of 1895 is already fast subsiding except among students of Science. Repetitions of the principal experiment have been made everywhere, and described *ad nauseam*. Radiographs of hands, birds, rabbits and fish are already an article of commerce. If all the coins that have been photographed through wood were collected, they would form a respectable competence. Even the direct applications to surgery have become so much a matter of course that they cease to excite astonishment; and the wilder speculations that were hazarded at first have died away, as the nature of the process and the limits of its usefulness have come to be better understood. One has to go south of the line nowadays to find a would-be photographer of the brain, or a senator who brings in a bill to make it illegal to take Roentgen rays in opera glasses to the theatre and so enjoy a mean advantage over the actors!

The main interest is now centred, not in the "new photography," nor even in its practical applications, but in speculations and researches on the nature of the X Rays themselves, their connection with scientific work on similar phenomena, which led up to them, and the possibility that through them we may gain deeper insight into the constitution of matter, the nature of high vacua, the ether, and the processes going on in it. Before turning to this new field, McGill University and its Medical School may allow themselves a natural satisfaction in remembering that, thanks to the splendid apparatus in the McDonald Buildings, it was a simple matter to repeat Roentgen's experiment at the first attempt; and especially that within the first four days' work—on Feb. 6th—a direct application to surgery was made—the first on this continent, and the most important that had been attempted at that date.

Professor Roentgen's discovery follows naturally on past work. The dark space next the negative electrode, or kathode, of a Geissler Tube, had been found by Varley, Hittorf and Crookes, to spread to the walls of the tube as the vacuum was pushed to the millionth of an atmosphere. It was then seen that a cone of dim violet rays diverged in straight lines from the kathode, and when they impinged on the glass of the tube, made it hot, and made it shine with a fluorescent light. These kathode rays could drive small windmills inserted in the tubes, were deviated by a magnet, repelled each other. What could they be? Crookes held them to be streams of the remainder molecules of gas capable of travelling far in the high vacuum before being lost in the crowd; Puluj held they were streams of particles torn off the electrode itself; Hertz and Lénard held them first to be molecules; then, when Lénard, three years ago, brought them outside the tube through a window of aluminium foil, which proved to be pervious to the rays, they were led to believe them "Processes in the Ether," similar perhaps to ultra violet light, by observing their behavior in the air, and in vacua other than that in which they had been excited.

The presence of these rays is recognized by the fluorescence they excite; and it was while studying them by this means that Professor Roentgen noticed a fluorescent screen lighted up at some distance from the Crookes Tube, how kathode rays could neither pass through the glass of the tube, nor exert their power in air for more than a distance of 6 centimetres. Some hitherto unknown agent was therefore at work. The paper in which Professor Roentgen described to the Wurzburg Academy the research he now instituted is a model of scientific caution and accuracy. Nearly all the facts about these rays known to-day are to be found modestly stated there. The relative transparency of many substances is given in a table. The resemblances to light in rectilinear propagation and the law of decrease in strength with the square of the distance; the points of difference from light in that X Rays are incapable of regular reflection, refraction, and apparently of interference and polarization; the difference from kathode rays, inasmuch as they are not affected by a magnet—all is soberly described, and a dozen lines given to the curious photographs that may be obtained by means of X Rays, with the hint of possible applications in surgery.

With all the ardor of investigation that has been spent on the subject since, but little more is known to-day. Times of exposure have been somewhat reduced. The facts about the X Rays stated by Prof. Roentgen have been verified. The shadows of bones in the hand have been *seen*, by using a dark tube closed by a fluorescing screen; but this method was freely used by Roentgen in his investigations. It is a strange thing that at this moment it is not certainly known from what part of the tube the rays come! Roentgen says he proved by special experiments (not detailed) that they come from the parts of the glass which are made to fluoresce. Prof. Elihu Thomson a few days ago detailed an experiment in which he took a photograph of an object upon two plates placed one an inch or two below the other. The lines joining the edges of the shadows meet in the kathode itself, which should therefore be the source. But in the Comptes-Rendus of February 17th, just arrived, is an account of a similar experiment communicated to the French Academy of Sciences, which seems to prove the positive pole or anode in the source. The same journal gives other experiments tending to show that there are many qualities of X Rays. At present it must be admitted the whole subject is a fascinating riddle.

Almost the only novel and, to my mind, the most