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Performance article

Negotiation of Forces in Performative Weaving

ABSTRACT

I am a textile artist that builds performative weaving constructions emphasizing the tensions in the reciprocal dialogue that occurs between body, tools and materials. This strategy has emerged from an intention to approach an embodied and immersive relationship with a weaving practice. How does a body adapt to a craft, and how does the craft change in response? All making, especially weaving, can be considered a modality of growth, and the body and any work produced in a craft relationship become a symbiotic, adaptive being. The textile is a life-sustaining extension and evolution of the human body. Our mutual dependence is the ground out of which I develop my projects. My research has settled into a generative weaving installation, designed to encourage the blurring of boundaries between body, loom and dyebath, fibers and pigments (the body becomes the tool, the material is the body, the material is the tool). The installation itself is woven as it is activated, made up of an unbroken silk band. The weaver is integrated through a modified backstrap loom, ancient technology that relies on muscular resistance for tension. To this end, the woven band loops around the waist, and around the weaving heddles, connecting the feet to them. The dyepot anchors the system to the room and to the body. If an element is out of balance, it will collapse. One can continually graft new threads onto this band, so in theory it could go on growing indefinitely. This ecosystem is perfectly calibrated to fit the weaver's body and circumstance, an enhanced, collaborative being, like a stone-age cyborg.

Keywords:

Weaving, dyeing, craft, embodiment.

INTRODUCTION

A few years ago I came across a Japanese weaving technique, *Tsuzure-ori*, where practitioners sometimes file their nails into serrated points. These fine, sensitized combs are used to beat the threads; the

body and tool blur into one. This made me curious about bodily presence and adaptation in craft, and crystallized some questions: How do weavers collaborate with tools and materials in the production of form? Can weaving be seen as an extension of bodily presence? Can we grow and change together as a symbiotic structure?

Working with craft is already a deeply embodied practice. Practitioners talk about understanding material through touch and muscle memory; of an intuition that materializes after years of repetitive reinforcement. As a relatively new weaver, I remember the beginnings of communication with the threads, as I searched the warp for mistakes. Passing my hand over the strings I was surprised that I could feel where knots had formed, hindering the warp from passing through the heddles. As the textile is shaped, it shapes us back in turn. I wanted to explore these kinds of subtle adaptations, the way the body and a craft practice can extend into each other.

EXTENSION INTO CRAFT

The case for cognitive extension of self through our interaction with objects is well argued. For instance, the *extended mind* described by Clark and Chalmers (1998) displays our entanglement and reliance on external instruments to enhance cognition; they compellingly describe a notebook constantly carried by an Alzheimer's patient as a physical extension of memory – a portion of the mind contained beyond the boundaries of the body. They conclude that an extended mind implies an extended presence of self, into these very objects that are in active engagement with cognition. Another relevant precedent is Malafouris' (2020) description of material-engagement theory, which disputes the conventional division between forming and thinking, using the example of a potter working with clay. He also highlights the objects (*environmental scaffolds*) that collaborate in the cognitive process. Thinking with and through the loom is a recognizable experience for weavers. Planning and executing woven work feels like an active collaboration with the tools and materials, that can be compared to the way the tools of writing help form thoughts in the act of being written down.

WEAVING AS GROWTH

Beyond cognition – a dramatic enough shift in perspective as it is – in terms of physicality, the divisions between the body and the external environment of craft can be blurred even further. Ingold's essay *On weaving a basket* (2000) describes how the making of artifacts of any kind, but particularly woven ones, can be said to have undergone a process of growth equal to that of the organic growth of organisms. He argues that a woven piece is not 'made' in the sense of a purely mental design exercise, exclusively by human intellect; it 'grows' in collaboration with the material, process and craftsman.

He describes the artifact as *engaging its maker in a pattern of skilled activity*, and how the generative process and environment as a whole collaborate in the production of form. As Ingold writes – *the form unfolds within a kind of force field, in which the weaver is caught up in a reciprocal and quite muscular dialogue with the material* (Ingold, 2000, p. 342). Beyond cognitive extension, taking my cue from the framing of weaving as growth, I decided to build a system that makes explicit the consequences of this: how the artifact (the material, the tool, etc.) exudes its force on me as I exude my force on it – precisely a *reciprocal muscular dialogue*.

In the force field of weaving, threads are pulled, and resist in their tension, arranging themselves into textile compromise. The weaver is just one of many complicit ingredients. Others include the cellular constitution, age and storage conditions of the fiber, gravity and humidity. The dimensions of the tools, body and working space affect the size of the work; discipline and physical capacity dictate how long the weaver can stand to continue. All making is a collaboration between more or less visible capacities and intentions that we incorporate and work around; a give and take, call and response.

