Urban Materiality – Towards New Collaborations in Textile and Architectural Design

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Abstract for "Actualisations"

Introduction

In this artistic research project, two architects and a textile designer collaborate, the latter focusing particularly on sound design. This research project called *Urban Materiality – Towards New Collaborations in Textile and Architectural Design* is funded by The Swedish Research Council (Vetenskapsrådet) and is ongoing from 2016 to 2020. The design of woven and knitted structures can be compared with the formation of buildings' facades and constructions (Semper 2004; 2010; Loos 2011; Krüger 2009). In this research field described as textile architecture, new approaches, methods and techniques were searched for and developed, and textile facade modules were designed and produced, to explore and improve visual and sound landscapes outdoors in urban environments (Fridh, Zetterblom and Femenias 2019). Generally, textile designers do not participate when the exterior structure and facades of a building take shape, but rather when textiles and materials for the indoor environment are chosen, often with the intention of enhancing the acoustic qualities of spaces. Here, the

interior perspective is applied in outdoor environments to dampen unwanted noise. Incorporating textile designers in the early stages of building projects can lead to benefits of exploring and improving sound landscapes. From the points of departure of the two design fields, the design process in the interdisciplinary research project was examined and evaluated. A practice-based experimental approach was important for the project and the merger of the design fields, not least to put different textile techniques and materials to the test to examine how they can affect the visual and sound landscape and experiences of space.

The collaboration – working together

Five key activities in the project were identified that connect both to textile design and architecture: context, method, technique, perception and stage-setting. Questions were raised such as which challenges there are in the project and in the collaboration, and what the two disciplines can gain from collaboration. In order to discuss this, we returned continuously to the five key activities that our project was based on. For **context**, the importance of finding common metaphors for textile design and architecture became apparent to be able to meet in new visions. These metaphors were, for example, "the curtain wall", "the exterior curtain" and "the carpet". It was also important to have common references and to widen the perspectives of the participants' design fields, both in theory and texts and in real applications in spatial, textile structures in architecture. References were found, among other things in the designs of the textile designer Petra Blaisse and the architect Kengo Kuma (Blaisse 2004; Kuma 2017). Real buildings were important in these discussions, which confirms the value of practice: what has been built and designed and what is possible to build?

Another question was raised in the project: Who is actually prototyping in the project? Based on the **methods** used, we saw the importance of all participants taking part in the whole design process from the start. The design process could be described as departing in the design probe, going to the design and making of the material prototypes, and then to application (Ramsgard Thomsen and Tamke 2009: 346). The design process normally starts differently for the two fields. In textile design, it means to design and make a material prototype, while in architecture it means to design the building and apply prototypes. Drawings and scale models are used by the architect, that is, digital and analogue representations, and in general the architect takes the point of departure in an existing range of

products. Thus, a long period of design work for the architect starts when the prototype will be applied with focus on the architectural design.

Our collaboration has mainly been interdisciplinary and not transdisciplinary, since the textile **techniques**, weaving and hand tufting, in the making of the model prototypes, require skill and experience in craftsmanship, and the digital tools of the two design fields are different to some extent. There was some difficulty in finding common sketch tools, such as in the differences of sketching directly in the materials in textile design and with representations in architecture. However, mood boards were used, and in the way of analysing a site's sonic identity, there are common notions of an existing concept and identity of place (Schafer 1977a; 1977b).

Textile designers do not normally have the experience of working on a larger scale, and architects rarely describe buildings in terms of using more advanced textile techniques, such as plain weave, double cloth (weave) or double knitting, but often only 'weaving' or 'knitting' are mentioned. Knowledge of more advanced textile materials and techniques is lacking in the architectural field, and our conclusion is that buildings and architectural work could be further developed if a scale of more advanced textile techniques were used in the sketch work, combined with, at times, shifting to a micro-level on another scale, zooming in and out.

The potential to shift between different scales was explored to form a comprehensive view of facade materials that not only affect visual experiences but also hearing experiences in urban spaces, which connect to the key activities **perception** and **stage-setting**. The making of the samples and prototypes was necessary in order to measure the acoustic qualities, and to be able to describe experiential spatial qualities (Augoyard and Torgue 2005).

During the project, we have organised several workshops with architects and textile designers as well as students of textile and architectural design (Femenias et al. 2017) to explore and discuss what textile architecture is and can be. An exhibition *Textile Architecture – about sound absorbing facades and textiles in urban landscapes* opened in November 2019 at the Form/Design Center in Malmö and was ongoing until January 2020. The exhibition was combined with activities such as workshop and lecture. The aim of the exhibition was to evaluate the textile modules, also in the form of a workshop, that so far had been designed and made, and to show the possibilities and visions that textile architecture opens, not least with the point of departure in improving the urban sound landscape.

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Exhibition:

2019–20 *Textile Architecture – about sound absorbing facades and textiles in urban landscapes*, 13 November 2019 until 12 January 2020 at Form/Design Center, Malmö, https://www.formdesigncenter.com/en/utstallningar/textile-architecture/, https://gupea.ub.gu.se/handle/2077/63630.

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