

demands gave poise and peace to those noble adventurers on a sea with undiscovered shores.

The camera and the spectroscope are the instruments that more than any others have made our modern Astronomy. These were in use for astronomical purposes before the history of the science in Canada began. In 1851, Bond, of Cambridge, had exhibited excellent photographs of the moon, and Huggins had demonstrated the spectra of the stars, thus introducing the science of celestial chemistry, in 1862-3. From these facts, it will be seen that the modern astronomical era had begun before the first astronomical society had been organized in Canada.

The introduction of these instruments has revolutionized many of our views and extended our field of research. The spectroscope has turned our thoughts rather to the physical than to the astrometrical phases of the science, and the camera has increased the number of accurately measured star-magnitudes from a few thousands to millions. Most of you will probably know that the Paris Photographic Congress of 1887 divided the work of photographing the heavens among eighteen observatories. As a result of their work, a map consisting of 22,000 sheets has been prepared showing all stars down to the 14th magnitude, and numbering in all more than two million stars. Copies of these sheets are in possession of the Royal Astronomical Society of Canada.

In our own solar system, many scores of minor planets have been revealed to the camera; treasures of detail in planetary investigation have discovered themselves to its searching eye, and moons that cannot be seen by the actual eye have revealed themselves as dots on the photo-plate. Nothing, since Galileo turned what John Milton called his "optick tube" upon the moon has so loosened and extended the boundaries of our vision, both optical and instrumental, as have these two wondrous instruments of science and vision. Though in quite another field of investigation, they will ever stand with the discoveries of Kepler, Galileo and Copernicus as fundamental to the science.

We have already observed that the beginnings of History are