Report | Proposal Research Activities

Indian Bandhani scarfs

Introduction - The act of Bandhani

In february 2017 I went to India to study the art of Bandhani in a residency[1]. Bandhani is a type of tie-dye textile, where cloth is tightly tied into many small knots that form a design. Then the cloth is dyed, followed, by removal of the thread, leaving a circular design on the cloth. The name Bandhani is derived from the Sanskrit word banda (to tie). I chose the (5000 years old) technique of Bhandani while its such a delicate and beautiful manner of creating patterns. Its like performing a very precise but simple choreography of the hands: pinching the cloth, binding the many tiny knots, waiting and then unraveling them, like a long line of little stories.
Every knot is unique with its own aesthetic appeal; a craftswoman is chosen because of her specific 'handwriting': big knots, small ones with a hole in the middle, squares, tied really close to each other etcetera.
After being dyed, the remains of the knots stay visible in the silk cloth as a very clear relief. This structure strongly invites to be touched with the top of the fingers, reminding of reading a story written in braille on a piece of paper.

Research topic 1

My fascination for this relief led to my first research question: is it possible to 'read' the processes behind doing Bandhani – like design choices, local traditions, the artisan herself - by watching and touching an finalized (Bandhani)piece? How can soft electronics help to reveal this archive of (his)stories connected to the object? How close and intimate can one get with this object?

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[1] This residency was organised by TextielFactorij.org with the goal of retracing the textile trade between India and the Netherlands and it's influence on the Dutch textile colour, design, motives and patterns. My residency was supported by The Mondriaan Fund: the Dutch publicly financed fund for visual art and cultural heritage.
[2] The notion of affordance was introduced by James Gibson (1977) "what people or animals will do in certain environments will depend not only on what they are capable of but also on the affordances of the environment and how it invites them to use their capacities in certain ways rather than others, and

This first research topic is very much related to the interactive installations I have created in the past. Especially the performative, interactive installation *Series Patchmaker NO1* in which the audience was invited to touch the sensors on the body of the performer in order to trigger video and audio fragments that (re)presented hidden stories and memories of this subject/object (see Portfolio 1 for other projects).

Method

I want to organise my studio in such a manner that the environment affords[2] the actions I want to research and the artwork-to-be-made can tap into its potential. One side of the studio is dedicated to the collecting and editing of video footage and audio fragments. I construct a small publicly accessible exhibition based on the digital material I have made in India, with the goal of contextualising the Art of Bandhani. I present my collection of close up slow motion videos of various hands doing the tying and performing the dying.

The topics I want to discuss:
- Traditions: only women do the knotting, the men dye, while women are supposed to work at home.
- Designs and patterns: the meaning of and relation between spiritual and traditional motives
-Value: knots are seen as coins; children are learnt to tie as a basic tool to earn money, they get paid by each (square of) knots, the square knot is more valuable then the round one, while they are difficult to make.
-Globalization: what is the value of human labour in relation to the material used and the final product?
-Artwork or craftwork: what is the difference? Is this cultural appropriation?

At the other side of the studio I exhibit two finished Bandhani pieces. One made by Jabbar Khatri (my Indian teacher) and one of mine (see portfolio 2 for the pieces I am currently working on, based on my stay in India).

On a big table experiments with soft electronics in combination with coton/silk are done. I give workshops to students[3] so they can learn a variety of methods to enable an audience to interact with the cloth. I focus on the creation of fabric sensors. To connect the sensors to the computer I start with using off-the-shelf electronic boards like the Makey-Makey and the Touchboard (Bare Conductive). Next to conductive threads, yarns and fabrics, I work with the Leap Motion Sensor that is able to read hand movements. Depending on the skills of the students, we can work with open source audio and video mixing programmes or start to do basic programming in

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[2] The notion of affordance was introduced by James Gibson (1977) "what people or animals will do in certain environments will depend not only on what they are capable of but also on the affordances of the environment and how it invites them to use their capacities in certain ways rather than others, and to develop certain capacities rather than others."

[3] The workshop can be adapted to existing skills.

Isadora[4]. As a result, the tying or touching of the knots can be read by the computer as data that subsequently triggers video- and/or audiofiles.

Research Topic 2

My second research topic originates from my own engagement with Bhandani and watching the women performing Bandhani in India.

In India women are taught at very young age how to tie from their mothers or women relatives. They learn the tricks, the codes and know the traditional designs by heart, all with their own specific meanings. However, looking closer, the work is personal as a result of the variety in 'handwriting'.
The women tie engaging their whole body, sitting on the ground, spitting on or chewing the cloth to get hold of tiny specific points. The women do talk to each other but most of the time they just sit, swaying their bodies lightly on the spot, being absorped in the action.

