

apply to methods and instruments. Nor do I forget that Faraday, like Shakespeare, was not a university man. But I mean to say that the manifold applications of science, about which everybody is talking, are only possible because of the abstract studies which universities promote. The electro-magnetic inventions which are now so multiform are only possible because scores of the greatest intellects of the century, one after another, have applied their powers of absolute reasoning to the interpretation of phenomena, which could have been elucidated in any part of the world, and at any epoch of the past, if only the right methods had been employed. As long as universities held aloof from experimental sciences, these discoveries were not made, but when laboratories for investigation were established, an alliance was formed by mathematics and physics, and a new type of intellectual workers was produced, men whose hands were as cunning to construct and make use of instruments, as their brains were cunning to develop the formulas of mathematics. Take the splendid list of leaders who have followed Franklin and Rumford. They may be called the School of Sir Isaac Newton, so much of their inspiration is due to him. Not all were trained in academic walls; but not one failed to derive help from the advantages which universities provide and perpetuate.