# INTERWEAVING INTERFACES

Nishra Ranpura

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## a memoir

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## Colophon

"Frayed collar of a favorite shirt,
Or a shoe worn out, covered in dirt;
First draft of an important letter,
Or a cracked pot, no better;
Whatever it is that is close to your heart,
Let it speak its part, your part.

That voice, that thought of yours, that lens,
Your individual intelligence;
With mine and hers and his and theirs,
May weave together novel affairs;
What is your vantage, your way of thought?
That woven with mine, what can be sought?"

*Welcome to my train of thoughts. Allow me to walk you through it. But feel free to wander off. In fact, you are encouraged to do so.*

# A collective foreword

"I have often found it difficult to hold on to things that do not seem logical. I, and I am sure many of us, find it unfavorable to foster unnecessary and seemingly unproductive thoughts due to society's and eventually our own incessant need for results. I always used to frown upon Nishra for pursuing tasks that clearly were not going to bear any fruits. I remember being peeved at her once for walking on every single tile of a parking lot for no apparent reason. 'You just have to do it sometimes without knowing its purpose' is what she used to say. I did not see any benefit from those fruitless exercises of hers. A few years later, she mentioned how her little feet maneuvers between those tiles helped her in visualizing the up and down interlacement of a weave on a digital platform. I guess sometimes you do have to just do it without knowing the purpose."

"Nishra is a paradox when it comes to processing information. Sometimes she accepts information at its face value unacceptably easily, while other times dawns a perspective so unusual it is hard to find relevance. I often wonder about the causalities behind challenging or accepting information. And I have found Nishra's work to directly or indirectly shed light on those causalities, and to shed light on 'What curates a perspective, and more importantly, what does it contribute to?'"

"What I often find through Nishra's work is a conversation, with myself, with her, with my medium, with my clients, with my peers, with anyone. She plays in the sweet spot of speculation and critical fabulation that sparks ideation. She interweaves a myriad of interfaces, leaving space to mold, share, take away from, or collaborate with those interfaces. Her works that she shares through Interweaving Interfaces precisely encourages this space of collective collaboration sparked from individual vantages- a collective intelligence. Her vantage here is textiles."

-collectanea

# Acknowledgements

The curiosities of learning, and the challenges of not knowing;
The satisfaction of success, and the restlessness of not having one;
The critiques and encouragements, the disappointments and ambivalence;
The tools I learned to use, and the ones I still aspire to someday;
The skills I learned and always use, the ones I learned and seldom choose;
The machines I was scared to use, and the ones I just could not loose;
The books I read and liked, and the ones I read and didn't like,
The ones I didn't read and pretended to read, and the ones I didn't read and will never do;
The artworks I saw and will never forget, the artists I met and will never unmeet;
And also the ones I instantly forgot, and also the ones whose ways I sought;
Teachers and students, peers and acquaintances;
Friends and family, loved ones and estrangers...

...are the ones without whom my experience and intelligence wouldn't have been the same.
...are the ones without whom this would not have been possible.

# Contents

## What am I writing about?

I am simply thinking out loud here for the most part. In this piece of writing, through my design inquiries, that is, through my lens of textiles, we will explore the interfaces around collective intelligence. In doing so, I hope it evokes more such dialogues– **a collective conversation**.

## What do I mean by collective intelligence?

Let us think of the machines around us such as typewriters, cell phones, pens, or chairs, to be their own distinct beings. Yes, they coexist and collaborate with other heterogeneous beings (biotic as well as abiotic), but there is still isolation. What does a pen have to do with a chair? The pen and chair can physically interact but can a chair write like a pen? What does a bicycle have in common with a cupboard? Can we ride in a cupboard or store our belongings in a bicycle? What if we assume we can do all of this, and even more? How amusing will that be? Or will it be inconvenient? Or perhaps even terrifying?

The advent of Machine Intelligence brought forth these dialogues of collaborative learning and what we understand, express or represent based on that learning- a collective intelligence. It might be crucial to take a step back and unpack this notion of intelligence. Because what one picks up now might just last longer than (human) beings.

Collective intelligence for me, and here, is simply a manner of collaborative forces. These forces can be of any kind from experience, knowledge, or beliefs, to attributes, appearance, or impression.

# Why am I writing about collective intelligence?

*"The history of things is about material presences which are far more tangible than the ghostly evocations of civil history."*

*[George Kubler in 'The Shape of Time: Remarks on the History of Things']*

History has been explored, abused, analyzed, and fantasized by theorists, historians, and philosophers since, well, the beginning of history itself. It is the only place that we can be definitive as well as elusive about at the same time (depending on our conveniences, of course). Temporalities of histories coexist with our present existences. How we perceive the present might change our outlook on history. One might argue it is the other way around, but isn't this way more intriguing?

*We are a constant manifestation of our own historical experiences.*

And when these manifestations contribute, in any manner, into the world, they essentially collaborate and lay the ground for countless possible futures. I am curious about the nature of this manifestation. How do different modalities and temporalities of one's existence craft intelligence?

*"The man who works recognises his own product in the world that has actually been transformed by his work: he recognises himself in it, he sees in it his own human reality, in it he discovers and reveals to others the objective reality of his humanity, of the original abstract and purely subjective idea he has of himself."*

