

Woven Narratives

from table loom to foot-treadle loom

Visual Communication Project 3
April 2017

Kawalpreet Singh Saroy
VC 156250005

Guided by Prof. Raja Mohanty

IDC School of Design
IIT Bombay

Oh! pull me out of this tangled web...

Approval sheet

The project titled "Woven Narratives" by Kawalpreet Singh Saroy of M.Des. Communication Design 2015-17 is approved as a partial fulfillment of requirements of a post graduate degree in Visual Communication at IDC School of Design, IIT Bombay.

External examiner :

Internal examiner : PROF. ALKA HINGORANI

Project guide : PROF. RASA MOHANTY

Chairman :

Declaration

I hereby declare that this written submission submitted to IDC School of Design, IIT Bombay, is a record of an original work done by me. This written submission represents my idea in my words, I have adequately cited and referenced the original source. I also declare that I have adhered to all principles of academic honesty and integrity and have not misprinted or falsified any idea/ fact/ source in my submission.

I understand that any violation of the above will be cause for disciplinary action by the institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

Kawalpreet Singh Saroy
156250005

Content

Abstract	1
Objective	2
Audience	3
Introduction	4
Setting of the loom	5
Understanding the structure of foot treadle loom	
Warping the loom	
Collaborative effort	8
Warp 1	
Warp 2	
First Warp	10
The Patch Project	11
Made in IDC	13
Trouble shooting issues while weaving	17
Weave exploration on 8 lever loom	19
Field trips	22
Initiating weaving at halt rooms in Dandi Project	23
Conclusion	25
References	27

Acknowledgment

I would like to thank my project guide Prof. Raja Mohanty for his guidance and insight at each stage of the project. His support in all forms is invaluable in this project.

I extend my heartfelt thanks to Mr. Sudarshan Iyengar, for introducing us to source for khadi yarn .This project is only possible with the efforts put in by Mr Shrinu for teaching me to weave.

Abstract

Significant part of the project would be an attempt to learn the work ethics of a weaver, who sits quietly on a loom, weaving a seven yard fabric. To weave as a daily routine. While aiming to hone my skills with each 'satak-su' sound...

With some experience of working on the table loom, in my previous project, I shall learn to weave on a full frame loom. It's an extension of Project 2 in the sense that one keeps the 'embedded narrative' intact, but also attempt to reflect on meaning of creativity in our times.

One part of the project is a collaborative association with ten B.tech IITB students, Mr Shrinu (weaver at Weaver Service Centre, Mumbai) over a period of three months. It would be a collective engagement with weaving and thereby creating handloom products such as scarves, mats, tote bags.

To reflect on sartorial choices that fills our wardrobe, with high end brands like Fabindia at one extreme and Khadigram apparels at the other end.

Learning to weave is a matter of months, to match the expertise of a master weaver takes years of practice, and to pull oneself out from the warp of our times, perhaps takes a lifetime!

Objective

To warp/weave on a daily basis and collaborating with Shrinu and students at IIT.

To broaden the knowledge of sourcing yarns, weaves to get desired design.

To meet the standards of handloom products in term of technical skills and quality.

Formulate a report on Textile industry of India, in light of organization/govt. schemes regarding handloom.

To ruminate possible activity through collaboration with weavers to keep the momentum going in the Dandi studio at IDC.

Understanding the meaning of creativity, to ponder on the urge to be different, to constantly innovate.

Essentially to create beautiful scarves, bedsheets, mats.

Audience

Firstly, It's a personal account of engagement with the craft and contemplating the "doing by hand". Then it broadens to immediate surroundings- people in IIT and outside, through exhibition of weaves done during the project.

At last the weaver, as a dialogue where I learn from him, yet he too looks at his work from a different perspective.

Introduction

The project actually started in a cab while going to Weaver Service Centre (WSE), when my guide casually said, “Why don't you weave a saree for your P3”. I was introduced to weaving in a module I took last July and have been engaged with the craft since then.

The project has essentially been a collaboration with Shrinu. Shrinu is a weaver at WSE, he recently shifted his base from Andhra Pradesh to Mumbai in search for a job. He has fifteen years of experience in jacquard loom. He taught me how to weave. What seems like a simple act of creating a cloth, requires knowledge that takes years to perfect. The act of warping on a peg warp, drafting and denting the threads on the loom, twisting a broken yarn to ensure uniform weaving gets embedded in the cloth and hence becomes latent for a common eye. It is until one weaves, one develops sensitivity to a cloth...one develops humility and bows to a master weaver. It's a sad reality of today, that due the lack of appreciation for handloom, many skilled weavers have left their jobs to become masons, tea vendors to earn a living.

The project is about celebrating the *Handmade*. It's an attempt to reflect in the world of excess we live in. Has human potential reduced to being just cogs in machines producing surplus at a faster and faster rate?

Weaving a patch of fabric on a table loom, made me look at cloth differently. Surely there lies an intrinsic value in anything we do by hand. The joy can't be quantified and produced as a data.

The project is about celebrating the *Handmade*. It's an attempt to reflect in the world of excess we live in. Has human potential reduced to being just cogs in machines producing surplus at a faster and faster rate?

Weaving a patch of fabric on a table loom, made me look at cloth differently. Surely there lies an intrinsic value in anything we do by hand. The joy can't be quantified and produced as a data.

Can we envisage a warp of society that dignifies manual ?

Setting the loom

Typically a weaving cluster comprises of a master weaver (also middle men), weavers, spinners (mostly women of the family) and carpenter working together.

