Case study number: 03/2013
Project Title: *Digitally Printed Silk Light-boxes and Sculpture*
Researcher: Miranda Smitheram - researcher and designer
Project Period: May 2012- May 2013

Project Background:

Miranda's research focus for her practice-led Master of Philosophy project was the design and creation of symbolic artefacts that offered a visual interpretation of conceptual relationships between globalization and cloth. The primary technology and method of creative exploration that she adopted was digital textile printing. Through this medium the project engaged with a wider discourse about digital media, industrial processes and consumption. As such, digital printing was explored both conceptually and through the creation of digital textile prints.

In June 2012 Miranda attended a digital textile printing master class taught by Hitoshi Ujiie from the Centre of Excellence of Digital Inkjet Printing for Textiles at Philadelphia University. The class was held during the same week as the 1 day symposium, **Innovations in Printed Textiles,** which was hosted by the TDL. Through this workshop Miranda developed Adobe Photoshop techniques that informed her design strategy and practice, and also had the opportunity to print a test length of fabric at the TDL with her design. Miranda described the process of learning from Hitoshi during the workshop as "both instructive and liberating: Hitoshi taught his tested methods of traditional repeat print textile design, and was also extremely helpful in sharing his expert knowledge to enable her to create non-repeating prints".

Project Description:

This research centred on creating large-scale digital textile prints, many of which incorporate scanned and photographed images of vintage, handmade embroideries and tapestries into a digital landscape. Pre-treated silk charmeuse fabric stocked at TDL was selected as the base cloth, after considering the various fabric stocked fabric options and trialling some test prints. The printed silk lengths were then converted into light boxes, sculptures and wall hangings for her exhibition.

Project Methodology:

Initial design stages involved testing prints for colour, registration, and composition. Miranda worked on many Adobe Photoshop files, and then selected a group of images which she combined together to test on fabric. As the prints were all engineered prints, she selected 30 cm by 30 cm squares from different sections of each image, and generated a test print with these grouped into a grid in preparation for printing. This enabled her to see the print and colour resolution before adjusting for a final print. There were some differences noted initially with colour results, due to the format differences between the computer screen, the colour photocopier, (which was used to print out tests on paper) and the digital textile printer. The TDL printed a colour chart onto her chosen base cloth for reference, which was helpful in selecting corresponding colours in Adobe Photoshop.

During the workshop with Hitoshi Ujiie, Miranda developed her own method of creating an engineered print, with an abstract or non-repeat format. This established the initial design approach. Placement prints require a process of consideration of the final form for the fabric, in order to optimise the positions of motifs and overall design. Miranda's inclusion in her prints of photographed imagery of handcrafted embroideries and textiles resulted in highly detailed prints. As the scale of photographs was often blown-up, details such as stitching and 'maker's marks' became visible.

Another key design decision was ensuring clarity of registration of print. With the textile print's final form being light boxes, detail became crucial. Light shining through the silk highlighted any 'bleeding' of ink on the print. The TDL worked with Miranda to produce pristine printed lengths, as any small fabric flaws, runs or slubs in the warp and weft would be magnified by the light shining through the print.

After test-printing, adjustments were made to the Adobe Photoshop files if required, such as colour saturation and contrast. Final prints were designed to fit the silk charmeuse fabric width, so as to minimise fabric wastage.

Feedback:

Digital textile printing became an important method of Miranda's research, and she credited the TDL's support during her research process saying, "The turnaround times for printing were fantastic, and the quality of print really added a photo-real aspect to my work. What really set the relationship with the TDL apart though was the great feedback and collaboration during the process, which enabled me to develop prints further, and showed the commitment from the TDL to getting a great result ".

Outcome:

The textile prints and artefacts were exhibited as part of Miranda's practice-led Master of Philosophy, for which she received first–class honours.

Insights:

Test printing using A3 size swatches with the TDL first enabled Miranda to make critical design decisions - such as not incorporating large areas of solid black into prints, as the result was highly pigmented. 'Softening' the textile designs in Adobe Photoshop with filters and effects also worked better for the lightweight silk charmeuse base cloth.

Engineered print designs worked well for Miranda's final project outcomes, incorporating a narrative and story through the design. She noted that a thorough and close scrutiny to every inch of print needed to be paid to ensure accurate and successful print, as engineered designs work with many layers of images and details.

Conclusion:

The TDL has since developed broader colour profiles for specific stocked base fabrics, which enables more accuracy of matching the screen colour to the printed textile colour result. This enables students to colour match from a colour profile on their choice of base cloth.

Miranda continues to explore digital textile print as both a method and as a technology that frames her PhD research.

Conference Papers:

Smitheram, M. (2013, March). *Digital Craft: A future for historic textiles?* Paper presented at the Costume and Textile Association of New Zealand Symposium, Government House, Auckland, New Zealand.

Publications:

Smitheram, M. (2013). The Superfluous and the Ephemeral: Consumerism, globalisation and future fashion systems (Master of Philosophy thesis, Auckland University of Technology, Auckland, New Zealand). http://hdl.handle.net/10292/5594

Smitheram, M. (2013). Digital Craft. Context: dress/fashion/textiles. Issue 26, Winter 2013.

Interesting and Relevant links:

A blog detailing Miranda's work in progress during her MPhil can be seen at
http://ephemeralandsuperfluous.blogspot.co.nz/

Contact: mirandasmitheram@gmail.com

Images: