The Discrete Potential of Four-Colour Photogravure in Contemporary Art Production

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In September of 2007 we embarked on our current research project: Creating The Vi- sual Book Through The Integration Of The Diverse Technologies Of Photogravure And Digital Processes. This project is gen- erously funded by the Social Science and Humanities Research Council of Canada’s Program for Research/Creation Grants. It is a collaboration between three artists/ researchers, Marlene MacCallum, David Morrish and Pierre LeBlanc all of whom are members of the Visual Arts Program of Memorial University of Newfoundland, Sir Wilfred Grenfell campus in Corner Brook, NL, Canada.

In this research project, we explore the impact of introducing digital technolo- gies to traditional analogue photogravure procedures to create four-colour separa- tion photogravures. Digital tools are used in the early stages of production and the analogue methods are re-asserted midway through. The first digital step was to ex- periment with the potential of generating images through electronic means. Digital cameras, scanner technology and Photo- shop software controls offer new options in the image-making tool set. The next ap- proach was to create digital output as an alternative to film positives. Photoshop provides controls not easily available in tra- ditional wet darkroom processes. This al- lowed us to standardize image parameters. Current large format inkjet printers and transparent media provide both a chal- lenge and benefit. The benefit is that we now have a greater degree of predictability and consistency in the production of film positives. The challenges are two-fold. We are working with the pixels of the dig- tal file and the film output and a reduced tonal range. It becomes necessary to devel- op etching and image adjustment curves for the digital files to account for the cu- mulative densities of a four-plate intaglio print and the differences in etching CMYK plates. Photoshop greatly facilitated the generation of the CMYK separations and the establishment of a registration system. We also used digital technology to create our stochastic photogravure screens, but used hard-dot film-based ImageSetter output by a service bureau. The sensitiz- ing, exposure, etching and printing meth- ods still remain analogue in nature, but the etching procedures have evolved in response to the physical parameters (re- strictions) of a digitally generated positive. The printing of four-colour photogravures also required extensive experimentation in order to develop a precise and consis- tent registration system. In the course of investigating the means to produce four- colour photogravures, we experimented with other applications such as printing photogravure plates over inkjet prints. We also plan to examine the potential of pho- topolymer (both intaglio and letterpress) when combined with gravure and inkjet.

The first half of our research has been focused on learning how to make four- colour photogravures. We have now reached a point where we can make high quality four-colour photogravures that are mimetic in quality and effect. We have written a series of handouts that provide the technical and procedural data that we have learned in the course of our research. These documents are available through our research project website: www.swgc. ca/allis. Our focus is now on the aesthetic and conceptual implications using these new skills in the production of sequen- tially based images and book works.

During the initial stage of our research, we were engaged in a steep learning curve, discovering how digital tools could pro- vide us with new options in making pho- togravures. The discovery process and accumulation of knowledge was signifi- cant enough to validate the experimenta- tion. Not surprisingly, much of what we learned has broader applications than our very specific and esoteric focus. Now that we have completed this first phase, however, we must confront the rather dis- quieting question of the relevance of the four-colour photogravure process in the context of a contemporary art practice. Is this historical/contemporary hybrid nec- essary given the options of digital print and colour photographs? The labour, ex- pensive materials, and resources required are so extensive that we have to be sure that the process has validity for us in our individual artistic practice. Simply put: what can a CMYK photogravure do that is distinctive and offers creative options not available through other mimetic process- es? The remainder of this article describes our individual experiments and con- clusions in response to this question.

David Morrish — bookwork: DIED. In an initial prototype version, this artist’s book contains one black and white photogra- vure, one four-colour photogravure and an intervening sequence of four digital inkjet prints with an embossed title page and a letterpress colophon. The point of mixing media was to examine the transformation from the photographic document to the pho- tographic impression. I was interested in the surfaces of the aging gravestones and the details of the incised letters of the word “DIED” on these stones and how they were physically echoed in the media used for the bookwork. As in past work, I assumed that the four CMYK plates, however, combined to cre- ate a smooth and seamless translation that was almost exactly how the inkjet printer laid down the colors to create an image on coated matt paper. After our labour- intensive research in order to print CMYK gravure in perfect registration, I needed to rethink why I would use it rather than the less labour-intensive and material-intensive inkjet version.

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The next stage was to rework the four-co- lour plates by allowing the introduction of natural processes such as corrosion the natural decay of the image on the plate and the di- fferent effects of natural forces. This stage requires time for natural processes like corrosion and verdigris, it potentially takes a long time before a reprint of the plates shows the transformative effect that this will have on the image. Another option was to phys- ically alter the plates by distressing them, in service of them, or abseot them. The sample image shows the letters D-I-E-D, floating over or within the image. (See fig- ure 2). These changes were created by et- ching specific areas (open bite and aqua- tint) and hand-scraping or burning the plate in various ways. These changes are more profound and will transform the purely photo-document to the photogra- vure plate and resulting print.