Two full frame loom were set up in dandi room. One of which was bought from Mr Kantibhai, Gayatri Furnitures. The loom was delivered to IDC, within a fortnight of ordering. Kantibhai and his brother had assembled the loom in matter of hours for us to use. It costed around sixty thousand, that included travel, assembling and loom parts like shuttle, pirns. Kantibhai's loom was 'designed' to be easy to carry or assemble whereas the other loom made by Shrinu's brother was more traditionally made and was assembled by Shrinu and Samarth at the site. It took us about five days to get the loom running. The overall cost came out to be twenty five thousand for this loom.

Clearly I could not help Shrinu any more than just handing him the nails, hold the beams, carry the loom parts. But watching him set it up gave an idea how the loom works. It amazed me how much technical knowledge goes in ensuring the structure is stable, the two beams being parallel to each other. Any small error in the structure would interrupt the weaving process.



Shrinu setting up the loom at Dandi studio

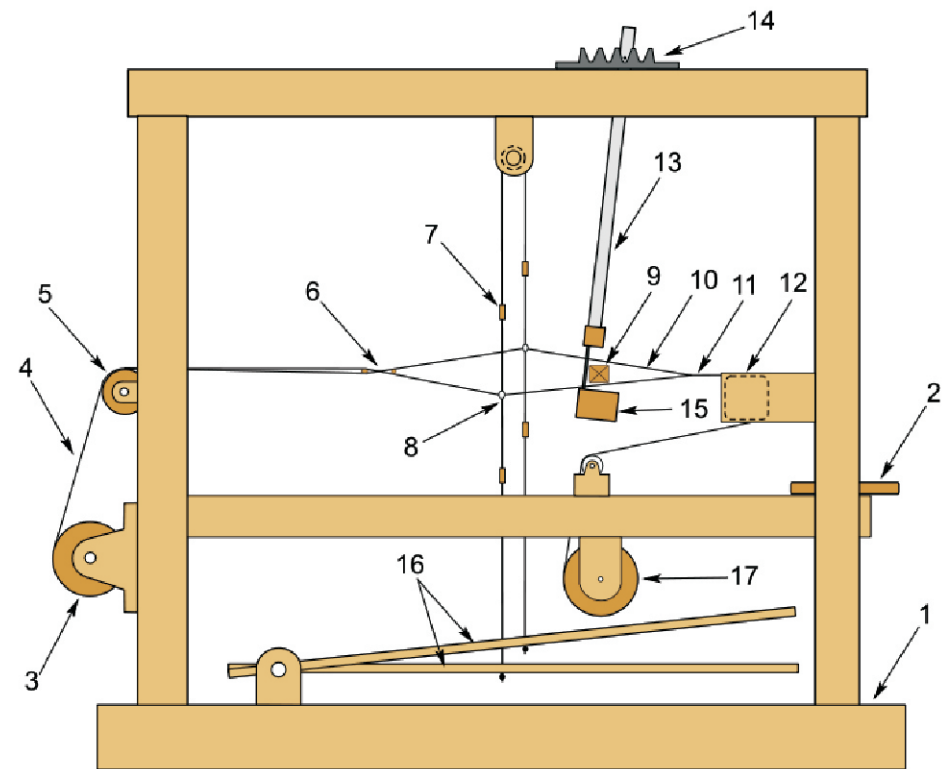
Understanding the structure of foot treadle loom

A handloom is a simple machine used for weaving. In a wooden vertical-shaft looms, the heddles are fixed in place in the shaft. The warp threads pass alternately through a heddle, and through a space between the heddles (the shed), so that raising the shaft raises half the threads (those passing through the heddles), and lowering the shaft lowers the same threads — the threads passing through the spaces between the heddles remain in place. Frame sizes vary as per their required use. Like the one Shrinu set up was 9' in height and could be converted into a jacquard loom, whereas Kantibhai's loom was specifically made for floor treading.

Table looms are different than foot treadle looms. They can rest on a table or a stand. Come in 4, 8, 12 and 16 harness options and are often portable, which makes them good for workshops, travel and storage. **Table looms differ from floor looms in that the shed is changed by hand instead of with a foot by treadle.**

Also the weft is passed through shuttle which increases the speed of weaving as on the table loom. The yarn is first coiled on the pirm with the help of a charkhi, and put inside the shuttle that is passed horizontally with a flick of the wrist.

One drawback of the frame loom is that one can't change patterns while weaving unlike a table loom. Weave on frame loom will depend how the treadle are tied with the heddle frame. Ours was a two treadle loom, so one could do a plain weave on it.



Picture credits : wikipedia “foot treadle loom”

- | | |
|--|--------------------------|
| 1 Wood frame | 10 Yarn |
| 2 Seat for weaver | 11 Shed |
| 3 Warp beam- let off | 12 Completed fabric |
| 4 Warp threads | 13 Breast beam |
| 5 Back beam or platen | 14 Batten with reed comb |
| 6 Rods – used to make a shed | 15 Batten adjustment |
| 7 Heddle frame - heald frame - harness | 16 Lathe |
| 8 Heddle- heald - the eye | 17 Treadles |
| 9 Shuttle with weft | 18 Cloth roll- takeup |

Warping the loom

The warp for Shrinu's loom was made of cotton blend with zari. It had three thousand threads running across approximately thirty six meters which would make six sarees in hues of turmeric yellows, deep violet, peach and mehendi green with silver and gold zari borders.

