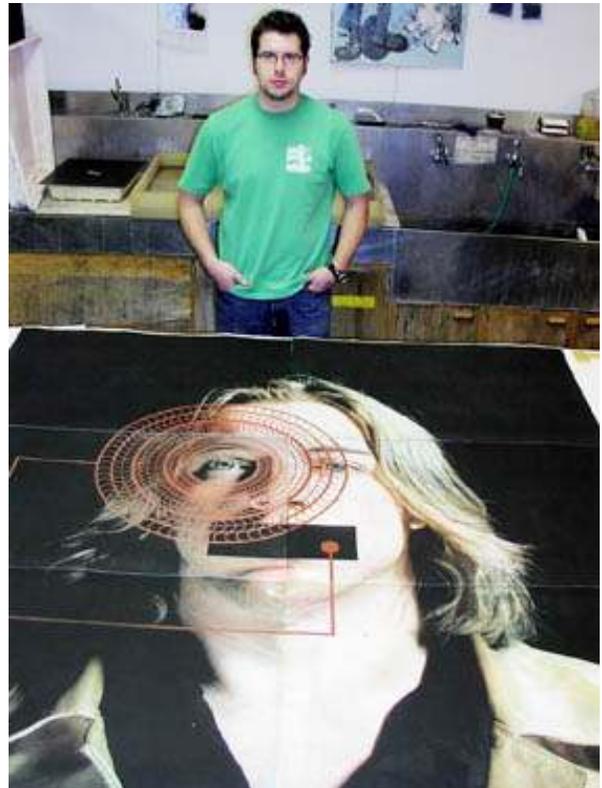


The Intaglio Printmaking Technique for 4 Color Inversion Intaglio-Type by Keith Howard

In 2005 two of my graduate students, Adam Werth and Justin Myer Staller were working on very large 4 Color Intaglio-Type prints. Adam was using up to twenty four 24" x 36" plates to create one 6' x 6', 4 color Photo Intaglio-Type image which required pin-point registration.

For Perfect Registration

At first, Adam and Justin tried intaglio-type on copper plates but couldn't get the registration correct. They finally came to the conclusion that they could apply ImagoOn to clear **PETG plastic**, forget about traditional registration and print these plates upside down, registering each plate by looking through the plate and aligning it with the previous printed color.



(Above) Adam Werth, used 4 Akua Intaglio colors to print twenty four 24" x 36" plates to create one 6' x 6', 4 color Photo Intaglio-Type Print

(left) Justin Myer Staller, 4 color Intaglio-type printed with Akua Intaglio inks.

Using PETG Plastic Plates for Easy Registration

The PETG plastic, being so soft and malleable, compresses as it went under the top roller of the etching press during the printing process. This compression forces the Akua Intaglio ink onto the surface of the printing paper thus creating a completely new printmaking aesthetic. As there is no historical or contemporary printing process that uses plate compression to transfer ink to paper the term **Inversion Intaglio-Type** printing was born to describe this technique.

Unique Plate-marks

This upside down printing technique creates a unique plate-mark between normal intaglio and letterpress printing and although there are four surface layers of Akua ink on the printing paper there is no visible sign of image embossing. There is however amazing saturation of color and a visual dynamic where on large 4 Color Inversion Intaglio-Type prints there is a need to selectively register the most important aspects of an image. This selective registration engages the finished print with a subtle and enigmatic focus, something virtually impossible with other printing techniques.

Steps for Printing 4 Color Inversion with Akua Intaglio inks



1. Hansa Yellow

2. Crimson Red

3. Phthalo Blue

4 Carbon Back

(Above) Kelsey Wall, RIT undergrad student 2010, printed this intaglio type print using four Akua Intaglio colors. The plate went through the press four times. Each time it went through the press the plate was on top of the paper. She registered the image by looking through the plate and aligning it with the previous printed color.

Technical Hurdles

One of the biggest technical hurdles to overcome in the printing of 4 Color Inversion Intaglio-Type plates is paper shrinkage during the printing process. Initially this was controlled by printing each plate as quickly as possible while using a personal humidifier to humidify paper that was beginning to dry. Paper drying while printing 4 colored plates in succession presented a registration problem because when the paper dried it shrunk making perfect registration impossible. The damp etching paper would always dry from the outside edges in towards the center so most attention was focused on humidifying the outside edges. Paper edges would start to curl and lift which was the cue that they needed humidifying.

- **Printing with Damp Paper**

We used Hahnemule Copperplate paper which was dampened, calendared and then wet packed the day before printing. The type of personal humidifier we used was a water bottle with a hand pump at one end that when pumped caused a fine mist spray to come out a small hose and nozzle attached to the base of the bottle.

- **Printing on Dry Paper**

To avoid damp paper shrinkage problems many of my students switched printing papers to Arches 88 that could be successfully printed totally dry. This removed the possibility of registration errors caused by damp paper shrinking during the 4 color printing process. Dry paper printing introduced another problem in that about 5-10% of the ink transfer from plate to paper was lost. As there are four plates being printed in succession onto one piece of paper this ink drop-out was not generally noticeable in the finished print.

4 Color Unique Color Balance

As I wanted to create an even more unique printed image I chose specific Akua inks to create a harmonious color balance that was not a duplication of a normal “commercial” color balance created with conventional Cyan, Magenta, Yellow and Black inks. In this respect I must acknowledge the research by David Jay Reed who pioneered very unique CMYK color ink systems which were documented in my book “The Contemporary Printmaker”.

Specific CMYK ink systems developed for Akua Intaglio ink



4 Color Intaglio-type by Ryan Laurey

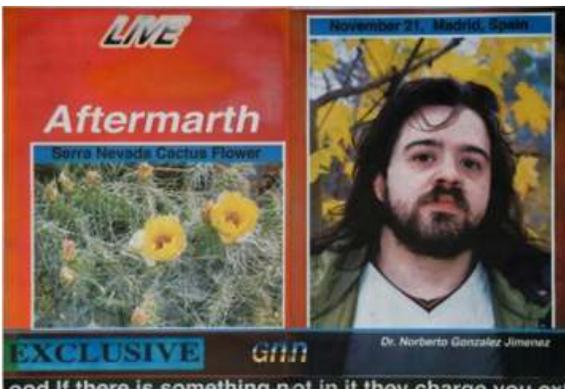
For Landscape

C Akua Intaglio Phthalo Blue with 50% Transparent Base

M Akua Intaglio Crimson Red

Y Akua Intaglio Hansa Yellow

K Akua Intaglio Carbon Black



4 Color Intaglio-type by Keith Howard

For Skin Tones

C Akua Intaglio Phthalo Blue with 50% Transparent Base

M Akua Intaglio Scarlet Red

Y Akua Intaglio Hansa Yellow

K Akua Intaglio Carbon Black

The above colors are but two potential color scheme samples. Some imagery demands more transparent base because of a dominant color cast in the final print. The main thing is to make four CYMK Intaglio-Type plates exposed to Photoshop separations and then print them and then decide what color correction, if any, is needed to realize the final image.

The point is that this method of printmaking has many levels of color complexity which will keep any contemporary, innovative printmaker engaged for years.

Keith Koward is Head of Contemporary Non-Toxic Printmaking at Rochester Institute of Technology and author of . He often develops techniques to respond to students technical demands. The above represents some of his latest research into Intaglio-Type printmaking. For more information about other Intaglio-Type techniques please refer to his last book "The Contemporary Printmaker."

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