



By **Enio Leite**

COLOR PHOTOHISTORY

Though the invention of photography had an immediate impact on the whole art & culture world at this time, but the early photographs were all in monochrome. As an additional service, [daguerreotypes](#) could be hand-painted, which kept a quite number of painters of miniatures in great business. However, it was to be a little time before color photography was about to become a reality.



During the 1860s [James Clerk Maxwell](#), using as a subject a tartan ribbon, showed that three monochrome images could be formed of a subject, each one taken using a different color filter (red, blue and green – RGB Principle). By projecting these images using three

lanterns, each equipped with a corresponding filter, the original colors could be recreated.

The results were somewhat disappointing to Maxwell and his collaborator [Thomas Sutton](#), but nevertheless they deserve the credit for laying the foundations of trichromate color photography, named later on as RGB.

Interestingly, strictly speaking this experiment should never have worked! Maxwell did not know this, but at that time the emulsion in use only responded to light at the blue end of the spectrum.

So how could anything have been recorded on the "red" and "green" slides? It was not until one hundred years later that when the experiment was repeated, it was discovered that the green filter had also passed some blue light, whilst the ribbon's red colors were also reflecting ultra-violet rays, which had been recorded on the red plate.

However, though this (by sheer coincidence) produced the right effect, it does not detract from Maxwell's discovery, for with an appropriate emulsion responding to all colors the method works well.



In 1873 [Herman Vogel](#) discovered sensitizing dyes, which was a step forward in the pursuit of full color photography. As a result of his work, "orthochromatic"

plates, sensitive to all colors with the exception of red, were produced.

But in 1876, some German photographers using “low tech”, could get their first color print as showed just below.

In 1869 [Ducos du Hauron](#) had published a book offering another method - the [subtractive](#) one - by which color could be re-created. One of his suggestions had been that instead of mixing color lights, one could combine dyed images; film could be coated with three very thin layers of emulsion, each sensitive to the primary colors; once processed as positives, the transparency could then be viewed as a full color photograph. At the time, however, the emulsions were such that none of his proposals could be tested. It was not until the mid 1930s that Kodak was to produce a film based on this principle, to be named Kodachrome; up till then the [additive](#) methods suggested by Maxwell had been used.



When in 1906 "panchromatic" films, sensitive to all colors, came into production, some photographers began taking three "[separation](#)" negatives, using a viewer, which enabled one to see all three slides superimposed upon one another.

In 1907 [Auguste and Louis Lumière](#) produced plates they called [Auto Chrome](#), using a different system from that above. The colors appeared in delicate pastel shades, often looking very dark, but were well received at

that time.

ART: Source – Fotomagazin, Germany, Sept. 1989, p14,16 & 17. Photo. France,1978. pg.40/42.

FOCUS SCHOOL OF PHOTOGRAPHY, SP, Brazil