DP3 digital print preservation portal
Newsletter
IMAGE PERMANENCE INSTITUTE
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UPCOMING EVENTS

IS&T Non-Impact Printing Conference in Quebec City, Canada

September 9-13, 2012

IPI has submitted two papers for presentation in the Image Permanence Session of this conference:

- Colorant Fade and Page Yellowing of Bound and Unbound Materials Printed Using Digital Presses and Offset Lithography when Exposed to O3 or NO2
- The Light-Induced Deterioration of Inkjet Media In Frames

UPCOMING WORKSHOPS

Aesthetics, Craft, and Care of the Fine Art Digital Print in Rochester, NY

July 30 – August 3, 2012

In a small group setting, this lecture and hands-on style workshop will teach participants the unique aesthetics of the fine art digital print and help them understand their distinguishing characteristics.

More information on this workshop can be found here.

Identification and Conservation of Digital Prints in Boston, MA

October 29 – November 2, 2012

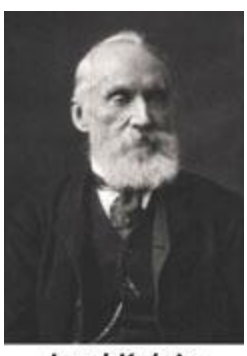
A Collaborative Workshop in Photograph Conservation, organized by Martin Jürgens. Funded in part by grants from the National Endowment for the Humanities and by The Andrew W. Mellon Foundation.

More information on this workshop can be found here.

RECENT PUBLICATIONS

Lessons in Digital Print Preservation: The DP3 Project in *Topics in Photographic Preservation: Volume Fourteen* (AIC 2011)
Purchase from AIC

Digital Print History – The Siphon Recorder: The 145-year-old Inkjet Printer


Lord Kelvin

The siphon recorder was invented by William Thomson and patented in 1867, long before the 1980's when inkjets were first used to create digital prints from a desktop computer.

The siphon recorder was developed specifically as a way to capture the very weak signals that were being received through the extremely long trans-ocean telegraph cables. These signals were not strong enough to pull down the standard metal sounders that were used with landlines (and made the famous tap, tap, tap sound we are so familiar with from western movies). The trans-ocean signal sending units were also different than traditional telegraph senders. These did not have a single handle to tap out the dots and dashes of Morse code but double handles. One sent a positive charge and the other a negative charge.

In the receiving unit, the siphon recorder, a glass tube (the siphon) oscillated back and forth on a pivot. It swung in one direction when the signal was positively charged (representing the "dot") and the other direction with the negative charge signal (representing the "dash"). The upper end of the tube was immersed in an ink reservoir; the lower end held just above (but not in contact with) the recording paper. The ink was charged and was pulled in a spray from the tip of the tube by an oppositely charged plate behind the recording paper. As the paper moved forward and the tube swung back and forth, it created a continuous "wobbly" line. The fluctuation of the line, therefore, corresponded with the source's transmitted signal and could be read back from Morse code into the originating language.

Read More

HP Image Permanence Award



Alan Hodgson is receiving the 2012 HP Image Permanence Award as recognition for his ongoing support of academic research and the training of our next generation of scientists investigating the permanence of imaging materials; his hard work on developing international standards on the permanence and preservation of digital printing materials; his significant contributions on the subject of image permanence for the technical literature; and his long history of volunteer work for the Society for Imaging Science and Technology, the Royal Photographic Society, and the Institute of Physics Printing and Graphics Science Group where he has acted as chair of their *International Conference on Preservation and Conservation Issues Related to Digital Printing and Digital Photography.*

ID Tips – Rough or Smooth Backs on Inkjet Photos

In an effort to make inkjet printed photographs look and feel like traditionally printed photographs, many manufactures used the same resin-coated paper support (often referred to as RC paper). The resin coating is a thin layer of polyethylene extruded onto each side of the paper support. It is applied before the colorant receiver layer is added and so is underneath the image on the front of the print. The layer on the back is usually clear allowing for any printing on the photo's back, such as company logos, to show through. The layer on the front is pigmented with titanium dioxide to make it very white thus improving image brightness and contrast.

As described on the DP3 Project website in the section outlining the different digital printing technologies, the colorant receiver coating can be a porous or polymer (swellable) type. Prints made on these two different papers will behave very differently over time even when created on the same printer with the same inks. The porous-coated papers can be very sensitive to air pollutants because the colorants are constantly exposed to the air. The polymer-coated paper is very sensitive to colorant bleed and water damage as the coating is water soluble.

Therefore, it is important to be able to differentiate these print types. The most striking difference will be the texture of the back of the print. Polymer prints are typically rough on the back while the porous are very smooth. This is because the polymer paper is sensitive to blocking and ferrotyping to adjacent smooth surfaces. Polymer prints in stacks (even in the original package) can stick to each other or lose gloss. Porous-type papers aren't prone to this type of damage, so the manufacturers did not need the added expense of applying texture to print's back.

Terminology

Polymer-Coated Photo Paper – Paper for printing inkjet photographs on which the ink receiver layer is a moisture receptive polymer. When the aqueous ink contacts the print's surface, the receiver layer swells allowing the ink to be absorbed into the polymer. When the ink dries the polymer constricts encapsulating the colorant within. It is also known as swellable-coated paper.

Porous-Coated Photo Paper – Paper for printing inkjet photographs on which the image receiver layer is formed by very small mineral particles bound by polymers to create cavities for the ink to be absorbed. High gloss papers typically use silicas or aluminas. These are also referred to as nano- and micro-porous-coated paper. Matte paper coatings usually consist of calcium carbonate and are sometimes referred to as macro-porous papers.