

# The Autochrome: 100 Years of Color Photography

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by Mark Antman

By the early 1900s, black-and-white photography was not only an accepted art form, but a well established means of documenting the human condition. Black-and-white plates had been perfected and blazingly fast shutter speeds of 1/60 second were possible. Everyone understood that photography could capture reality, suspend it in time and project the image far into the future. What was missing in that captured reality however was color. Everyone dreamed of producing color images and among those dreamers were the Lumière Brothers.

Auguste and Louis Lumière were fascinated by photography from an early age. Their father, Antoine, was a painter turned photographer who urged his sons to pursue technological aspects of photography. They invented an easy to use affordable “dry” black-and-white plate called the “Etiquette Bleue.” By 1894 the Lumière factory in Lyons, France was producing over 15 million of these black-and-white plates per year. The financial security the Lumières enjoyed from these sales allowed them to pursue other areas of interest. At the urging of their father they turned their attention to the moving image. As Louis lay awake one night he was inspired by the principle the of presser foot mechanism of a sewing machine. He then devised a system that resulted in the Cinematograph which projected moving images for the first time. The brothers are also credited for numerous medical inventions and vaccines.

The Lumière brothers always felt that color photography was their real challenge. The autochrome was not the first method of producing color images however. For years other photographers and inventors had attacked the problem. Many relied on techniques requiring 3 cameras or three different exposures. The final image was assembled in a mechanical composite process. But these processes were too cumbersome and complex to free photographers to pursue their craft. In 1904 the Lumières patented the autochrome process and in June 1907 they presented the autochrome to the Paris Photo-Club. It was an instant success and demand for the plates far exceeded supply.

Technically, the autochrome process is a combination of ingenuity and creativity linked with a solid understanding of chemistry and physics. Fine grains of transparent potato starch were dyed red-orange, green and violet. A fine mixture of this powder, one layer thick, was applied to a glass plate. The spaces between the starch grains were filled in with lampblack and then the entire plate was subjected to enormous pressure. A light sensitive silver bromide

emulsion was then applied. Each grain acted as a small filter permitting the corresponding colored light to pass through and expose the emulsion. Once processed, the result was a glass transparency.

In black-and-white photography form, line and tonal quality were the significant features; color added an entirely new dimension and opened up a new world of possibilities. Photographers were quickly drawn to the process, and set out to explore a world of color that had never before been possible. However, photographers whose perspective had long been shaped by monochrome photography had to re-educate their vision and learn how to perceive color.

Due in part to the influence of the pictorial school of painting of the time, autochromes are lush, lyrical and evocative. Technical limitations, such as exposure times of a second or more, meant that static posed images were favored over more dynamic subjects. In some circles, questions began to arise as to whether the art of painting was in jeopardy.

Although there were some other early attempts to produce color photographs, the autochrome remained the preferred method for creating color images until 1930s when it was replaced by other techniques such as Kodachrome and Agfacolor. The inherent fragility of the plate has resulted in many of these images being lost over time. Some carefully protected archives remain however, leaving a rich heritage of autochrome imagery for us to appreciate today and into the future.

*The Image Works is an independent editorial stock photography agency that has unified the works of numerous photographers and specialized collections from around the world into one archive. The Image Works images come from different sources: top-notch photojournalists, a network of affiliated agencies, specialized collections, museums and newspapers. Spanning both historical and contemporary photography and illustration and fine art, this diverse yet focused online collection of 1 million images covers both the broad and precise needs of editorial picture buyers. The Image Works is pleased to be able to supply these autochromes and an insight into the birth of color photography. Its collection of early color photography is a growing part of the archive.*



U.S. photographer Alvin Langdon Coburn traveled between England and the United States for the first ten years of the twentieth century photographing notables such as Mark Twain, Yeats, Shaw and Matisse as well as New York City, London, Paris, Edinburgh and Yosemite. This image of Mark Twain was taken in 1908.



*Auguste (1862-1954) and Louis Lumière (1864-1948) invented the autochrome, and cinematography.*

*Soon the world will be color-mad, and Lumière will be responsible... The Lumières... have given the world a process, which in history will rank with the startling and wonderful inventions of those other two Frenchmen, Daguerre and Niépce.*

—Alfred Stieglitz.

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*A woman sews the American flag, circa 1910*

© George Eastman House / Russell / The Image Works



*A man lights his cigar, circa 1910.*

© George Eastman House / The Image Works



*A man reads a book in the Fontainebleau Forest in France, 1910.*

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*Still life study of flowers, circa 1908, photographed by Baron Adolph de Meyer.*

*I have no medium that can give me colour of such wonderful luminosity as the Autochrome plate. One must go to stained glass for such color resonance, as the palette and canvas are a dull and lifeless medium in comparison.*

—Edward Steichen



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*I too have the color fever and have a number of things [images] that I am simply in raptures over.*

—Alvin Langdon Coburn in a letter to Stieglitz



*"Daydreams" was photographed by John Cimon Warburg, who excelled at the autochrome process, wrote about it and gave lectures on the subject.*



*The daughters of photographer Etheldreda Janet Laing were photographed in their garden on a hot summer's day. In 1908, Laing took a series of autochromes of her children in the garden of their home, Bury Knowle.*