temporal patterns by Barbara Jansen

Introduction:

This exhibition investigates a new field of textile design. It explores the visual effects of movement using light as a continuous time-based medium. Thereby, the textile design pattern reveals its composition, not in one moment of time any more, but in fact over time.

With the beginning of the era of Smart Textiles, the textile designer is challenged with a range of materials which are characterized by their ability to change expressional and functional properties. These materials respond to environmental stimuli, user interaction and pre-programmed parameters.

The textiles displayed show a varying range of examples which explore aesthetic possibilities of how light can be integrated as an active part into textile structures. Thereby ranging from weaving, to knitting and braiding techniques, both hand crafted, as well as industrial produced.

Craft and industrial processes have been used to explore the lighting possibilities of PMMA optical fibres, light emitting threads, in textile structures. Thereby both processes feature individual strengths and in combination working in the field of Smart Textiles develop a new type of working within textiles. It allows going beyond current industrial possibilities, thus enables to create future visions for the field of textiles design. Exhibiting new textile expressions provides opportunities to open up a general preconception of what a textile is supposed to be, to show, to express, to look like etc. Therefore expands notions of what it means to read a piece of textile work.

This exhibition is collaboration between the Textile Museum, the Smart Textiles Initiative, The Swedish School of Textiles and Barbara Jansen. Jansen has a diploma in Textile- and Surface Design from the School of Art and Design Berlin Weißensee and a MA in Textile Design from The Swedish School of Textiles, University of Borås. She has also studied at the Royal Institute of Art in Stockholm and has been a guest researcher at the School of Textile and Design, Heriot-Watt University/UK, and The College of Arts and Humanities, University of Brighton/UK. The exhibition is based on her PhD thesis Composing over time, temporal patterns – in Textile Design.
Woven light – powered by sun energy

Master thesis in Textile- and Surface Design at the School of Art and Design Berlin Weißensee, 2006

In this work the basic idea is to build a textile surface where each side has a different function. One side is equipped with solar technology for energy generation and the other side is a light source. Three main areas have been explored:

*Light Textile - solar powered*: Integration of thin film solar cells and interwoven optical fibres into hand woven textile, collaboration with Mathias Stark, HTW Berlin.

*Light dots*: Integration of LEDs into solar-powered industrial woven textile, collaboration with the Institute of Textile Research Thüringen-Vogtland (TITV).

*Light Textiles*: Integration of optical fibres into hand woven structures with additional materials from: fluffy-soft to smooth and shiny, transparent to opaque, or white to colour.
Sketching

Explorations into organic expressions and jacquard weaving, The Swedish School of Textiles, 2006-2007

Working on lighting concepts, such as big light screens for public buildings etc., raised questions about production possibilities. Is it possible to weave optical fibres on industrial machines?

Experiments explored the aesthetical possibilities of light inside woven structures; patterns of light and darkness have been created. Nature as inspiration has been explored. Additional relief structures have been generated to further shape the light structures.
Light Shell

MA thesis in Textile Design at The Swedish School of Textiles, 2008

*Light Shell* is an investigation into self-lighting textile spaces. A *Light Shell* aims to enrich it’s future architectural environment through dynamic lighting. Furthermore it is a sensual stimulation of everyday life which can be experienced through vision, touch and being able to move inside.

The exhibited prototypes visualize design concepts of how a *Light Shell* could feel like. The integration of optical fibres allow bringing changing light into the architectural space as regenerating and relaxing stimuli.
Light and Shadow Play – the sun as an aesthetic trigger for urban textiles

Cooperated Research Project with Marie Ledendal, School of Textile and Design, Heriot-Watt University, UK, 2009-2011

The project investigates how sun sensitive textiles can be used in outdoor environments. Textiles can be used for functional sun screening, beyond that display more aesthetic potential.

The project result is a concept of energy generating sun sails, where printed solar technology creates areas of shadows and energy generation. Thermo-chromic dye forms a playful colour change in the sails, triggered by changing temperatures. Thereby the aim is to enhance aesthetic experiences within the urban room.
Light Textiles – series

Research Project, The Swedish School of Textiles, 2009-2014

This series is a continuation of woven light, however exploring increased scale and industrial weaving. Suggesting alternative light designs for public spaces. This series of light emitting textiles proposes large light screen applications. Exploring the aesthetic possibilities of monochrome even light surfaces.
colour flow
Duration: 4:15 min.
Research project, The Swedish School of Textiles, 2009-2015

Colour flow is a series of experiments exploring the creation of sequences of coloured light. The aim is to explore how to lead over from one action to another, how to change over from one colour to the next. The transition over time is the main focus, i.e. how to lead from a colour before, to an in-between phase to the colour after.

The installation is based on an industrial woven structure divided in three sections. Each section is lit by RGB-LEDs and programmed to create moving coloured light using a microcontroller digital interface.
rhythm exercise

Research project, The Swedish School of Textiles, 2009-2015

Rhythm exercise explores the creation of rhythmic light sequences by using different ways of dividing time. This facilitates the creation of different rhythms, speeds, dynamics and tensions in the composition of movement, using white light.

The installation is based on several braided structures. The braids are each based on thirteen lengths of optical fibres. They are lit by LEDs and programmed to create moving patterns of white light using a microcontroller digital interface. Each braid has been connected to different amount of LEDs, which allows displaying an increasing complexity of moving light patterns.
Sinus 64 + blue
Duration: 8 min.

blue
Duration: 5:20 min.


These two compositions explore how sound can trigger and create a dialogue with light. Different sounds set off different forms of coloured movement. Applying working methods from composing music increased the complexity of movements.

The installation is based on an industrial woven structure divided in ten sections. Each section is lit by RGB-LEDs and programmed to create moving coloured light alongside a sound composition using a digital interface.
Light Textiles – 3D animation

Duration: 3:35 min.

Cooperation with Henrik Bengtsson, photographer & 3D animator, 2014-2015

This animation shows application possibilities for light emitting textile screens in the interior space. The textile surfaces have been created through the use of optical fibres in hand- and industrial weaving. Textile- and Light Design created by Barbara Jansen, photography, film and 3D animation by Henrik Bengtsson.
Exhibition: temporal patterns by Barbara Jansen, 17th February - 29th March 2015
Photography: Henrik Bengtsson, Jan Berg, Pierre Ledendal
3D animation: Henrik Bengtsson and Barbara Jansen