. With this restricted sense in view, he proceeded to notice the peculiarities of moral nature in order that the remainder of the subject might be understood. He had adverted to one already, viz., the capacity of distinguishing between right and wrong: this was an innate faculty. In the second place, the fact was to be noticed that we had within us a monitor which praised and condemned our actions in a very peculiar and inflexible way. It decided, and that was its decision. But it varied in different countries. That was considered right in Asia which was wrong in America. Polygamy for instance. Another point was that although we knew what was right we did not do it. Moral training was necessary to get over this peculiar defect of nature. The criterion of a man's morality should be placed at what he did and not what he knew. His conduct was an essential thing. For his conduct to be good he must form habits of right action. Habits had always been formed, and they determined the character of the future man to a large extent. Habits were formed by a repetition of action, or in other words by imitation. A child by grasping an article frequently learnt to grasp; in the same way moral habits were formed in childhood. A child imitated its elders in almost everything. Surroundings and associations influenced a child's mind to a large extent. It was therefore evident that home and other influences had more effect upon a child's mind than school influences. A child did not go to school until at least five years of age, and then it was only there five days a week and five hours a day, so that it was at home two-thirds of the time. It was obvious, therefore, that the part the school played was not the first part, and he appealed to those around him whether the boys who turned out badly did not come bad to them. Home influences were so strong that it was difficult for teachers to contend against them. He then discussed what teachers could do. The teacher's work in this respect depended more on the silent influence of his own character than anything else he (Mr. Buchan) could mention. But he could mention some things that were useful in the moral education of children. The general discipline of the school was a great moral agent, as also was punctuality and other habits which might be classed under the heading of self-control. Special acts of discipline in school, if properly performed, were of immense moral use. Everything depended on the way discipline was carried out. And here he wished his hearers to guard against an assumption which many held. These latter said, do not chastise a child; rather appeal to its moral nature. He could not appeal to that which did not exist. To a man's moral nature we could appeal, but not to a child's; it was not developed in a young person. Again, the work performed in school had an immense moral value. Habits might be good or bad; and if work did nothing else it prevented the practice of evil habits. Besides, work formed the habit of industry, which was an exceedingly valuable one. In the next place, as a child advanced he should be instructed to form the habit of saying everything accurately. This habit of truth telling would prevail in its whole conduct. Associating with other children had a good effect upon a child. It taught it to understand that at times its opinions