After the creation of the first prototype of DIED that included a CMYK pho- togravure, it was obvious that the color gravure was almost exactly like its inkjet counterpart printed from the same image file. Without a surrounding plate mark, the image appeared as pure color on the surface of burnished paper, not unlike the inkjet version. I was actually quite sur- prised at how perfect this photogravure print turned out to be. I had always as- sumed that 4-colour gravure would have a similar impact on an image that black and white gravure had, whereby the blacker blacks and subtle surface renditions cre- ated a surface very unlike its photographic equivalent. (See figure 1)

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image to a point far from mimetic as the separation colours reassert themselves in ink within the colour layers of the print.

Another hybrid experiment between the digital image and traditional gravure stages was to make a black and white gravure plate of an image with specific areas blocked out (left pale or white) and use the inkjet printer to print full color and detail into these local areas under the gravure impression. This hybrid print worked well in theory, but was a nightmare to register in practice. It was difficult to find an inkjet paper that could be soaked for the gravure impression without bleeding the pigment inkjet inks. We were then faced with the problem that the digital colour areas could be an integral part of a distinct new form where the analogue is not negated or relegated to the background.

Marlene MacCallum: Prior to this research, my use of digital processes and tools was limited to text and communication software and equipment. My first goal was to discover digital image-making means that would be distinctly different from my existing methods. This investigation led to the creation of the bookwork, In Camera: Lens. (See figure 4) The perceptual response to paradoxical situations has been an ongoing theme in my work. In this research I maintain my fascination with the dynamic of perceived opposing forces in the context of the different mechanical workings of historical vs. current media. The strong technological focus of this bookwork led me to consider the tools and the ubiquitous eye in generating visual records. The contrast between these two interpretations reminds us of the role of mechanical devices in our interpretation of the world.

My next focus was to investigate how media-related decision-making influences outcomes. I set the task of translating a single digitally generated image source via three print media: four-colour screen-printing, digital inkjet printing and four-colour photogravure. Each of the three prints resulted in different interpretations, confirming that the image is not external to its form of presentation, but rather the media is instrumental in creating the meaning of the piece. The four-colour photogravure became the starting point for the bookwork, Quadrifid. (See figure 5) This bookwork is an exploration of the four-colour separation plates. The potential of the process lies not in the creation of a seamless colour reproduction but in the printing permutations that can deviate from the preconceived use of a colour-separation method. Colour separation photogravure creates an amalgam of a historical photographic process and current digital technology, maintaining the ink on paper process for its specific qualities while taking advantage of digital capabilities. I now realize that much of the distinction of the four-colour photogravures in our earlier prints were artifacts of the digital processing. At that point we did not fully understand the implications of over-adjustments or curves applied in wrong
mode. Since then we have gained a level of control where we can produce four-colour photogravures that are mimetic to the image source. This provides a new challenge in identifying the distinct necessity for four-colour photogravure.

One of my latest projects, Townsite Layered, provides me with the opportunity to examine the impact of mimetic vs. mediated image-making methods. I am currently re-approaching an earlier piece, The Townsite House Project. I live in Corner Brook’s Townsite area and photographed in six homes that have the same floor plan as mine. I set out to provide the visual equivalence of the uncanny experience of being in homes that are the same yet not the same as mine. The earlier version consists of one bookwork and thirty-four silver gelatin photographic prints. I am now reworking the photographic diptychs and triptychs into a second bookwork. For this, I have created two four-colour photogravure images that expand on the visual and conceptual contrasts and comparisons that are key to the piece. (See figures 6 and 7) The initial photographic explorations were done in black and white film. The sixth and final home was photographed in colour using a digital camera. The first version of the project sets up an oppositional relationship between the photographic record and interpretive print translation. The addition of colour imagery and a new bookwork adds a viewing experience that triggers a more complex response. By using four-colour photogravure, the images can be presented as either a document that is mimetic to the photographic source or by interspersing plates from the two sources a layered image-memory is created. These pentimenti echo the architectural palimpsest theme that runs throughout the project. Another crucial aspect to the uniqueness of four-colour photogravure is that each layer occurs through a discrete printing. This is in direct contrast to the simultaneously produced surface of a digital print (as discussed by Dr. Paul Coldwell in his presentation at IMPACT6, Towards a Consideration of the Role of Surface Within Digital Fine Art Printmaking). The separate press runs allow for variation within printing order, shifting the image information and colour balance while creating a unique surface.

The final example is of another in-progress bookwork, Trompe l’Oreille. (See figure 8) This work was prompted by an interest in the role of illumination in both photography and the history of the book. The image of the framed ear was the catalyst. A series of images of ears or ear-like forms have been found or created to make a work that addresses the deceptive nature of appearances. A variety of multiple producing technologies were used in creating the source images and as such the piece has a secondary theme on the impact of these processes on the resulting image. The final images, however, will be primarily photogravures; either four-colour or black & white. In this instance, the distinctness of the photogravure surface serves to create visual coherency. By compressing the images into one type of visual surface, the difference between the image sources is played down and the eerie similarities are enhanced.