*[Alexandre Kojève in Introduction to the Reading of Hegel: Lectures on the Phenomenology of Spirit]*
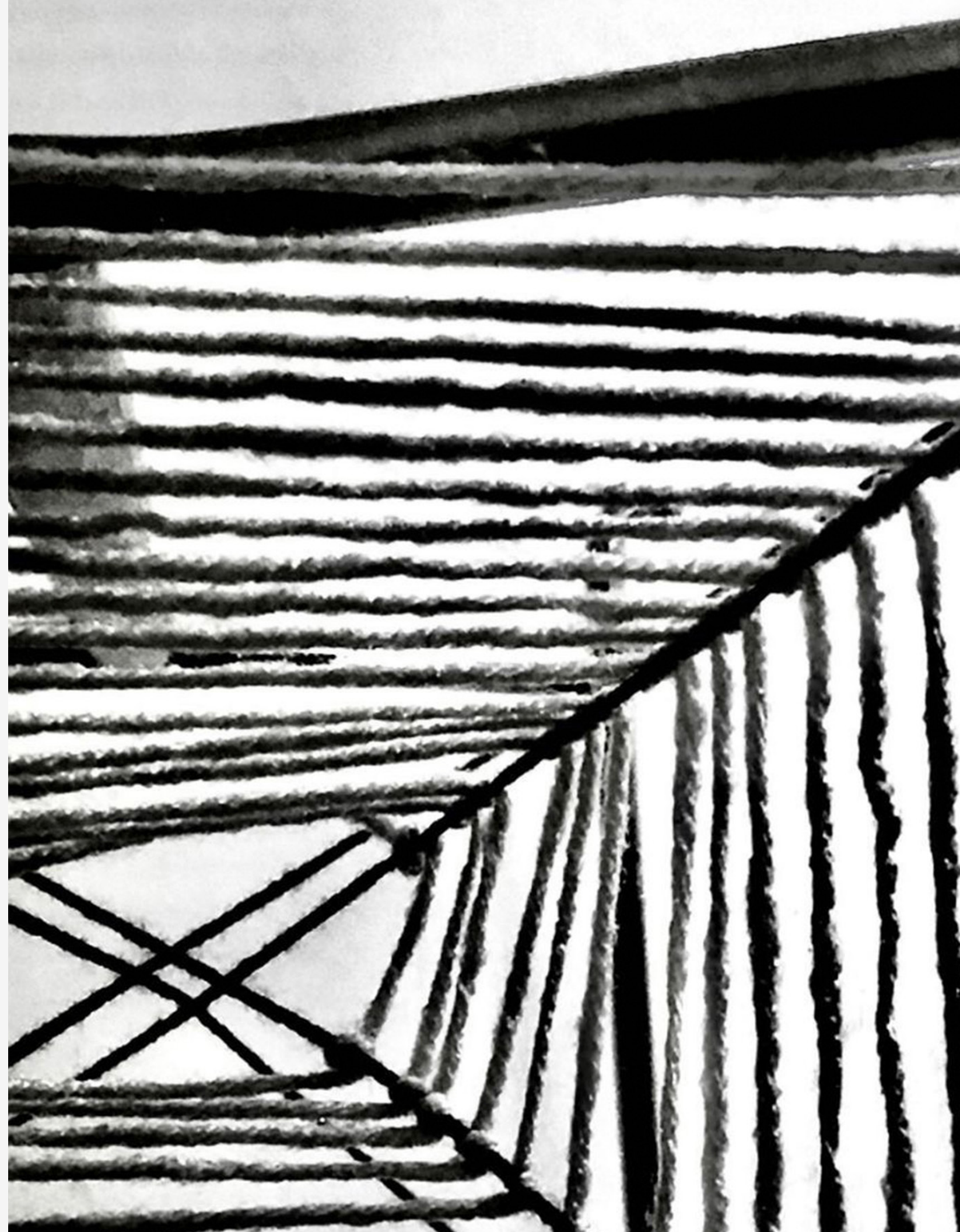
# How am I exploring collective intelligence?

*"The greatest invention of the nineteenth century was the invention of the method of invention. A new method entered into life. In order to understand our epoch, we can neglect all the details of change, such as railways, telegraphs, radios, spinning machines, synthetic dyes. We must concentrate on the method itself; that is the real novelty..."*

*[Alfred North Whitehead in 'Science and the Modern World']*

Continuing on the lines of us being manifestations of our experiences, How do these manifestations witness and perhaps contribute to the tangible and perceptual world? While we can use another, and perhaps multiple lifetimes, to analyze one lifetime, maybe we can consider that as plan B, and start with one thing at a time for now. I try to hyper-isolate my lens of understanding theories, philosophies, and applications of textiles to see how much it seeps into worldly perception. By which, I mean **alternative and plural perspectives** of the socio-cultural, technological, pedagogical, and metaphysical systems (these can be any and every system, to be honest) around self.