These perspectives facilitate a shift in viewpoint that uncovers our tendency to ignore the influence of environment and material wills in practices of making, and their profound effect on the final result. We tend to imagine a creator with a fully formed blueprint in their mind; Ingold is among

those reminding us that we cannot divorce this blueprint from the environment of its generation, nor from the material characteristics of its building blocks.

NEGOTIATION OF FORCES

So if making is extended cognition as well as organic growth, and a craft practice extends through and affects its practitioner, we are growing together, and we change together, although usually in subtler ways than the serrated nail of *Tsuzure-ori*. Positioned in this breeding ground, I considered ways to morph more deliberately into weaving, resulting in the performative installation *Negotiation of Forces*. The constellation consists of a single silk band, and its environment of generation, that includes the weaver (figure 1). At several points of generative tension, I have tried to enhance the possibilities for the boundaries to overlap between body, tool and material. As one force pulls or puts pressure, the aligning force must change to accommodate.



FIGURE 1. Overview of a version of the weaving system; 100 meters and counting, an unbroken silk band that simultaneously activates the loom that creates it. To watch video documentation of the system, click the picture or this [link](#). Photo: Øystein Thorvaldsen.

It combines elements from different weaving systems, centered around the backstrap. This ancient technology connects the warp through a belt to the weaver's waist, allowing posture and muscular strength to dictate the warp tension. Tension is one of the central forces involved in weaving. The larger floor looms, developed later in weaving history, maintain tension through supporting structures that need to withstand strong oppositional forces. Backstrap transfers this compromise of physics to the weaver's body: one must negotiate between one's own weight and the weight at the other end of the warp, replacing the independent structure with dependence on one's own skeleton and muscle resistance, in cooperation with some fixed points in the surrounding architecture (be it a roof beam or a nearby tree). Backstrap weaving turns the body into a tool, with the warp tethering the body to the surrounding environment like an umbilical cord. It might be considered a 'wearable loom', or a prehistoric cyborg, as a fusion between body and technology; a technology which, in its production of textile, ultimately functions as life-sustaining extension and protection of the skin.



FIGURE 2 AND 3. The system in action.

In addition, by removing the confines of straight beams and supports, a free-floating structure with several individually tensioned warps allows for curves, by beating the warp unevenly at continuous angles. The rigid geometrical limits of the loom are pushed, relinquishing softer organic curves (figure 4). A free-standing design also allows easy grafting on of new warps, so that indefinite growth is made possible. As material is generated, the band is attached to the heddles, becoming the treadles that allow the feet to control them. The unbroken band also functions as the strap that binds the structure to the waist (figure 3), and the regulating tension that holds the warp at the correct height for weaving, in collaboration with the free-standing weights. The loom thus weaves its own generating structure, blending tool with material. Like the silkworm that builds its cocoon from a single silk filament, the weaver can cultivate a structure around them that, uninterrupted, is both material product of the situation as well as weaving structure itself.



FIGURE 4 AND 5. Examples of curvature in the band; stripes result due to subtle differences in dyeing, differentiating the warps that have been grafted together. Figure 5 shows the start of a new warp and how it connects to the existing one after weaving.

Spurred by Neimanis' (2017) writings on the ways water connects us to our environments as the ultimate boundary-blurring force, the dyebath further connects the weaver's water-logged body with their work. While learning to dye, I dreamt of dyeing human skin alongside the fibers - we can absorb pigment together. The inspiration to use beetroot came from admiring the stains it leaves on surfaces and hands, and how when eaten, it is eventually expelled through urine. The system allows for dipping of the feet in beetroot while weaving. As the treadle loops are continually replaced when the band lengthens, the footprints left behind delineate a path of interaction between material, tool and weaver. Beetroot easily bleaches in the sun, so it even functions to reflect the weather conditions.

Developing this situation has been a condensed experiment of mutual evolution. The weaving system makes up an enhanced, collaborative being, a product of the exchanging streams that are simmering around us. I am convinced of the value of striving towards expanded embodiment in systems of all kinds; to attempt an understanding of our inextricable link to our habitats and foster an appreciation of our role in a context wider than ourselves. My hope is that this project can function as an elaboration on – and a manifestation of – an extended bodily presence into weaving. Perhaps it can serve as a contribution to demonstrate theories about the collaboration between bodies and materials in the generation of form, through a tangible visualization of the possibilities that exist of a weaver's very concrete extension into their material practice.

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