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ARTIST'S WORK

—

Michelle Stephens

Michelle Stephens is a textile artist and lecturer from Moira, Northern Ireland, UK who has a wide range of qualifications including a BA First-Class Honours degree, a Master's degree and a practice-based PhD. Currently, Michelle is also a member of the internationally recognized 62 Group of textile artists.

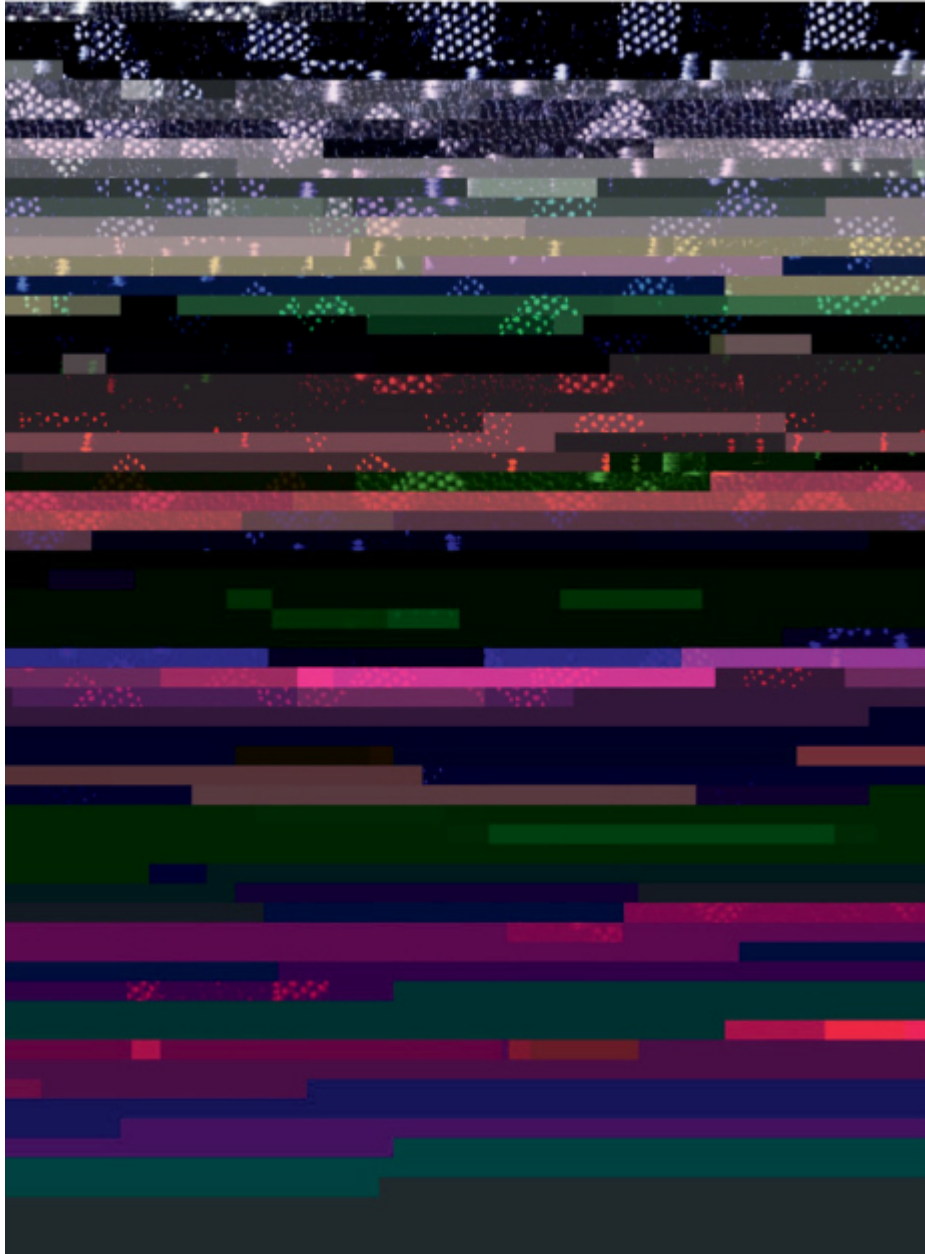
For her project *Coded Cloth*, Michelle collaborated with The Silk Museum and Paradise Mill, Macclesfield, Cheshire, to utilize archival pattern books from their collection. They provide source material for her to creatively explore and interpret pattern designs for digital-led Jacquard weaving through generative design and programming methods. Michelle takes these original archive patterns and reanimates them using computer algorithms. The algorithms introduce a glitch that alters the original design while keeping it identifiable, then the newly configured design is recreated in weave to bring the process full circle. This project fuses the traditional techniques of Jacquard weaving with the contemporary skill of computer programming.

Manipulation with algorithms

Michelle's process involves using a computer algorithm to manipulate the original archival design. The algorithm uses two code blocks (a code block is a set of instructions used within computer programming). The first code block is called the 'digital data bend'. This takes the original archive material and plays with order and chaos within the image by intentionally introducing a glitch. The code block acts as a compressor, ripping apart the original image and piecing it back together again, pixelating certain parts and leaving others clear. The actual pattern is still visible, but the composition is fragmented and reconfigured, almost like a collage or strip-piecing patchwork. During this process the core internal oppositions exist within the work: geometric and organic, construction and deconstruction, order and chaos. There is an element of chance in the creation of this work as the code inevitably dictates what is kept and what isn't. The code produces several outcomes, by distorting the design by varied percentages; for example, 10 per cent distortion would be very close to the original design, but 90 per cent might render it entirely unrecognizable. Michelle then chooses the most successful outcome, which is then taken to the second code block.

The second code block forms repeat and non-repeat patterns with a second set of rules. The straight repeat option in this code is closely linked to how a Jacquard repeat works across the width of the cloth on traditional looms. From this digital design outcome, the final designs

are chosen according to the 'parameters of success' developed by Michelle. Although the design possibilities from the algorithm are infinite, there are practical limitations when it comes to reproducing them on the loom. At this point, Michelle's existing tacit and material knowledge is required before the outcome can be realized, and the context of the final work is negotiated constantly throughout the entire design process. Furthermore, due to Michelle's existing weaving knowledge, some designs can be tweaked in the translation to cloth stage, where other simpler structures can be used to meet end use restrictions. Non-repeat designs are harder to translate and will ultimately cost more to produce.



Reanimated textile design using Processing as a design tool.



Michelle Stephens, *Coded Cloth*. Silk weaving with black warp. 2.5 × 1.5m (8¼ × 5ft)

The reanimation of archival material provides a method of interpretation of the traditional source material into contemporary relevance, offering something more in-depth than merely digitizing an archive – it allows interaction, and this creates future sustainability by attracting new audiences.