Phase 2: textile manipulation

Knowing through folding

5.1 The art of fabric manipulation

Phase 1 led to the conclusion that another method of creating a shade-providing textile canopy needs to be considered. If creating textile from rope or yarn is inefficient in terms of the spatial effect achieved, perhaps the manipulation of existing textiles into unique artefacts that act as spatial elements should be considered.

Lise (2006:43) describes textile folding as a tool of fabric manipulation in garment construction: “A fold in the material sense is to give space (pleat, gather), give shape by folding away space (darting), or to make an edge (hemming). Fundamentally, the fold is a spatial entity…”

Folding thus transforms textiles from a flat surface into a spatial one. This method has potential in landscape architecture to elevate the use of textiles from functional membranes to ones that perform both functionally and spatially. Consequently, textile manipulation, as opposed to textile creation, was the focus of the next phase of investigations.

Folding of a large textile surface can be accomplished using a simple paper-based mould and pressure or heat. The moulds are folded by hand into the desired shape, after which a textile is placed in between two sheets of identical paper or cardboard layers. Pressure and/ or heat is then applied to transfer the shape onto the textile. This is a method used by fashion designers that manipulate textiles into folding and pleating, such as Issey Miyake.

5.2 Process of discovery: folding

Samples 1 to 4 were created to explore textile canopy folds. As sample 4 was made, an additional possibility of this method was discovered: the folds have inherent containment potential. Can these act as spaces where plants can be contained?
Samples 5 to 14 were constructed based on which folding pattern would be best suited to creating folded textile plant pockets (see appendix B). As each sample was folded and analysed, the investigation became more focused on creating pockets with openings in the pattern in order for the plants to be viewed from below.

After exploring the possibilities of folding with paper, the patterns were transferred to textiles. The pattern used for sample 5 was successfully tested on geotextile, which is commonly used in the landscape. However, the author wondered whether the sample’s aesthetic could be improved by using a different textile. Geotextiles are designed and manufactured to be mostly invisible when applied to a landscape such as eroded soil embankments, or to contain plants in a green wall. The purpose of this investigation was to explore the spatial- and aesthetic potential of textiles, along with their performance abilities. Thus other textiles, not often used in landscape applications, were tested for their abilities to be folded and to contain plants, while providing visual interest.

Synthetic fibre-based textiles were qualitatively assessed, and the samples proved to be too supple. It was also noted that their appearance was not contextual. Consequently, a quintessentially South African textile, the shweshwe fabric, was tested to determine whether it will be more suitable for this application. It is printed on calico, a plain-woven textile made from unbleached and often not fully processed cotton. Shweshwe is stiff and printed with brightly-coloured patterns, and is well-recognised in the highveld region as worn by traditional Sotho women (see figure 8a). It responded well to being folded and heat-pressed due to its stiff nature (see figure 18b). On a qualitative assessment level this textile is able to perform the function of containing plants in folded pockets, as well as creating visual interest, grounded in regional materials.
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Figure 18a: Sotho woman wearing shweshwe (HelenOnline 2014)
Figure 18b: Folded shweshwe (Author 2016)

Figure 19: Selected folding samples

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Folding not only creates opportunity to contain plants, but also to incorporate irrigation pipes as reinforcing for the mountain folds.

A canopy of textile-based plant pockets has the potential to create shade and an immersive experience in an environment where these functions are required immediately, or where plants are unable to grow on the ground plane. Examples of this include exhibition-like applications, or instant urban upliftment and street ‘parklets’.

However, in this preliminary stage of investigation, the answer to the exact pattern of folding was still lacking, as a folded sheet that can contain plants whilst having openings in order for the plants to be viewed from below hadn’t yet been established. Cutting away pieces of textile to form gaps would affect the inherent structural integrity of the overall sheet. At the risk of dwelling on the problem too long given the limited time frame for each phase of investigations, Phase 3 will explore the application of this textile-based artefact in the landscape. If this is successful, the technicalities of the folding pattern will be investigated in another phase.
5.3 Reflection and revised plan of action

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What form do you want to have, textile? What programme do you want to be? As such (shweshwe), I want to be folded. These folds can be plant pockets.
6.1 The pavilion: a testing vessel and curatorial object

This section explores the history of landscape structures in order to uncover its relevance in contemporary landscape architecture. During Phase 2, it was determined that textiles have the ability to contain plants in folded pockets as a canopy element. In addition, the application of such a planted canopy were mentioned: urban upliftment elements and parklets are two such possibilities. What follows is a discussion on the current thinking behind the design of public space.

These ideas change as cities and lifestyles change. New ways in which to enjoy open space are required as these spaces become smaller and fewer in number due to urbanisation (Gaventa 2006:155). The result is that more imaginative, unusual types of public space are created. The instant results that some of these spaces can achieve have a large appeal, as master plans, public consultations, funding applications and appeals can be costly and time-consuming (Gaventa 2006:161). As important and relevant as conventional landscape architectural interventions are, there is a need for instant upliftment and regeneration of open space, not only in the public realm, but also in the corporate and private realm.

These spaces include the temporary, transient, mobile and flexible. They are reminders that the built environment is always dynamic and prone to be re-adapted and reimagined. To create a great variety of urban landscapes we have to become more flexible in how we view and define public space (Gaventa 2006:159). Moore (2013) states that at their best they use temporary pleasures to make permanent changes to the way people can inhabit their neighbourhoods.

Can the planted textile canopy be part of this new realm of thinking behind public space and what landscape architecture could be?