

have fully availed himself of his opportunities of study, for which there is now no lack of opportunity, and it would lead me too far afield to discuss the details of that training of hand and brain, but I should like to say a few words on the matter of a training beyond the ordinary routine of dental education; for there is a danger lest, led away by the pride of manipulative dexterity, we underrate directions of study which, to the thoughtless, seem to have little practical outcome.

"We have all of us made acquaintance with the self-styled practical man in all grades of society, from the artisan who poisons us with sewer gas, to the politician whose horizon is bounded by the limits of his personal observation, and that none too accurate. Let us quote to you the words of one of the clearest thinkers of our day, Professor Huxley, who thus delivered himself upon the proper scope of education: 'I often wish that this phrase, applied science, had never been invented, for it suggests that there is a sort of scientific knowledge of direct practical use, which can be studied apart from another sort of scientific knowledge, which is of no practical utility, and which is termed pure science. But there is no greater fallacy than this. What people call applied science is nothing but the application of pure science to particular classes of problems. It consists of deductions from those general principles, established by reasoning and observation, which constitute pure science. No one can safely make these deductions until he has a firm grasp of the principles, and he can obtain that grasp only by personal experience of the operations of observation and of reasoning on which they are founded. Almost all the processes employed in the arts and the manufactures fall within the range either of physics or of chemistry. In order to improve them, one must thoroughly understand them; and no one has a chance of really understanding them unless he has obtained that mastery of principles and that habit of dealing with facts which is given by long-continued and well-directed purely scientific training in the laboratory.'

"I will not weaken these pregnant words by comment, save only to say that every word which I have quoted is applicable to the training of the dentist, but that as yet we are far behind such an ideal as is there propounded. That scientific habit of mind by which we observe correctly and draw conclusions legitimately is essential, but it is fortunately one which can, to a great extent at all events, be cultivated. But do not suppose that I would allow this wider mental culture to at all take the place of that patient acquisition of manipulative, and I may say, empirical skill. To once more quote Professor Huxley: 'Indeed, I am so narrow-minded myself, that if I had to choose between two physicians, one who did not know whether a whale is a fish or not, and could not tell gentian from ginger, but did understand the application of