Warp 1

Frame loom

Warp : Cotton, Zari

Thread count : 80s

No of thread : 3000

Length : 36m

Plain Drafting & Plain denting

Plain weave

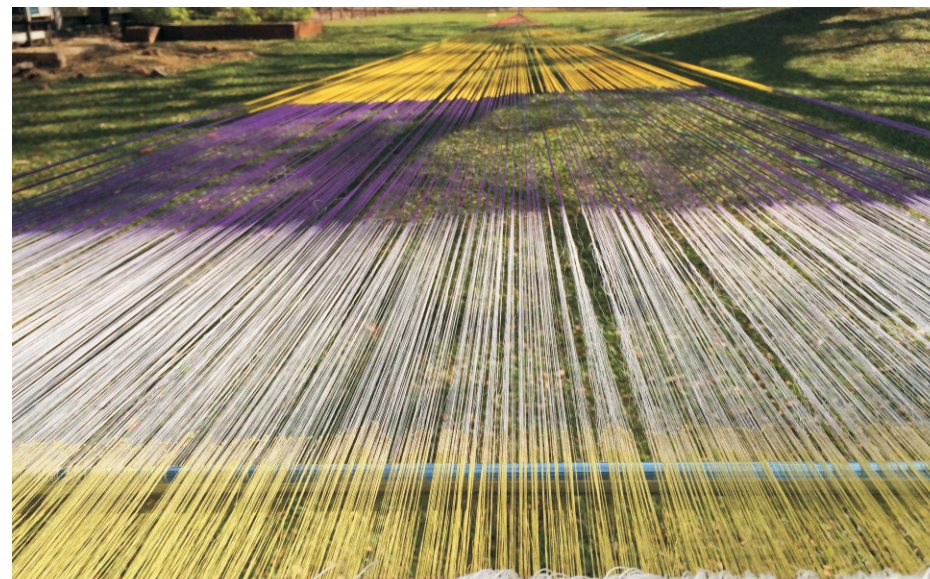
Duration : one week for one sari

The heddles for this loom were made of nylon threads and twisted with the warp. So the drafting and denting was done before beaming the warp. The beaming was done using a crowbar, bamboo stand attached to a rope and some plastic rods to maintain the cross.

The endless fine threads in their bright hues on the green lawn looked so wonderful, one could view it as a some sort of 'theatrical performance'. The warping is specifically done during the dawn hours to prevent the starch soaked yarn become stiff due to the scorching sun.



Bamboo stand used while warping



Warping on the lawn in front of the Main building in IITB

Collaborative effort

A part of the project was also to envisage a work culture of a weaving cluster at IDC. A course on 'basics of weaving' was introduced and ten students from B.tech. final year students had enrolled for the module.

The brief given was simple, one had to simply do a plain weave on the table loom, what one can perceive as a fairly 'mechanical' task of sitting and pulling the levers to make a cloth. They had to commit to three hours of weaving per week. So even before they were introduced the concept of loom, peg warp, warp and weft....it was first required for them to sit at one place and pass the weft repeatedly to get the rhythm. Later on creating patterns would be introduced. Students could keep a part of fabric they weave for personal use. It is only in the later stage that the process of warping, drafting, denting would be introduced.

The intention was to instill an empathetic outlook in academic programmes, research and pedagogy. The contemplative aspect of crafts could be a key aspect of design pedagogy. Weaving as a daily activity, could inculcate amongst young learners, the value of *riyaaz*.



Woven as a collaborative association with students

Warp 1

Table loom

Warp : Cotton, white & beige

Thread count : 20s

No of thread : 560

Length : 6m

Plain Drafting & Plain denting

Plain weave

Duration : 2 weeks

Weft was the same white and beige thread running alternatively with four inches width.

The end product could be made into a throw or two scarves.

Warp 2

Table loom

Warp : Cotton, white & blue

Thread count : 20s

No of thread : 390

Length : 6m

Plain Drafting & Variable denting*

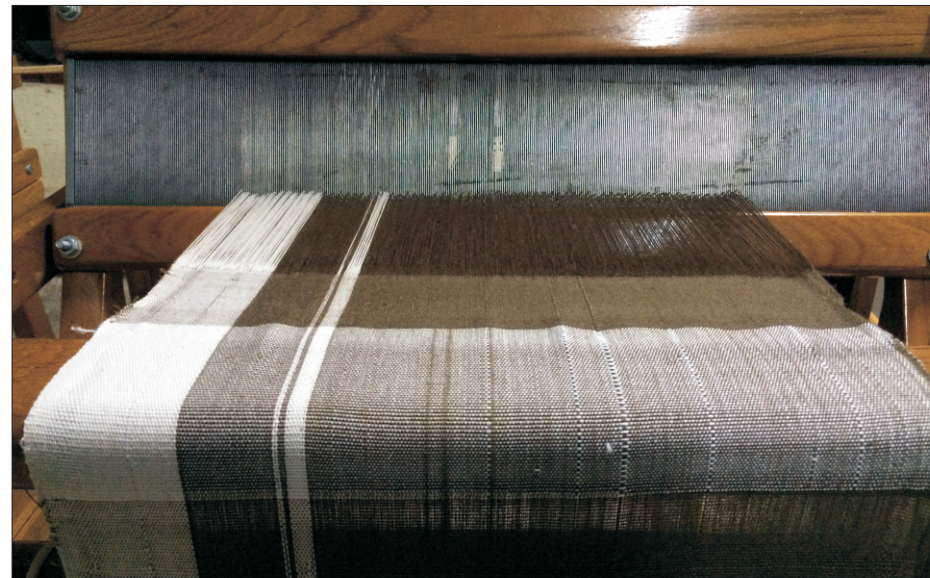
Plain weave

Duration : 2.5 weeks

Weft was the mostly blue, then some variation were made with pink crotia thread.

