

toe on each, while an ox has four legs with four toes on each. But if we seek to explain why there is this similarity and yet this difference, our search will carry us back into the abstruse theory of animal differentiation, and land us in that most complex of all theories, evolution. Many text books on chemistry begin the subject in what is usually considered a simple manner by a description of the process by which we obtain hydrogen gas from zinc and acid. But what does an explanation of this process involve? It involves all those principles of higher and lower affinity which are generally classed under the head of chemism—it involves the theory of molecular contact in solution—it involves the nature of a change of physical state, and the laws of latent heat depending thereon—it involves the principle of valence—of atomic weight—of gaseous specific weight—of the solubility of compounds—it involves in short almost every principle that is concerned in the most complex operation that takes place in chemistry.

Contrast with this the study of geometry, for example, which begins with the primary notions of the mind, than which nothing can be simpler, and leads on step by step by almost insensible advances, removing every obstacle and making every inch of progress sure, until we rise at last to that elevation whence we can weigh the planets and know the distances of the stars. I hope it will be distinctly understood that by what I have said I do not wish to discourage the study of science. That study is a noble one, and worthy the undivided attention of the greatest human minds. And the results of scientific research have possibly done as much for the human race in ameliorating the hardships of existence upon this earth as any other outcome of mental activity.

Nor do I draw a contrast between chemistry and mathematics because these are necessarily the subjects to offer a contrast. I choose these because I know them better than any other subjects. But I *do* say that as means of pure mental development, and therefore as subjects well calculated to fit students for an after university course, science, with all its experiments, has no advantage over mathematics in its methods, while it is decidedly inferior to mathematics, as to the manner in which it gives its results, and in the gradational character of the results so given. Owing to the abstruse nature of scientific research, and the continual necessity of guarding against erroneous conclusion, science is best mastered by the matured mind which has been already somewhat developed by a sufficient prolonged study of other and less complex subjects. Now it is a fact that, although provision is made for science teaching in all of our Collegiate Institutes and many of our High Schools, science teaching is considered quite a secondary matter, while the burden of the work consists in the study of mathematics, classics and English, in most of the best schools of the country. Whether the masters have learned by experience or otherwise that this is the better course, I certainly believe that they are fully justified in the course which they have taken. I believe it can be clearly shown that the schools which on the average send up the best candidates to the universities do the least in science teaching. And I believe that the ultimate benefit to the country of the school which gives much of its time to science will be less than that of the school which confines itself mainly to classics and mathematics and English.

(To be continued)