

## Session 2

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## **The Role of the Artificial Lights in the Scientific Photography of the XIXth Century**

In the second half of the 19th century there was a strong interplay in the development of astronomy research and two emerging branches of science, spectroscopy and scientific photography. The work of Edward Charles Pickering and his brother William Pickering from

the MIT, Harvard, led to important innovations in spectrography enabling the publication of the

prestigious Henri Draper Catalogue. The compilation of a photographic library of the stellar

universe also began in 1885. Their studies in spectroscopy, namely of the magnesium light,

could explain its important role as an artificial light for photography. There were also studies of

limelight made in 1880 by William Pickering discussing the optical properties of this artificial

illuminant.

By the end of the 19th century the knowledge of artificial lighting techniques acquired through many experiences, in negatives, positives and photomechanical prints, increased their

use in scientific photography, mainly in physics, geology, oceanography and medicine. It is

accurate to say that it would have been very difficult to develop a new science, speleology,

without the artificial light of magnesium.

Artificial lights also played an important role in the practical education and popularization of

science as they were used in projection lanterns. At Harvard, for instance, Pickering's plan of

the Physical laboratory used the projection of spectra for the student's experiments with limelight as an illuminant.

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What is new in our paper:

The history of development of the artificial lights in scientific photography.