*My Library*
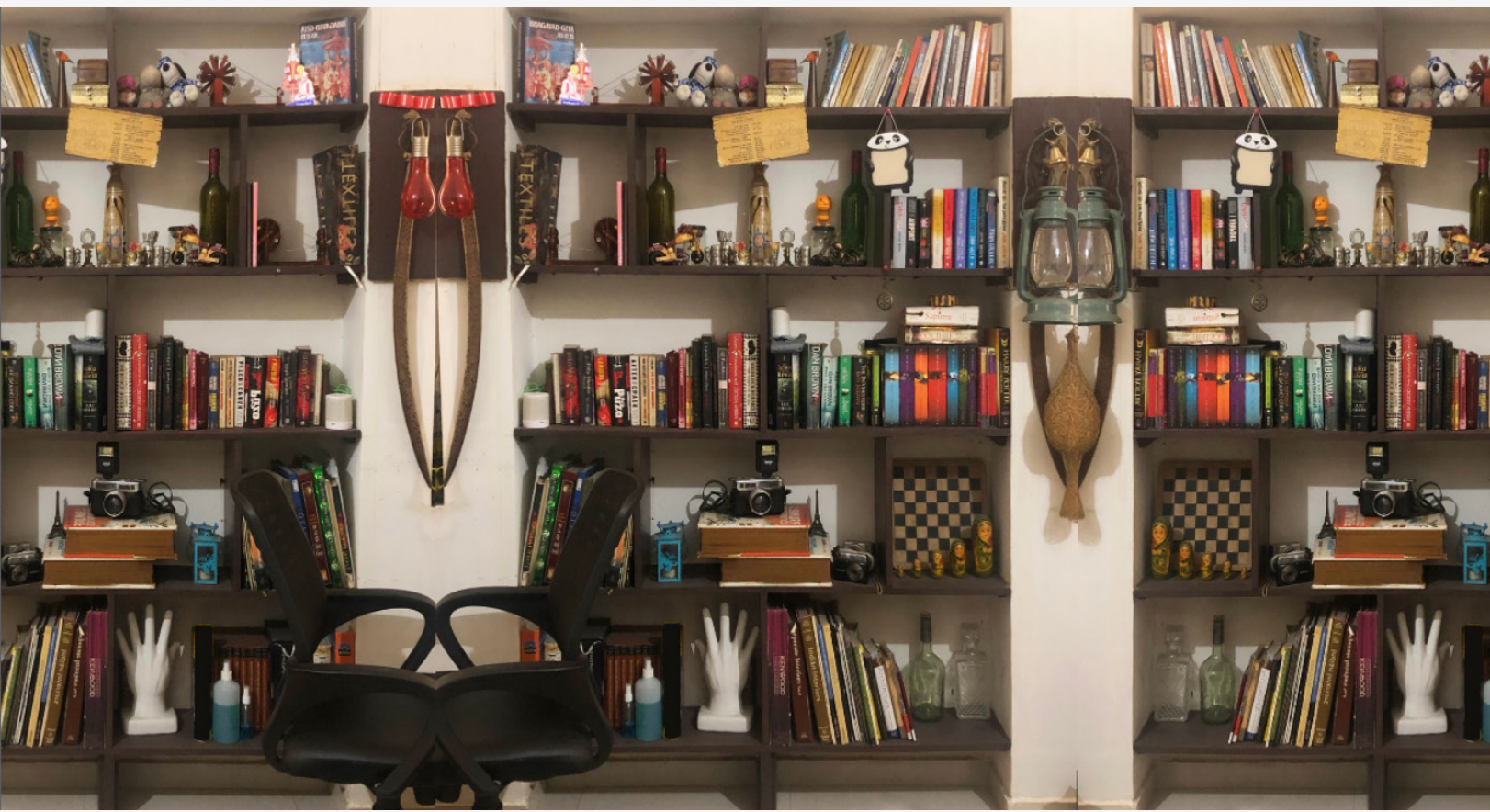


Growing up, and even now, I have always had a mini-library of my own. And it truly is that- a library and not just any ordinary bookshelf. I collect my experiences in these libraries that I can go back to and refer to, experiences such as books I read, want to read, or should read but never do, a generation of cameras, a wooden carved bike, first hand-made fabric, a swatchbook of wallpapers, an unsolved puzzle, a spinning wheel, a broken phone screen, an abandoned shoe, and I can keep going on. The purpose of these is not nostalgic remembrance but making a note of an experience that sparked a thought or feeling, because that is what one's individual contribution turns out to be in a collaborative and collective environment, the spark. (This is not one of my strongest analogies- sparks with books? But as I mentioned in the beginning, I am simply thinking out loud here). It is not an archive only for me to look into, but just as a personal library, anyone can come in, browse through, borrow, or add to these experiences. Hence, I often bring this practice into my research as well– making space for a myriad of perspectives to share.

*"Motorola, a success story, developed what it called a "technology shelf," created by a small group of engineers, on which were placed possible technical solutions that other teams might use in the future; rather than trying to solve the problem outright, it developed tools whose immediate value was not clear. "*

*[Sennett, Richard. "The Craftsman". Yale University Press, 2008]*

This to me feels like an apt example of how I explore plural and alternative perspectives through my practice– present thoughts and provocations whose immediate value is not yet clear.

I contemplate over musings in the domains of **metaphysical and experiential interfaces, technological interfaces, socio-cultural interfaces, and pedagogical interfaces**. These musings are– philosophies of time and labor, linguistics and semantics, culture of tools, community of machines, dimensional fabrication, visibility in technology, philosophies of regeneration and repair, neuroplastic fabrication, and material study in the physical and the visual. And what do any of these mean, you ask? It is a page-turner. (no, really, I have expanded upon it in the succeeding pages).

# Metaphysical interfaces

Metaphysical interfaces often lead to philosophical theories and set the groundwork for conceptual inspiration for new technologies, services, products, or systems. One's perception of an abstract or metaphysical notion influences the future. Hence, it is essential to understand the interactions with metaphysical interfaces.

**Weaving Time**- Philosophies of Time and labor
*Speculation: Essay*

The essay I wrote explores the inquiry of labor through temporal experiences of the modalities of making, creating, building, fabricating, or crafting. Temporal experiences can be experiential, tangible, materialistic, speculative, or all of these, and much more.

The essay looks into various processes and agencies associated with weaving to speculate over the question- How is time experienced while weaving?

## Repair and Regeneration
*Research: Woven and digital artifacts*

At a time where the concepts of repair and regeneration are associated with a myriad of applications including but not limited to the right to repair movement (which is about ownership and accessibility), regenerative organs and tissues, regenerative engineering,and regenerative capitalism (which is about commercial companies focusing on not just doing less bad, but active good), I look at the regenerative nature of fabric structures and weaves to contemplate. Not to mention, the innate nature of repair is inherent in and often go hand-in-hand with crafts. Talking about weaves, I look at woven fabrications and think about whether the logic behind multilayer fabrics' tendency to be resilient in wear and tear mean anything for data protection applications. Can the nature of degeneration of a fabric hint towards pressure points and breaking points? What will growth and regeneration in bio-systems look like in the presence and absence of an armature? Gaps in interlacements, while weaving, can often be filled with additional pressure or reduction in tension. Can a similar framework be applied to psychological patterns?

*Essay: Weaving Time*



Weaving Time

By: Nishra Ranpura

Weavers, weaving at break of day,
Why do you weave a garment so gay?...
Blue as the wing of a halcyon wild,
We weave the robes of a new-born child.

Weavers, weaving at fall of night,
Why do you weave a garment so bright?...
Like the plumes of a peacock, purple and green,
We weave the marriage-veils of a queen.