The end product could be made into table mats, a scarf or covers for diary.

***Variable denting** is when the yarns passing though the reed are varied in number, here in some part 2 yarns are passing from one a cavity, whereas just one yarn from a cavity.



Warp 1



Warp 2

First Warp

Warp 1

Frame loom

Warp : Cotton, (yellow, ecru, blue)

Thread count : 8s

No of thread : 280

Length : 4m

Plain Drafting & Plain denting

Plain weave

Duration : One week

Weft was white and black cotton thread.

It was a test run to get accustomed to the process of weaving on a full frame loom.



First weave on the full frame loom.

The Patch Project

The patch project is an attempt to reflect on our sartorial choices that shapes the fashion industry of our times. The idea came to me while I was working on the table loom making patterns with coloured yarns. It occurred to me that for a shift of lifestyle away from just buying powerloom clothes and rather investing in organically made cloths, a small step goes a long way. How about putting a patch of weave done by me on 'stuff' we already have in our wardrobes? Though it's a small patch on the issues faced by handloom industry, it's a first step forward towards sensitizing ourselves towards celebrating the handmade by literally wearing it on your sleeves!

Badges/ patch work is in this season, and what better way would it be to create interesting patterned weaves that would enhance a boring white tee or a everyday denim. Possibly if one wears a creation made specifically for them, they tend to cherish it than tossing it away after few washes...

Today's mainstream fashion industry relies on globalized mass production where garments are transformed from the design stage to the retail floor in only a few weeks. With retailers selling the latest fashion trends at very low prices, consumers are easily swayed to purchase more than they need. But, this overconsumption comes with a hidden price tag on the environment and workers in the supply chain.



Part of a weave for patch project

Warp 3

Table loom

Warp : Cotton, black

Thread count : 20s

No of thread : 480

Length : 6m

Plain Drafting & Plain denting

Mix of Pattern and Plain weave

Duration : three week

Weft was different colored fabric, wove to create interesting composition with varied patterns. As I created patterns, I realized the weaves were sort of diary records of various exploration one can do on a table loom.

I could relate this approach to slow fashion movement. Slow Fashion is the movement of designing, creating, and buying garments for quality and longevity. Slow fashion encourages slower production schedules, fair wages, lower carbon footprints, and (ideally) zero waste.

The fast-fashion has spoiled our senses in judging what to buy, let alone what to wear. Fashion knock-offs made by mass-production companies are very tempting, made with polyester instead of natural fabrics they cost peanuts compared with the originals and barely last a season if worn daily and machine washed.

This is the vicious circle in which we all live in: **buy cheap, throw it after a season, buy more.**



Part of a weave for patch project



Part of a weave for patch project

Made in IDC

There is an intrinsic value in anything we do with our hands, and in handing over work to machines we lose not only the material benefits but also the spiritual benefits, for work by hand brings with it a meditative mind and self-fulfillment.

As project gradually took off, shelves in Dandi room got stacked by products made on handloom. A modest start with scarves, bedsheet, saari, badges, mats, bags.

One should note that, in no way the woven products are comparable to the workmanship of a weaver, who puts in years of experience to weave an intricate design. The weaves done in the project are possibly first steps in the journey to understand what is creativity? To reflect on ideas of Mr Gandhi...To experience contemplative aspect of weaving and its relevance as a design pedagogy and its relevance.

Nonetheless, what we create with our own hands is a cherished piece, hence the products made in dandi room could be retained by the maker, or possibly could be use to gift visitors at IDC. As a humble beginning we gifted a scarf to Mr Sudarshan Iyengar, as a token of thanks for his visit to IIT and to ooffesr a course on readings of Gandhi.



Saari made by Shrinu



Scarf

Warp : Cotton, white and beige
 Thread count : 8s
 No of thread : 390
 Length : 2.5m
 Plain Drafting & Plain denting
 Plain weave



Scarf

Warp : Cotton, white and brown
 Thread count : 20s
 No of thread : 390
 Length : 4m
 Plain Drafting & Plain denting
 Plain weave



Table mat

Warp : Cotton, white and blue
 Thread count : 20s
 No of thread : 280
 Length : 2.5m
 Plain Drafting & Variable denting
 Plain weave



Scarf

Warp : Cotton, white and beige
 Thread count : 8s
 No of thread : 390
 Length : 2.5m
 Plain Drafting & Plain denting
 Plain weave



Bed sheet

Warp : cotton (yellow, white, grey)

Thread count : 8s

No of thread : 1240

Length : 78m

Plain Drafting & Plain denting

Plain weave



Bag

Warp : Cotton, yellow, ecru, blue

Thread count : 8s

No of thread : 270

Length : 3m

Plain Drafting & Plain denting

Plain weave



Scarf gifted to Mr. Sudarshan Iyengar, as a token of appreciation for his visit to IITB, for his module on “Readings of Gandhi”



Bedsheet made for the house built at Wighawali site.

Troubleshooting issues while weaving

Learning to weave is a slow process and like any other craft requires practice. Here I have listed down the common errors that are likely to happen while weaving.