After I learnt how to tie, I experienced becoming one with the action[5], getting absorbed within the execution of the tying. This immersive and meditative sensation of holding and molding the material, as the cloth starts to talk to me, influencing and conducting the movements of the hands. In an attempt to answer the questions asked by the material itself, thought and doing get to be hyper concentrated and focused on a particular point. The material resists or a certain direction comes to the surface and if possible I go with the flow.
I also experienced longer periods of time when my actions become repetitive. They slowly find their own rhytm in balance with the cloth, inducing this feeling of timelesness. Ideas start to come, as memories appear and disappear and thougths are linked together, evoked by or a clear transformation of the physical threads and points that are constructing the patterns on the cloth.

Questions Topic 2

What kind of pattern emerges when a person starts to tie a piece of cloth without a pre-conceived design? How would the outcome change when the knotting is done with a group of people working together on one piece of cloth? In what way is posture and environment influencing the outcome? How can technology track and subsequently translate this merging of two entities – human and material - into an imaginative and poetic installation?

Method

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[4] Isadora is a graphic programming environment for Mac OS X[1] and Microsoft Windows, with emphasis on real-time manipulation of digital video. It was first released in 2002. It has support for Open Sound Control and MIDI. Isadora was designed by Mark Coniglio.

[5] Part of the universal human experience seems to be a deep longing to taste the state of timeless unity where the sense of individual self falls away. B.Gordon (2011) in: "Textiles, the whole Story"

I invite people (from the community, students, teachers and other people interested) to come inside my studio and perform (the first part of) the act of Bandhani. I give an introduction course at the beginning of the week. Participants who want to continu to learn the craft are invited to come back during the week to work on their pieces, either individually or as a group. During the week, I will change the space and the materials in order to get different results. I will add conductive threads to start experimenting with interactivity. Students can wear 3d printed thumbtools to pinch the cloth or create tools themself to change or augment the workflow.

3d printed and Indian thumbtool

I give assignments: one session dedicated to meditation, another to bodily movement and postures. Every session will be recorded on video. People are invited to come in and watch - as an audience - the ongoing performance of tying. I participate in every session. The outcome, a relief of binded knots, showing personal handwritings but still hiding their secrets, is exhibited in the studio.

relief of binded dots

Research Topic 3

An inseparable part of Bandhani is the dying process that gives the colour and longlasting texture to the cloth.

The traditional process of Bandhani, based on a fixed design, starts with a folded piece of white cloth (silk or coton) in the right size of the design. The cloth needs to be folded in order to firmly hold the knots while being dyed. The design is firstly drawn onto a plastic sheet and the lines are pierced with a big needle. The drawing gets transferred onto the cloth by putting the plastic sheet on top of the cloth and carefully brush (washable) paint through the holes. Next step is to chose the colours and plan the dying. This needs to be done beforehand, while just the cloth within the knots will be colour resistant. As a result the knots done at the beginning will stay

white, knots done after the first dying bath will have the colour of that bath and so on. I assembled a lot of knowledge to predict how different colours can be gained by adding (or substracting) pigments.

The dying is done in pots of stainless steal and in either hot or cold water. The process involves multiple rinsings and wringings. Every part of the process is time based – 30 minutes for the mordant, 3 minutes for the turmeric etc - adding layers of history to the cloth.

The workshop in Bhuj, India

When the dying is done and the cloth is dry, the design is 'pulled' out of the cloth. This is a truly magical moment when knot after knot is opened and the colour splashes out.

In India the traditional colours used in Bhandani are yellow, black, red and green. Yellow and red are used in wedding cermonies. Green stands for good luck. The Jabbar Khatri community, where I resided, has red, yellow and black as their colours. Natural colour pigments used are mixtures of logwood, iron, madder, indigo, turmeric and pomegranate and for mordants myrobalans and alum are used.

Questions Topic 3:

What colours have specific meaning in different countries/places? What natural resources can be used to dye?

Method

I start with reviving the traditional Indian natural dying processes. While this is demanding certain facilities in terms of water and space supply, I either reorganise the studio or work at another space. I will give a public demonstration of the process. I want to research what knowledge (about dying and colours) is available. I will undertake field trips and interview relevant artisans, artists, students and teachers. All audio and videomaterial made is archived and publicly available to see in the studio. Next to making and using natural dyes (incorporating natural resources of the environment I am working in), I will experiment with the properties and qualities of electric paint (selfmade and/ or bought).

During the last week all participants from the first two weeks are invited to come in and finish off their works. They can now experiment with a variety in dying processes, inform themselves about traditional meaning of colour or focus on their own associations. They can play with the fact that every bath will influence the colour scheme of the knots. And as water is a very good electric conductor, they can experiment with the moment the knots touch the water in order to trigger media as well.