Weavers, weaving solemn and still,
What do you weave in the moonlight chill?...
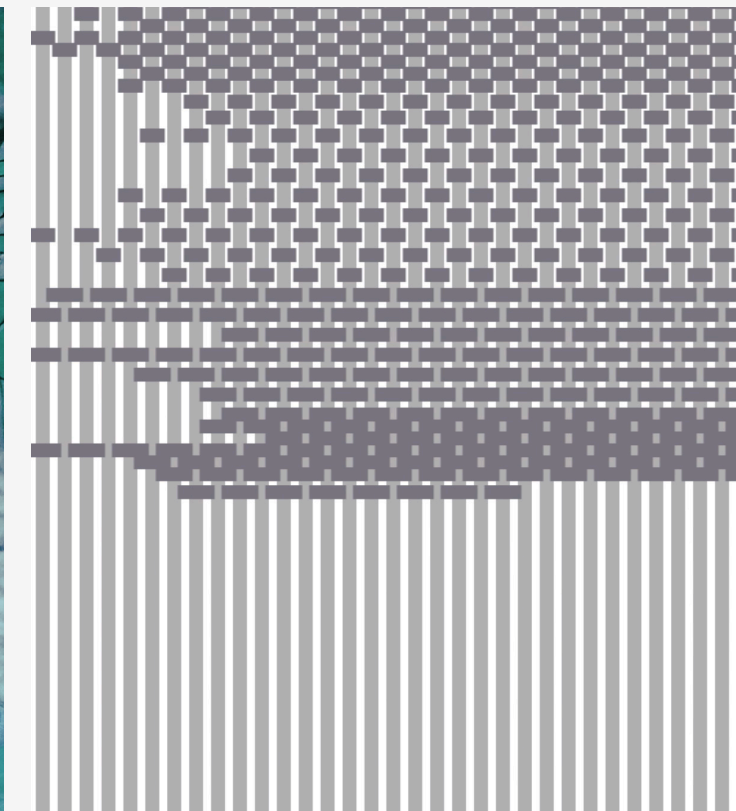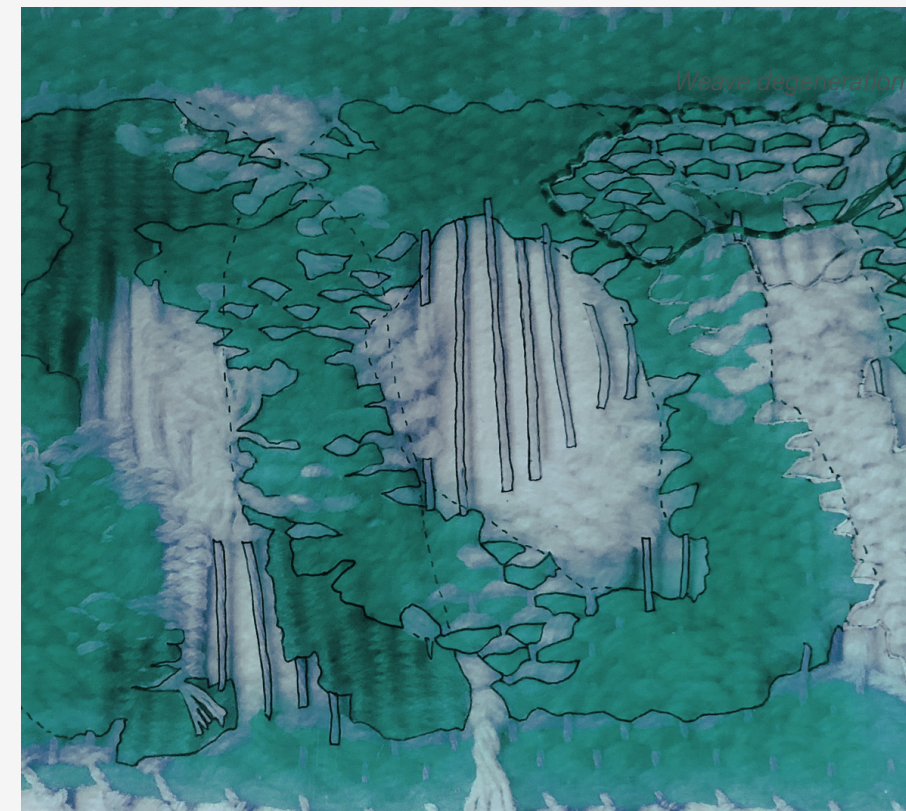White as a feather and white as a cloud,
We weave a dead man's funeral shroud.

- [Indian Weavers, by Sarojini Naidu]

*Physical weave degeneration (left), Digital weave regeneration (right)*

**Neuroplastic Fabrication**
*Research: Woven artifact*

The woven swatch for Neuroplastic Fabrication is my attempt to embody the fabric structure, and its wear and tear, tension, and fragility or rigidity along with it. Half of the swatch is a reflection of my personal habits (like data visualization of my screen time), with the colorful beads representing certain data points, disturbing the stability of the fabric.

For the other half of the fabric, I tried to rectify the unstable fabric structure by adding the beads wherever they were needed by the fabric. And I reversed the process and translated the fabric's needs into my habits. It was a week of chaos. It truly made me aware of the unbalanced habits I foster and how hard it is to iron out the wrinkles of the fabric in real life.

I wonder about what kinds of lives one could lead if they follow the woven patterns and weaves. Will it be one of balance or are we beings not fabricated in the same way as fabrics?

*Woven Swatch for Neuroplastic Fabrication Experimentation*



## Technological interfaces

It is no news that textile patterns, production processes and structures have huge potential in technological applications. I simply attempt to contribute to the same beliefs and learn about our interactions with these technological interfaces.

**Dimensional Fabrication**
*Research: Exploratory artifacts*

I am trying to understand the process of fabrication in virtual dimensions (I am talking about 3D, AR/VR tools and simulations) by breaking down the notion into various modalities such as perspectives, dimensional axes and facets or layers. These self-made dimensional looms explore each of these concepts and play around with variables (materials and weave structure) to understand cause and effect during fabrication. Which loose end distorts the vision? Which pulled thread untangles the knots between the dimensions?