Let's start from the beginning, right from sourcing of the yarn.

When buying yarn for warping

Always match the yarn thickness with the reed count of the loom. For example, a 20 reed will be good for 8s to 10s. often the seller will tell you which yarn to buy if you tell him the reed count.

While warping on peg warp

Take at most care while warping on the peg warp. The two cross should be maintained and it's a good practice to tie the yarn in multiple of 50 as you warp, this ensures you check for any error in the warping and also makes it easy to count.

When spinning the yarn on pirm

Ideally adjust the speed of the motor before spinning. once you get the desired speed, start with spinning from the top of the pirm and reaching the bottom. Never spin on the top of pirm after you reached to the bottom as this will hinder the yarn to come out of shuttle while weaving

Precautions while spinning

1. While winding the care should be taken that, it should be filled in small bunches throughout its length.
2. Same tension should be maintained till the pirm get filled.
3. The groove of the pirm should be kept empty.
4. The yarn should be filled on the pirm in optimum amount

When thread breaks while weaving

This usually happens when the warp threads are knotted, and due to friction with reed tends to break. One should ideally get a the same yarn used in warp and tie a weaver's knot to it, pull the extra yarn from where the breakage happened and coil it around a pin and resume weaving.

When the weft breaks

See that the beater to be brought the back centre. Take out shuttle from shuttle box. Find out the broken pick. Check whether the pick has covered halfway or less. Take out the broken pick. Carefully do the piecing of the weft yarn with the shuttle yarn (Do not do knotting). See that the shuttle is inserted fully in the correct shuttle box. Run the loom by using proper hand and foot movements on the appropriate parts of the loom designed for the purpose

Attending to Warp Break (most common):

Find out broken warp ends. Find out the location of the broken end by visual examination. Mend the broken warp end in the sized beams with the thrums of the same count of the sized beams, using "weavers' knots". Draw the mended warp yarn through the heddles properly as per the drawing order prescribed.

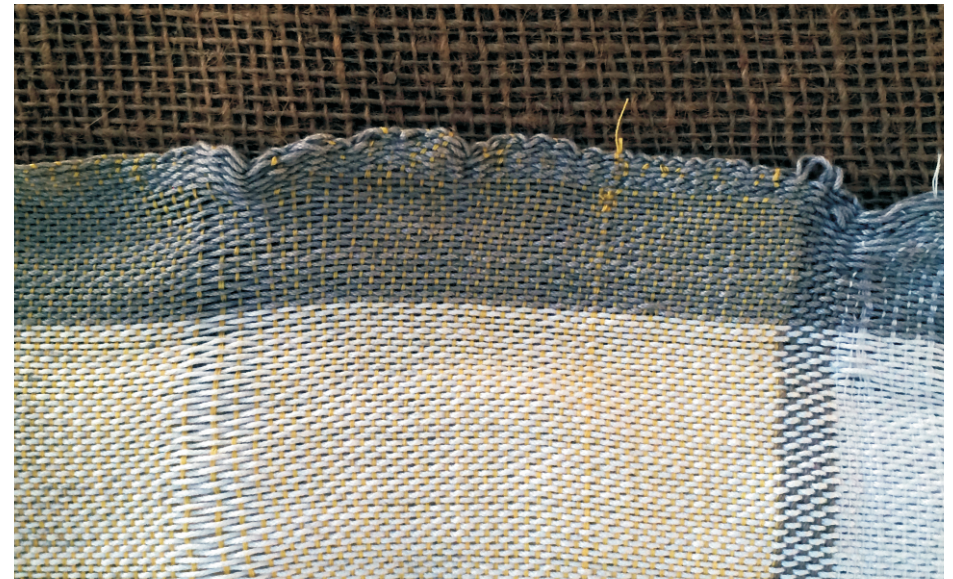
Draw the mended warp yarn through the beater properly as per the denting order prescribed. See that the sley has been brought to the back centre. See that the shuttle is inserted fully in the shuttle box. Run the loom by using proper hand and foot movements on the appropriate parts of the loom designed for the purpose.

When you sit to weave, ensure that :

To check the looms parameter like warp tension, proper opening of shed, reed movement etc, whether the loom is compatible for weaving or not. Adjustments have to be done by the weaver accordingly, the weaver should take precautions, to minimize or avoid the yarn breakages. Weaver should check the shed opening by false picking and reed movement by false beating.

Fabric defects

Defect is an unwanted structure on the fabric due to many reasons. The following are the some of the type of the fabric defects e.g. missing ends, missing picks, reed mark, double end, weft crack, weft bar, temple mark, starting mark, float, slubs etc



