

29<sup>th</sup> Dec, 1896

UNIVERSITY EXTENSION  
LECTURE.

ELECTRICITY AND RONTGEN RAYS.

The accommodation of the science lecture-room of the University was taxed to its utmost on Tuesday night, when Professor Bragg delivered his third lecture upon electric discharge, leading up to his final lecture on the mysterious X rays. He continued from his previous lecture to show that the striations of electric discharge in vacuum tubes were sensitive to the contact of touching the glass of the tube by the hand. Spottiswoode had been experimenting upon this discovery without a very satisfactory explanation up to the present. Professor Bragg said that this sensitiveness would probably eventuate in something interesting, and he hazarded the opinion that the effect came from the atoms carrying the discharge. A Crookes tube showing peculiar triplet striata was shown upon the screen, and the Professor explained that this was due to the pressure of hydrogen and nitrogen, the bands having distinct colours. Diagrams were drawn upon the board illustrating the responsive effects of positive and negative electricity, and then further explained with the aid of electrical apparatus, much satisfaction being evinced at the success of the experiment, which had caused the Professor and his assistant many hours of anxiety and work to bring to a successful issue for the evening's lecture. The influence of an electro-magnet was then shown to sweep aside an electric discharge when so adjusted to meet its course. Drawings of vacuum tubes showing Crookes's and Faraday's mysterious dark spaces, the negative glow, and striæ were put upon the screen, and also Crookes's own drawing explaining the dark space. An entertaining definition was given of the phosphorescent and fluorescent effects in different substances, such as German soda glass, English lead glass, uranium, quinine, and in gas. The green, blue, and pink effects came out very prettily in a vacuum tube arranged to aptly display the colours. The radiations coming from a negative pole showed the direction of the electric discharge in a bulb made with German glass. A series of Crookes tubes were exhibited, showing the shadow of a cross caused by the direction of the rays being interfered with, and this was further exemplified in a mechanical tube containing a wheel mounted upon rails within the tube, and made to run to and fro by the electrified particles striking against it. The argument between Crookes and Puluj as to the medium of conveyance for rays in vacuum tubes was then explained, and the evidence was in favour of gas being the carrying agency, according to Crookes's theory, as against that of metal particles, advocated by Puluj. Much praise is due to Professor Bragg and his very able assistant, Mr. A. L. Rogers, for the extreme care taken over the experiments and their eminent success. The final lecture of the course will deal with the subject of Röntgen's photographic discovery in radiation, and as this evening is also fixed for another public engagement the Professor expressed his willingness to repeat the lecture if a sufficient number desired that he should do so.