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Chapter 3: Dynamic Responses

Research into the potential of dynamic woven textiles ranges, in this chapter, from the simplicity of hand constructed mesh created from bamboo by Blaisse to research that continues to push the limits of electronic textiles seen in the research of Layne. Some research strategies rely heavily on digital technologies, while others remain focused on the simplicity and control the analogue can provide. Danish artist **Grethe Sørensen** increasingly moves back and forth between the potential of analogue and digital production in her explorations of "elusive optical phenomena, colour-gradations and a weave-construction based on digital technology."

While the past decade has offered weavers new interdisciplinary options to develop and control the woven structure, the knowledge of hand weaving remains vital to the success of many digital explorations. Sørensen explains that, "The digital tools have given me an opening to a new world of imagery. It builds bridges that give me access to other media where I can work and express myself. I am still rooted in woven textiles - but the combination of the two media enriches both and I draw inspiration from both, from the textile to the video and from the video to the textiles. I combine both media in my exhibition projects."

Woven on a digital Jacquard loom, the imagery for Sørensen's 2009 series "Millions of Colours" is based on screen grabs from animations of her earlier woven work. She explains, "At the same time as my loom became digitalized, so did the film and video equipment my husband (Bo Hovgaard) was using . . . Suddenly we were working in the same media and that gave us a new possibility to work together." Working in a constant loop that moves from the manual to the digital, Sørensen starts with digitally constructed motifs that she samples as hand weavings, before moving them to large scale weaving on a digital Jacquard loom. These weavings become the basis of digital animations, and screenshots from the animations provide artwork for the next cycle of weavings. She comments, "It has been inspiring to make animation. It gives something the other way."

Despite her use of digital technologies today, she explains that hand weaving continues to be the starting point of many projects. "I always develop my technique from an image," she says, adding that it is the "design that dictates technique" rather than her tools determining her process. Her career has focused on weaving: designing for upholstery and interiors and, like many individuals with a broad portfolio, she finds that her artistic practice feeds her more conventional design commitments. For example, "Millions of Colours" is now being re-woven as a furnishing fabric at The Oriole Mill in North Carolina with the palette reduced to 4 yarn colours.

The movement of industrial textile production away from Europe and North America in the past decade is often noted as a reason for de-skilling, unemployment and a general shift in consumers of products that they have a comprehension of their production. This distance is often cited as a reason for our increasingly disposable consumption attitude. While these concerns are valid, Sørensen observes that this shift in production has also opened up new opportunities for independent designers. "The decimation of the traditional weaving industry has created a never-before-accessible bridge to contemporary production machinery," she explains. "Where large mills traditionally had emphasized long runs, small mills allow the possibility of weaving one-off products, individual design, small series and site specific textiles etc. on industrial jacquard looms. My work has never before been so inspiring and intensive.

But Sørensen is also cautious of the wholesale power of digital design strategies for textiles and sees their potential only when used in combination with the hands on knowledge she spent decades refining prior to the digital revolution. "Designers and artists with hands in the production are the developers of new expressions. The manual work with thread and construction is essential in order to be able to play with the tactile values embedded in textile. Along with material knowledge, working by hand provides the opportunity for chance. "The coincidences that happen while playing with materials and constructions are invaluable and cannot be replaced by computer screens. In spite of the fact that most of my work will end up being woven on a jacquard machine, it will always pass through my hands in the developing process - to me this sample weaving process is essential. Even though computer programs may be able to visualize anything you can ever dream of constructing, they will never have the sensuous knowledge of your hands."