As a group we select the audiovisual media related to the topics discussed during the ongoing creation process. Audio and videofootage can still be created, added and edited to be 'attached' to the pieces and triggered in a meaningful way.

Finally all material assembled, including my Bandhani pieces made, will be put together into one interactive wall hanging. This huge communal artwork can be touched and moved and as a result will tell about its process of becoming, its history and makers, all depicted in fragments of video and audio related to the localized process of doing the act of Bhandani.

Theoretical Background

What ideas and knowledge is formed when human body and silk cloth intra –act[6]? Is it possible to have an audience *perform* the fluid exchange between material and body? To make time slow down, even stop and use technology to unveil the ongoing intra-action between hidden stories, ideas and thoughts that are continuously (re)shaped in intra-action with everything around?

Craftmanship is an interesting metaphoric tool to research, experience and gain knowledge of our continuous intra-action with this outside world and how entangled our being-here actually is.

For me, when doing handicraft, the embodied contact with the material, using my hands or any other body part, can also make me frustrated, I become anxious and vulnerable while I am not-in-control. As said before, pretty soon it becomes clear that the material I am working with has something to 'say' as well. This intra-action makes it very clear that it's not only me as a human being that decides what the outcome will be. Many other (in)visible factors, like material properties, tools, temperature, spatial circumstances, are all performing their agency. Barad (2007), speaking about physics, goes as far as tot state that matter itself is as active as our interpretative

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[6] A posthumanist understanding of performativity points to the materiality of meaning making: to how discursive practices and material phenomena do not stand in a relationship of externality to one another but are mutually implicated in the dyamics of what Barad calls intra – activity. 'the point is not merely that there are important material factors in addition to discursive ones; rather the issue is the conjoined material – discursive nature of contraints, conditions and practices (Barad, 2003:823). Matter is substance in its intra-active becoming and this intra-activity Barad proposes to understand as performativity.

frameworks, so that we do not give meaning to matter, but matter and meaning co-constitute each other.

Experiencing and reflecting on this intra-action makes me feel humble. I welcome this humbleness while for me it pinpoints the need for a broader perspective on perception, experience and intelligence. I can't cling anymore to my human centered perspectives and anthropocentric values, trying to control everything that is going on. Global warming and the extensive migration of people all over the world made this clear. Also digital and networked techologies operate at scales and speeds and according to logics very different from human modes of experiencing, communicating and thinking, exemplying one of many variations on what perception and experience can be. I believe, we need to put our autonomy in perspective and start to acknowledge the agency of (in)animate things, animals and objects that are around us.

This artistic research proposal will provide me the possibility to conduct performative research on how to direct the conscious attention to the ongoing intra-action between person and objects, tools and environment and how identity is created while the (art)work is produced.

This whole project is part of my PHD proposal.
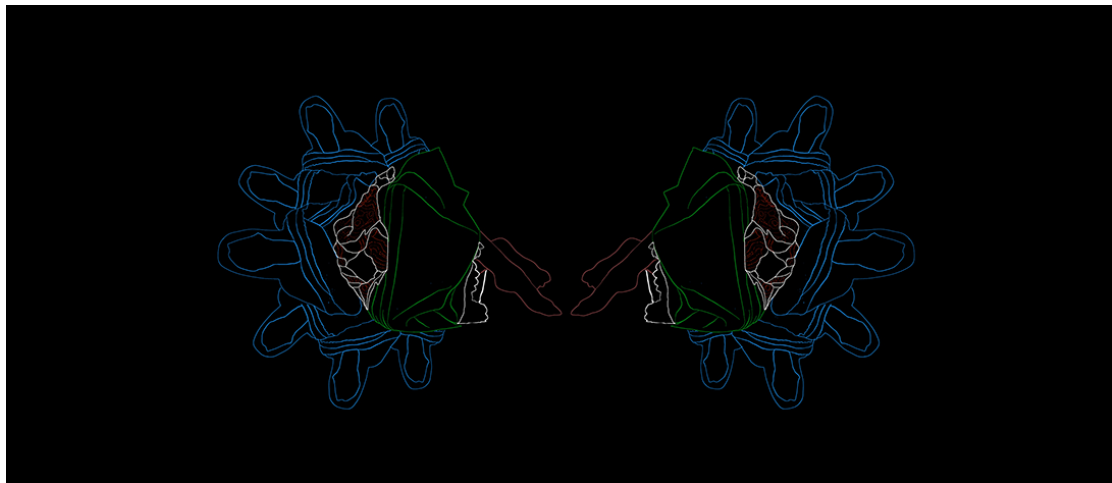
Bandhani design I am currently working on