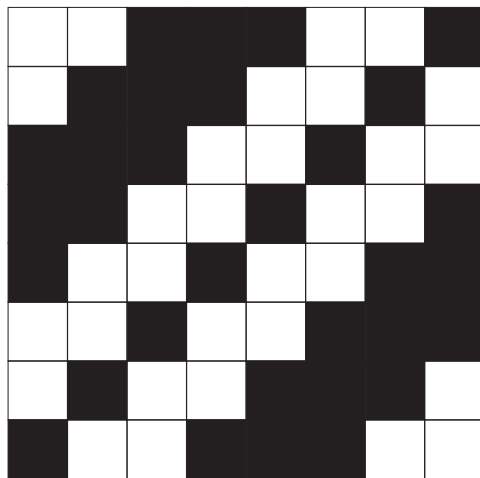
Edge defect



snarl and reed mark defect

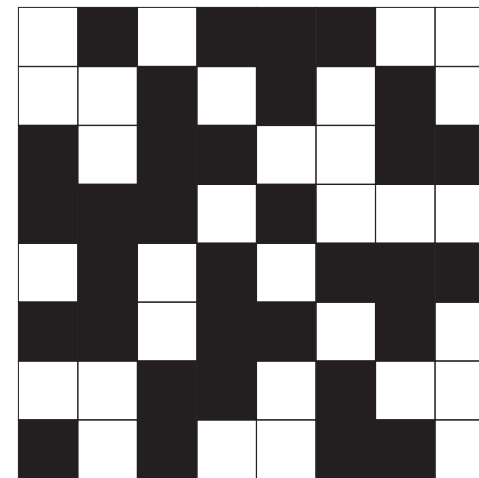
Weave exploration on 8 lever loom

In my previous project I had learned to create patterns. Here I have listed some more exploration done with the different types of weaves on a 8 lever loom.