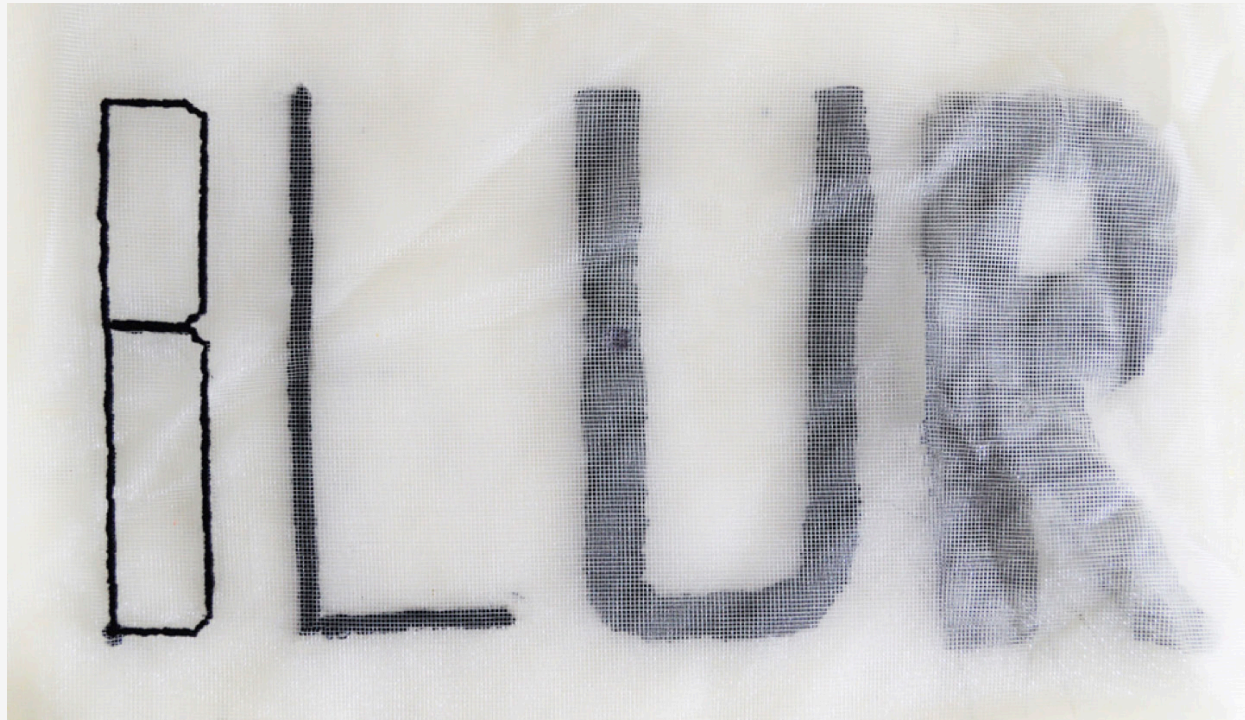*Customized looms to study perspectives, dimensions, and layers for digital fabrication*
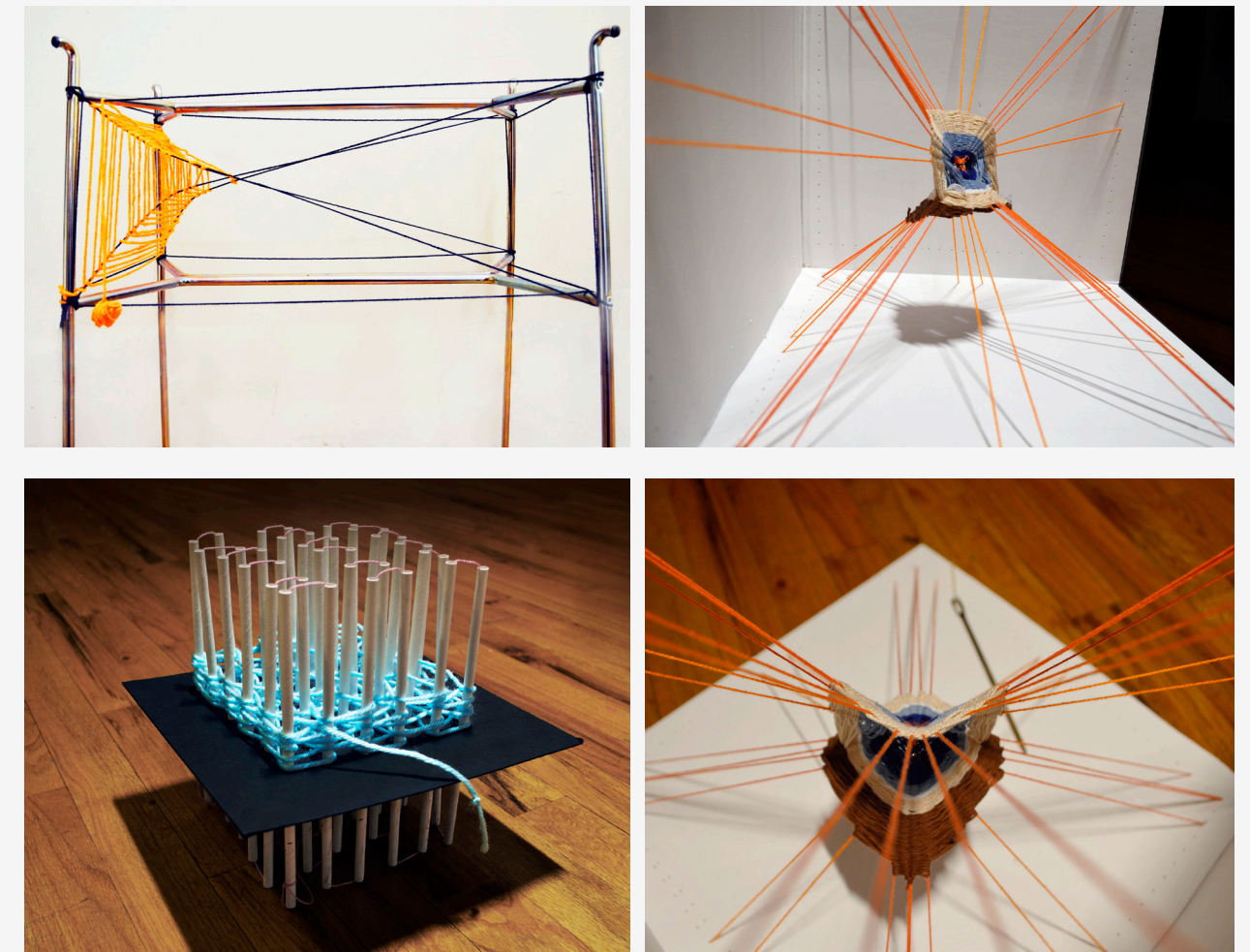
## Visibility in Technology
*Musing*

Textiles are an incredible material to hide or show the work. It depends on how one uses it.

*Visibility in Textiles and Technology*





## Material API
*Research: Woven and digital artifacts*

While we are creating worlds and worlds in simulation, and keep wanting to go closer and closer to reality in those worlds, I explore the nature of translation of materials to understand what is gained and/or lost in this translation. An abstract concept such as light is an incredible example to play with. It is something that is present in both the physical and the virtual worlds, holding its own stance in both the settings. What if we translate the abstract properties to make them more quantitative or tangible? The concept of reflection, refraction, and shadow is translated into density of weaves. Can this let us sense light in ways other than the ordinary? Are you really touching the shadows? When you rub the fabrics against each other, are you hearing light?

