

# Nineteenth century medical photography as physical-chemical inquiry: a collaboration between physicians and photographers

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Since its invention in the nineteenth century, the photographic technique, itself the product of physical-chemical experimentation, was understood as the French astronomer Jules Janssen (1824-1907) called it, “the true retina of the scientist”. One of the first scientific applications of photography was in the field of medical sciences: associating a photographic camera to a microscope, the French physician Alfred Donné (1801-1878), obtained, since 1840, photomicrographs of human blood and mucus, which were published in a medical Atlas in 1845. Throughout the nineteenth century, medical photographs will be often obtained with the collaboration of renowned photographers, leading to a high value corpus of photographic iconography related to the practice, diagnosis and communication in medicine. The making of these medical images did benefit from the work of professional photographers who invested on the research of the chemistry of photographic emulsions, photomechanical techniques and instrumentation. Initially, the photographs were executed in photographic studios, but at the end of the nineteenth century, photographic laboratories were installed in hospitals and other medical institutions, integrating photography into their daily routine.

Some of these photographers are now an intrinsic part of the history of photography and medicine, among many others: the chemist Albert Londe (1858-1917), head of the photographic service at the *Hôpital de la Salpêtrière* in Paris, the photomicrographer Fernand Monpillard (1865-1937), who installed a laboratory in Paris, worked with several medical institutions and did research on the chemistry of colour photography, the brothers Felix Nadar (1820-1910) and Adrien Tournachon (1825-1903) who collaborated with the physician Duchenne de Boulogne (1806-1875), Georges Demeny (1850-1917), assistant to the physiologist Étienne-Jules Marey (1830-1904), who conducted with this physician research on how to capture and display moving images of the human body, making also the photographic analysis of the spoken word.

In Portugal, two of the most successful professional photographers, Augusto Bobone (1852-1910) and Emilio Biel (1838-1915) obtained radiographs at the initial period of the medical application of X-rays. Bobone, who worked with the physician Virgílio Machado (1859-1927), published in 1897, a monograph on the research and practice of radiography. Several other photographers collaborated with students of the Medical Schools (*Escolas Médico-cirúrgicas*) of Lisbon and Oporto, making photographs and photomechanical prints for their final thesis.

In this paper we will discuss the role of professional photographers in the evolution of photographic techniques and its relation to medical research and imaging.

## References

1. Bobone, Augusto (1897). *Raios-X. Notas práticas de Radiologia sobre as primeiras investigações em Lisboa em 1896*. Lisboa, Livraria de António Maria Pereira
2. Monpillard, Fernand (1926). *Macrophotographie et microphotographie*. Paris, Gaston Doin et Cie