A PLEA FOR MORE SCIENCE.

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IN its weak beginnings Physical Science received but small encouragement in the great seats of learning; man and all things moral and mental pertaining to him were thought the sole culture-giving studies, and matter was despised as being sordid and soulless. Gradually Science, in spite of early neglect and later hostility from the defenders of the old methods of education, has crept into all universities worthy of the name, not even conservative Oxford refusing it a place; and in Germany, that centre of modern intellectual life, it has taken a most commanding position beside the more ancient subjects of study. While this is the state of affairs in the universities, relatively very little has been done in the way of scientific training in schools of lower grades. There are various causes for this, including the expensiveness of the instruments and collections necessary to teach science in a practical way, and the difficulty of finding competent teachers. Both these difficulties, however, are being rapidly removed, so that how far Science is suited for popular education in Public and High Schools becomes an important question.

The object of our educational system is to give such training to the mind as shall be most serviceable in life to the majority of men. Before asking what subjects are best fitted for this, we must inquire what our minds are used for in actual life. My reply would be, that they are chiefly used in making and storing up observations on men and things, in reasoning on their relations to one another and to ourselves, and in coming to conclusions that shall guide our own course in reference to men and things; also in following and rejecting or appropriating other men's observations and reasonings. If this be the use to which we put our minds, we should be trained to observe carefully, so as to have sure foundations to reason from; and to reason correctly, so as to reach sound conclusions. In addition, our training should afford as large and serviceable a supply of facts as possible.

Let us now inquire how well the subjects generally taught in schools answer these ends.

Perhaps the subject most anciently used in education was Mathematics. It gives an invaluable training in accurate reasoning of a certain kind; but the premises from which it starts are few in number and, being intuitive, are universally admitted; while in actual life the premises themselves need the most careful scrutiny, the false being most hopelessly mixed with the true, so that probably nine-tenths of our disputes arise from never having settled the precise meaning of the premises from which we argue. In life, also, most of our reasoning is from averages and probabilities, and by the inductive method. To this kind of reasoning Mathematics, as