*Translating Abstract properties of Light into haptic, visual and tangible outcome*
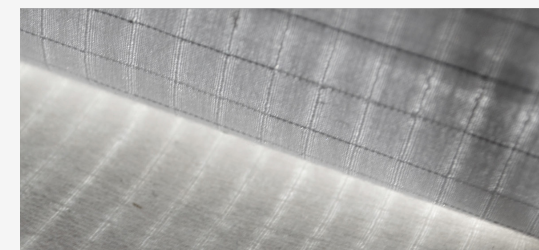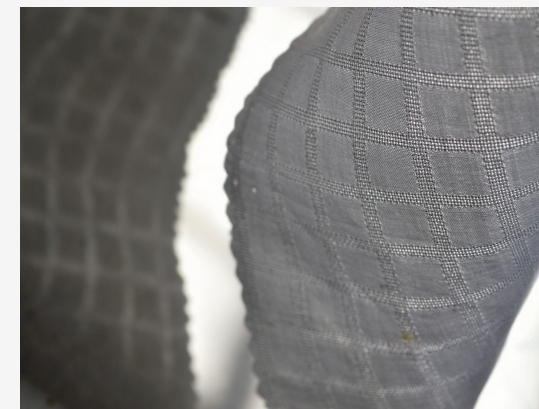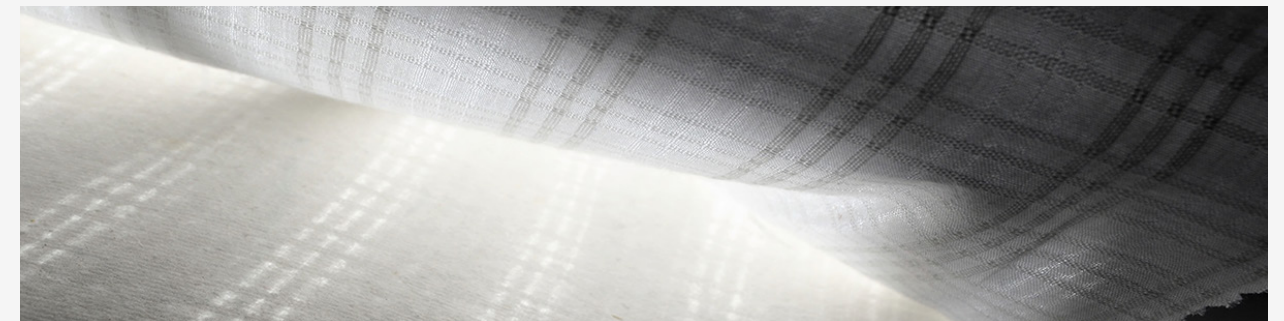
## Socio-cultural interfaces

It is not unknown that the planet is leading towards a post-human future. With machines, trees, animals, rivers, rocks, and bacteria getting a seat on the table, where are we going with the human made construct of society, culture, and community?

### Culture of Tools
*Speculation: Digital artifacts*

How often do we pause and think about the hybridness of the tools and machines we use? Our watches can make calls and our phones can point towards the north. Our bottles can remind us to drink water and our speakers can turn off the lights. With diverse practices getting more amalgamated and entangled, our tools are also evolving (to be fair, tools, by their very nature, are always evolving). What triggers this evolution decides the direction of the future technologies. Tech x tile is an infographic manual of hybrid tools that are needed to fill the space of cross-disciplinary interfaces. Who dominates the evolution of tools says a lot about the society and culture we are in and are headed towards.

*Tech x Tile Tools Manual*
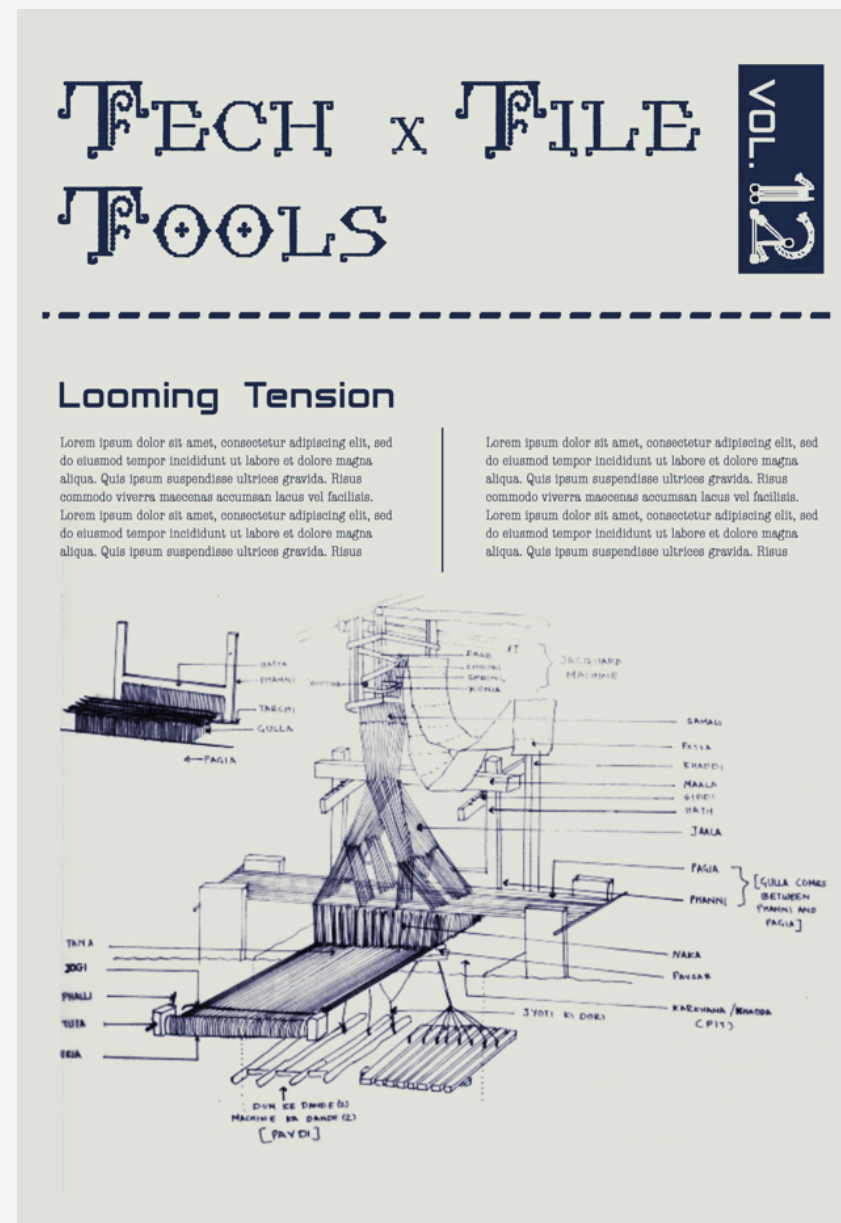


## Community of Machines
*Speculation: Exploratory artifacts*

This is an experiment to sense. When I track the weaving motion, it creates this conversation between all the machines and a sensory exchange happens. What are they talking about? Are we part of the conversation? What are we missing in this exchange? The motion of weaving is not just experienced by the weaver through movement, but is sensed in a myriad of ways by all the agencies involved such as the loom, the shuttle and the yarn.