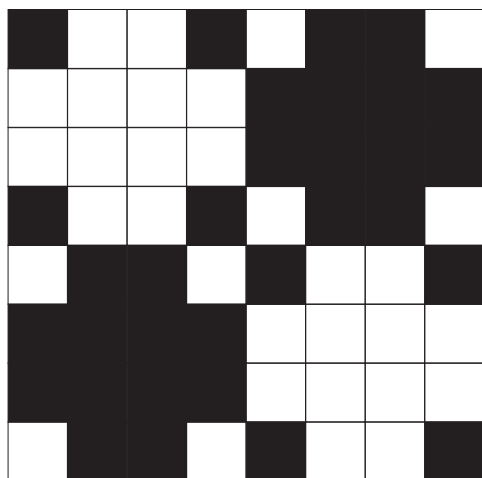
Pointed twill

1456
2567
3678
1478
1258
1236
2347
3458



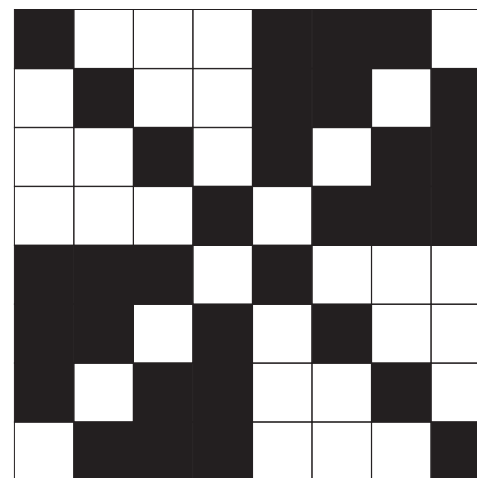
Crape

1367
346
12457
24678
1235
145678
357
2456



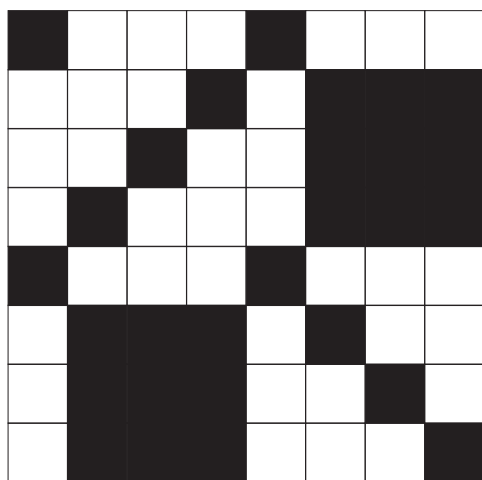
2358
1234
1234
2358
1467
5678
5678
1467

Mockleno



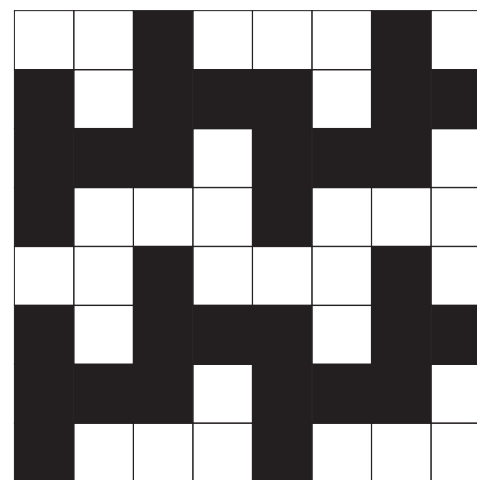
2348
1347
1246
1235
4678
3578
2568
1567

Diaper



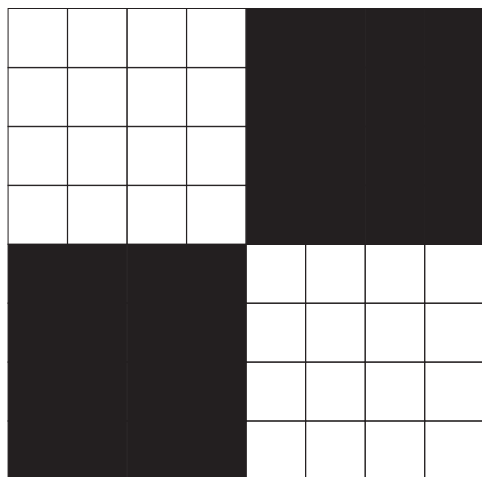
2348
2347
2346
15
2678
3678
4678
15

Barley corn



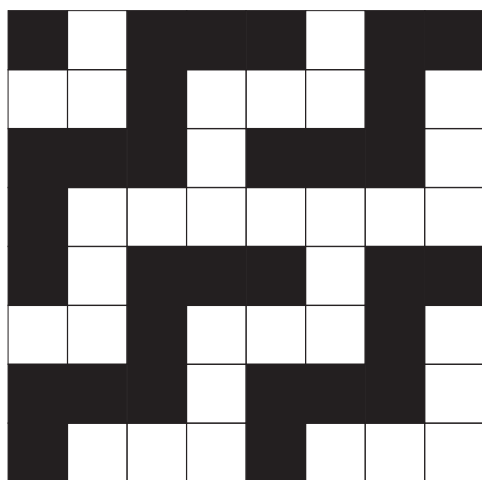
15
123567
134578
37
15
123567
134578
37

Double cloth (open from one side)



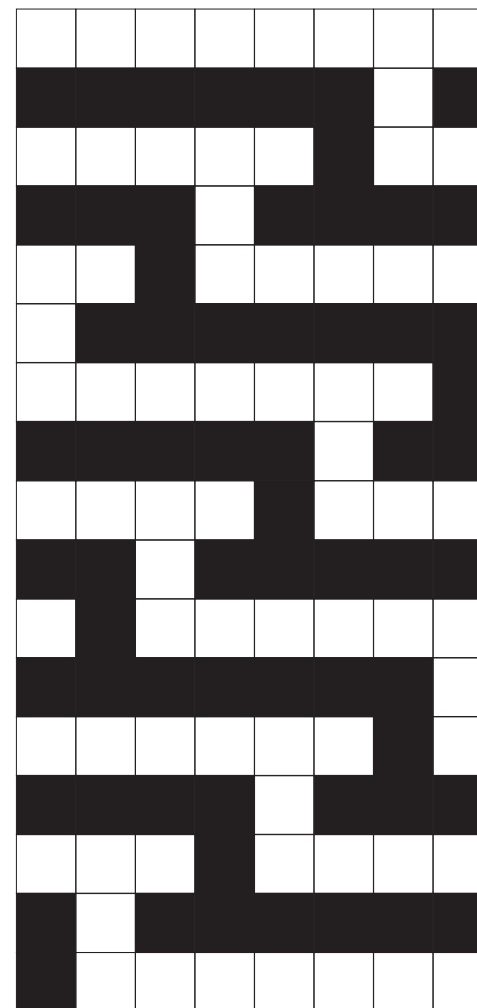
Mat

1234
1234
1234
1234
5678
5678
5678
5678



Double cloth

15
123567
37
134578
1
123567
37
134578



Weft backed cloth

1
1345678
4
1234678
7
1234567
2
1245678
5
1234578
8
2345678
3
1235678
6
1234568

Field trips

To first hand experience the rich textile heritage, one needs to step out of college and see the weaves first hand. This time around we headed mostly to source the yarn for our newly set up studio. The places I visited during the project were:

Gandhi Teerth, Jalgaon

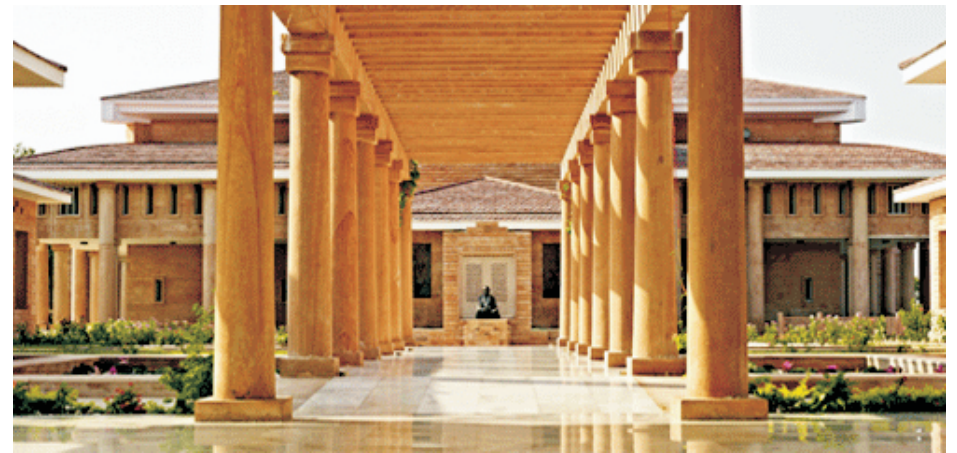
Local weaving cluster, Cherai Beach

Gandhi Teerth, Jalgaon

This trip was rather unplanned yet the most beneficial one! Situated atop a lush green hill, which was once a barren land was a museum dedicated to Mr MK Gandhi. Mr Iyengar who was the one of founder member, helped us interact with the people there, and we could manage to get khadi yarns from them. In such a unperturbed setting, one gets the time to reflect on Gandhi's ideology...To quote him: "The message of the spinning wheel is much wider than its circumference. Its message is one of simplicity, service of mankind, living so as not to hurt others, creating an indissoluble bound between the rich and the poor, capital and labour, the prince and the peasant. That larger message is naturally for all."

