

reading of a most important paper at the British Association Meeting, at Oxford, on "Bernouilli's Theory of Gases." This theory supposes that a gas consists of a number of independent particles rushing about among each other without mutual interference, except when they come into collision. In his paper, Maxwell gave reasons for believing that in air at ordinary temperature each particle experiences on an average more than 8,000,000 collisions in a second! Professor Tyndall has expressed the opinion that "his two principal achievements are two Memoirs, which were printed in the *Philosophical Transactions*, the one dealing with the theory of colours, and the other with the electro-magnetic theory of light." But others will give prominence to his researches in molecular physics. In gases, the molecules are believed to dart about in straight lines till they collide with each other or with the sides of the containing vessel; in fluids, their motion is less free; in solids, it is yet more limited, but there is an inherent tendency to press forward when liberated; so that the movements are vibrations; even in the densest solids these vibrations are constant. In reference to his work among the molecules, Faraday once accosted him as he saw him wedged in a crowd in the attempt to leave the lecture theatre of the Royal Institution. "Ho, Maxwell, cannot *you* get out? If any man can find his way through a crowd, it should be *you*!"

In May, 1861, he delivered his first lecture before the Royal Institution; it was on the theory of the three primary colours. Amid all his lecturing he was still steadily and quietly at work investigating colours, electricity, magnetism, and the electro-magnetic theory of light, laying deep and broad foundations for coming years. But he did not confine himself to the realm of physics. He studied Helmholtz and his philosophy, and on the convertibility of energy made the following remarks: "We see that the soul is not the direct moving force of the body. If it were, it would only last till it had done a certain amount of work, like the spring of a watch, which works till it is run down. The soul is not the mere mover. Food is the mover, and perishes in the using,