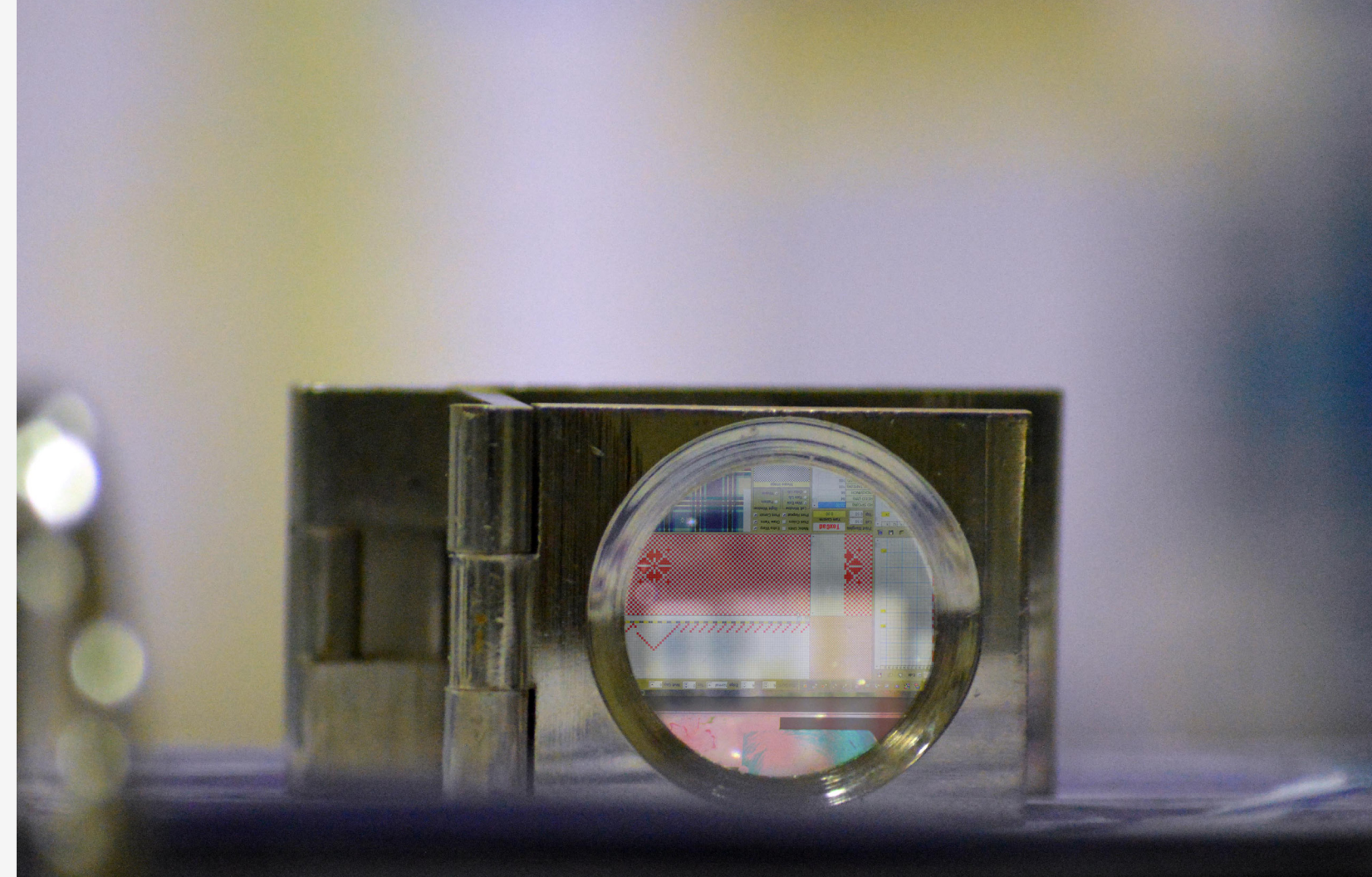*Tracking and sensing movement while weaving*
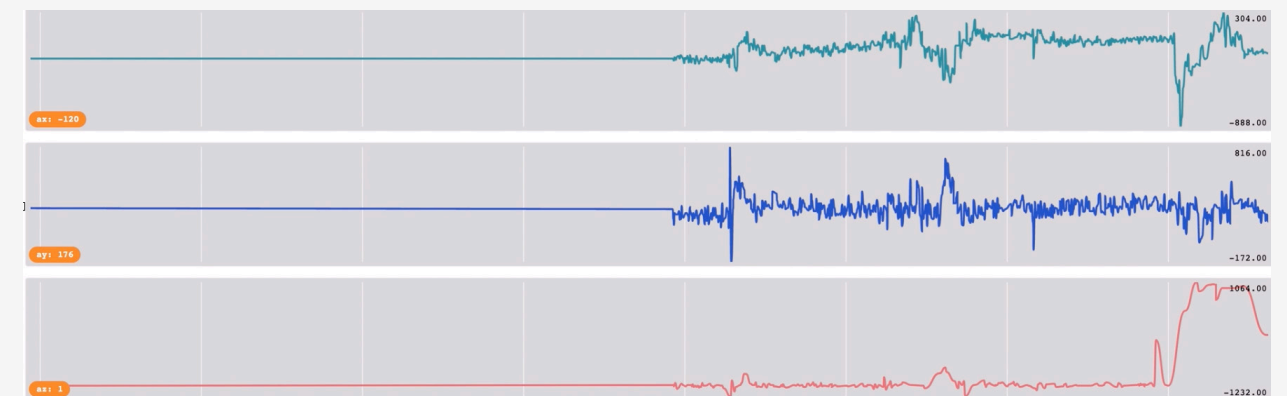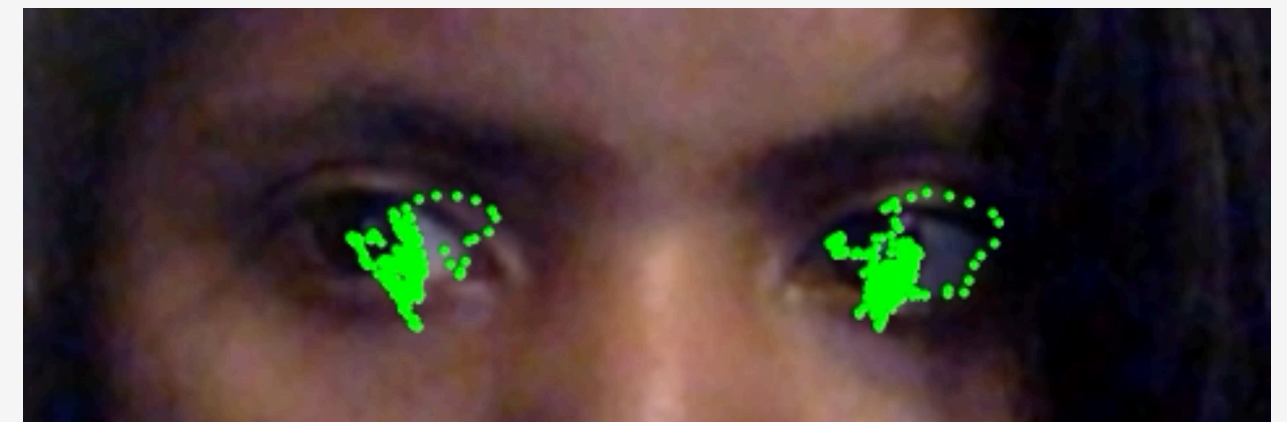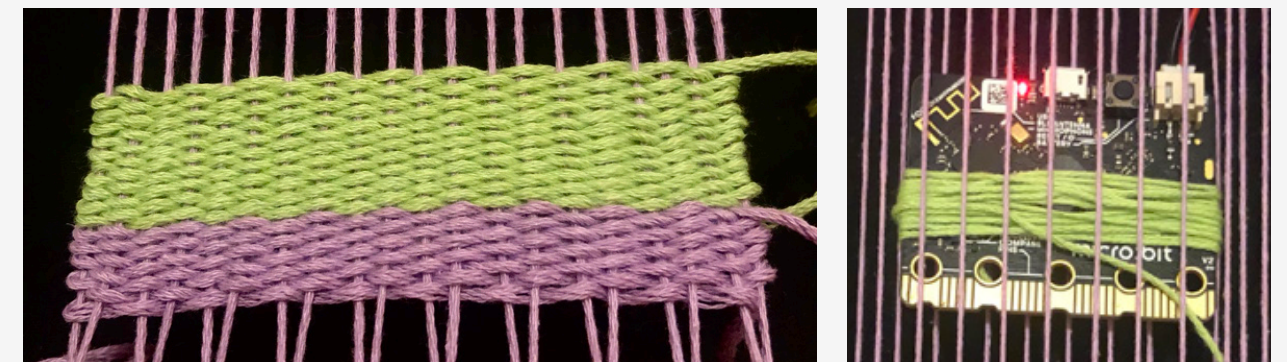
## Pedagogical interfaces

