Photography as chemical inquiry: Lumière brothers' quest for organic developers

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The History of Photography entails a wide array of techniques, devices, supports and developing processes.

During the 19th - early 20th centuries all over Europe research was carried out by many chemists in the field of organic chemistry as applied to photography. In 1873 the German photochemistry Hermann Wilhelm Vogel (1834 –1898) began research on photographic emulsions using new organic dyes, which led to a great improvement in the plate's sensitivity and opened a new era in photography. These organic compounds, which he named *optical sensitizers,* made possible to extend the sensitivity of the plates to the green and orange part of the spectrum. The formation of the latent image strongly depended on the chemicals used as developing agents; as was the case for the improvement of the photographic emulsions, research advances in organic chemistry were also very helpful in this field. Momme Andersen (1857-1954) and Josef Maria Eder (1855-1944), respectively in Germany and Austria, succeeded in the investigation of organic developers for dry-plates that were promptly and widely adopted. In France, the Lumière brothers joined forces with the chemist Alphonse Seyewetz (1869-1940) to carry out chemical research in the same field at their factory in Lyon.

In this paper the chemical interpretation of the organic developer's role in photography is analyzed by using the work of the Lumière brothers and Seyewetz as a case study, grounded on some of their original notes and mainly on a series of papers published along the late 19th –early 20th centuries in the *Bulletin de la Société Française de Photographie,* **hitherto overlooked by historians of photography.**