

SCIENTIFIC PHOTOGRAPHY IN THE NINETEENTH CENTURY: ARTIFICIAL LIGHTS AND RELATED INSTRUMENTS

I. M. Peres^a, M.E. Jardim^b, F. M. Costa^a

^a Centre for Molecular Sciences and Materials of the University of Lisbon , Ed. C8, 1749-016 Lisboa, Portugal,

^b Depart. of Chemistry and Biochemistry of the Faculty of Sciences, University of Lisbon, Ed. C8, 1749-016 Lisboa,
Portugal
mariliaperes@ciberprof.com

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Abstract

In the late 1850s there were several types of lighting in use for photography: limelight, Bengal light and electric light (arc light). As emulsions became more sensitive and better lenses were developed a search for a more actinic artificial light began. Experiments on the use of magnesium as an illuminant were performed, particularly after the studies by Roscoe and Bunsen on the photochemical properties of the metal. Different kinds of lamp were tested for use with pure magnesium in the form of ribbon and powder as well as a component in a flashpowder composition for the production of negatives and positives.

In his book on photography and artificial lights, Albert Londe stated that “*The use of artificial light in photography is of the utmost importance as this will permit work anywhere and at anytime. The choice of the appropriate artificial light will accurately determine the exposure time and the operation will be carried out with a precision that cannot be achieved with natural light.*”

By the end of the nineteenth century, both general scientific photography and specialised underground and submarine applications had undergone a great development employing mainly magnesium and flashpowder as illuminants. In this paper we will present a study of some lamps and instruments used with artificial light in nineteenth-century scientific photography, discussing their uses and limitations.