Weaving Cluster, Cherai beach

What started as a stroll on a beach, the satak-su sound by the road took us by surprise. It was a local weaving cluster, all women working on some twenty looms. They make *munds*, bedsheets, saree sourced from govt. subsidized yarn banks, and sell at a modest price. Mostly they cater to local people, and sales increases during festivals. Such encounters instills the feeling that in the unlikely places, tucked behind cow sheds in villages and down dusty roads in small towns seemingly in the middle of nowhere, India's ancient tradition of hand-woven textiles hangs by a thread.



Entrance, Gandhi Teerth. Picture credits : <http://www.gandhifoundation.net/>

Initiating weaving & spinning at halt rooms in Dandi Memorial Project

Handloom weaving at IDC, arose in part, because of the ongoing Dandi Memorial Project. What could possibly be good reasons for initiating the art and craft of weaving at IDC School of Design?

One may observe that a modest beginning to this activity may be linked to the Dandi Memorial Project. Members of the faculty at IIT Bombay have felt closely associated with the spirit of the marchers who accompanied Gandhi for opposing the unfair tax on salt. The technological and art components of the project were designed and co-ordinated by a team of faculty from several departments. The implementation of the design is currently in progress and this would be an appropriate time to understand how a new generation of learners may engage with the spirit of the Dandi yatra.

With nine months of engagement with the craft at IDC, one can propose to extend the spirit of handmade in the halt rooms at the Dandi project.

For weaving is a slow process and takes practice to perfect. The nine halt rooms could serve as a orientation of the craft to the visitor. A good initiative would be that introduces all the process of weaving and travellers being a small part of it by doing rather than watching the process.



Scarf made through collaborative association with students

Here is the Plan to introduce spinning & weaving at halt room:

Halt number 1,2,3 :

The travellers are introduced to the charkha, and are taught how the *punni* (cotton bud) is made into a fine thread. It requires great practice to master it, and for the three halt rooms to come, travellers practice the art of spinning the yarn.

Halt number 4,5,6 :

After the yarn is made, it is made into a warp to weave. The travellers then would be introduced to peg warping. It is fairly easy to learn and while they still practice spinning the yarn on charkha, they also warp on the peg warp.

Halt number 7,8 :

It is here that the travellers get to weave on a table loom. Simple two lever looms will be installed for the people to weave a plain cloth during their stay there.

Halt number 9 :

Now they are introduced to a full frame loom, where a master weaver weaves an intricate saree, and people see the process of weaving. They could also buy charkha, handloom products on sale there.

Through this initiative, a traveller understands the process of weaving, and realizes the time and effort it takes to make a cloth. Also this initiative supports a skilled weaver and two semi-skilled weavers that interact with the travellers and keep the momentum of weaving going.



Student at The Handloom School, Maheshwar



Weaver at work at Weaver Service Centre, Charni road, Mumbai

Conclusion

As I weave in the air-conditioned room at IDC, it makes me think about how much the project really impacts me or my way of living, or how much I contribute towards the issues of Handloom industry in India. The daily wage of a weaver ranges between Rs 150-200. This paltry sum is clearly insufficient to make one's ends meet. These weavers work for a strenuous 10-14 hours a day. The work that they do, can't be compared to that of an ordinary labourer who has to put in brute physical effort.

These weavers are highly skilled and dedicated craftsmen who sit on these handlooms and keep track of the microscopic silk thread spun in intricate patterns making exquisite saree designs. But, at the end of the day, they hardly make half the amount a rickshaw puller makes in a day. This reality, makes me realize my privileges of studying at a reputed institution, and an assurance of a decent lifestyle. I am likely to take up a corporate job, with a decent pay package rather than becoming a full time weaver...

So, where does the project leads to?

Well, there sure is a sense of humility that I have imbibed towards weaving and the weaver through this project. For one, I atleast 'see' and respect the knowledge and wisdom of a master weaver. I realize 'doing' something is as important as knowing it.

Having associated with the retail industry, I have now begun to see the reality behind the well lit facade of the powerloom powered industry. I have started to doubt the craving for 'new' in the name of progress. Now clothes are not just stuff, I pile my wardrobe with, but a celebration of every piece of textile and knowing exactly where each one comes from.

There is clearly more to life than merely increasing it's speed.

I have now realized that cotton is not cheap.

Mill produced cotton doesn't count the environmental cost. Though one must not romanticize handloom, as without mills it would be impossible to meet the required amount of cotton for a country as big as ours. Though if one starts weaving just a handkerchief for himself, perhaps that would be the first step in contemplating the ideas that Gandhi envisioned the country we live in today.

Most evidently, the confidence to create beautiful bedsheet, scarfs is what the project has given me. So how does one addresses the issue of handloom industry today? well I start by weaving.....

So tangled seemed the warp of my life, until I began to weave...

References

Books / Reports

RadhikaSingh, The fabrics of our life - The story of Fabindia
William Nanda Bissel, Making India Work
M K Gandhi, Hind Swaraj
M K Gandhi, Constructive Programme
David Arnold, Everyday Technology

Documentaries / Videos

The true cost BBC
Learning ahir embroidery through tutorials
Women weave, The Handloom school, Maheshwar

Website links

<http://www.warporweft.com/types-of-looms/>
<https://slowfactory.com>
<http://textilescommittee.nic.in/Weaver.pdf>
<http://www.naturalhighsafaris.com/blog/hand-loom-weaving>
<http://www.mkgandhi.org/revivalvillage/>
<https://yourstory.com/2016/04/shrujan/>
<http://www.womenweave.org/sustainable-fashion-fairtrade#>
<http://www.thehandloomschool.org/rekindling-the-dreams-2.html>

