

physiology; but experiments in this department are made with difficulty. The material and the forces are so complex, and altogether so little is actually known, and so much conjectured, that verification even of the simpler phenomena is difficult and uncertain, and requires much time and elaborate apparatus.

The problems of animal physiology, except those which are of a chemical nature, are far too difficult to serve as a means of scientific training for beginners in medicine, and should really be undertaken only after one has received a good laboratory course in chemistry.

Now, I have no intention of forcing you to select chemistry as the subject affording this most desirable training, by any process of exclusion. On the contrary, I wish to point out clearly, how by work in chemistry you may derive that scientific training which I have tried to show is essential for the successful study and practice of our profession. In the first place, lectures on chemistry, even when illustrated by experiment, are of comparatively small value as a means of training. Lectures are, of course, essential to expound the relations and theories of the science, and to illustrate them by experiments which are not adapted for a teaching laboratory; but it is by practical work only that a student can extract the full benefit obtainable from an experimental science such as chemistry. As Huxley says, "The laboratory is the fore-court of the temple of philosophy, and whosoever has not offered sacrifice and undergone purification there, has little chance of admission into the sanctuary."

One of the first surprises that a student of practical chemistry receives is to find out what a very difficult thing it is to do what you are told to do—to find out what little power mere words have to create a correct picture in the mind. This is due to the fact that to those untutored in scientific observation there seems to be scarcely any connection between words and the things represented by them, except in the case of affairs of every-day life. Now, this power of clearly picturing before your mental vision a sequence of things from a verbal description is a function of the brain called the scientific imagination, a power latent in all minds, and one which, unless developed by a training in scientific work, is likely to remain dormant throughout life.