The way we interact, and understand has a lot to do with the way we learn. We have countless  studies around child development that are about this. I find it interesting to learn how we learn. The engagement, time, complexity, diversity and infinite potential that come with textile fabrication are a rich source of pedagogical behavioral observations and ponderings.
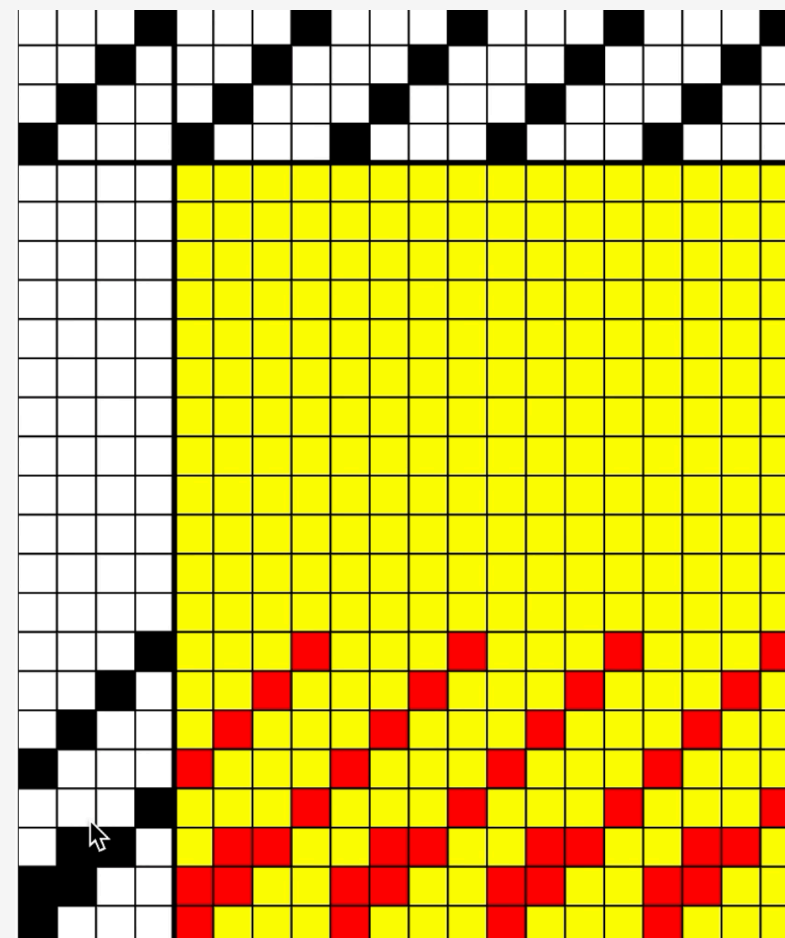
**Languages**
*Musing*

Are there similarities between languages and weaving? We understand different languages differently, and a lot of it has to do with phonetics and directionality. Is weaving similar to a language? Weaving has linearity, as well as multiplicity, it has a structure just as a sentence structure. I ask myself, what is the grammar of interlacement? And what are the different weaves in languages?



*Parallels in language and weaving*



## What's next?

Who am I to answer? It is after all, a collective conversation. Where might one take these experiments and musings forward? What can one add to the dialogue, or perhaps remove from it? Does this offer inspiration? Does this challenge your notions? Or do you challenge these notions? Is it an anti-thesis or a revelation? Is it too passive to make a difference or too radical? What's next is where the conversation takes it.

## If we are speaking of collective intelligence (and even if we are not), my thoughts and research are not just my own. [Bibliography]

All of this comes from the collective of these great minds:

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