

Before Repairing: Pausing *and* Knotting Discomfort

How to cite this article: Pérez-Bustos, T., & Botero, A. (2023). Before Repairing: Pausing and Knotting Discomfort. *Diseña*, (23), Article.1. <https://doi.org/10.7764/disena.23.Article.1>

DISEÑA | 23

August | 2023

ISSN 0718-8447 (print)

2452-4298 (electronic)

COPYRIGHT: CC BY-SA 4.0 CL

Original Research Article

Reception

February 21 2023

Acceptance

August 05 2023

[🔗 Versión original en español aquí](#)

Tania Pérez-Buños

Universidad Nacional de Colombia

Andrea Botero

Aalto University



In this work, we reflect on a speculative pedagogical exercise in which we recorded, and invited others to record, through and with knots, situations of our daily lives related to forms of containment and entrapment. Accompanying this creative and collaborative work allowed us to materialize situations of vulnerability and unease (as knots), as well as the difficulty of registering these discomforts (through knots). We are interested in presenting this exercise as an embodied design practice. We also want to highlight how the staging of vulnerability and unease—made through material practices—generates contemplative pauses that have the power to make the fragility of life visible, and thus anticipate the need for repair. We argue here that repair, as a practice linked to design, is a making that deserves to be propitiated by contemplation and catharsis, in the face of damage and fragility in capitalist contexts.

Keywords

abyss

knots

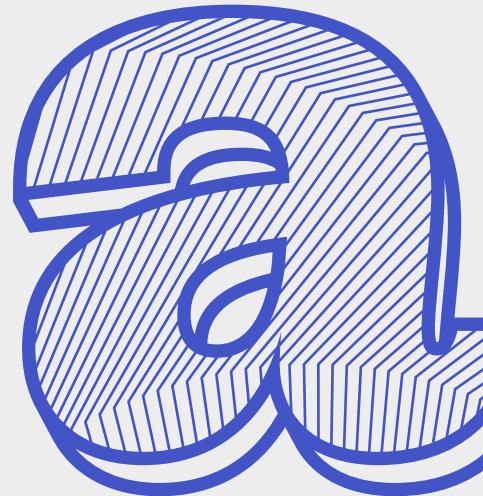
design pedagogy

vulnerability

quipus

Tania Pérez-Bustos— Ph.D. in Education, Universidad Pedagógica Nacional de Colombia. After graduating as an Anthropologist from Universidad Nacional de Colombia and as a Social Communicator from Pontificia Universidad Javeriana, she obtained an MA in Development Studies from the Erasmus University Rotterdam. She works as an associate professor at the School of Gender Studies of Universidad Nacional de Colombia. As a feminist researcher, she works on technologies and dialogues of knowledge, focusing her research interests on artisanal textile makings as technologies of knowledge and care. She is interested in transdisciplinary work, exploring methodologies that enable transformative research and pedagogies. Her latest publications include 'Blankets' (in *Proof of Stake: Technological Claims*; Lenz, 2023) and 'Haceres textiles para inventarse la vida en medio del conflicto armado colombiano' (with I. González Arango, O. Jaramillo Gómez, and D. Palacio Londoño; *Estudios Atacameños*, Vol. 68).

Andrea Botero— Ph.D. in Arts and New Media, Aalto University. After graduating as a Designer at Universidad Nacional de Colombia, she obtained an MA in Strategic and Product Design at Aalto University. Designer, researcher, and associate professor at the School of Arts, Design, and Architecture at Aalto University; and adjunct professor of the Faculty of Architecture and Design at Universidad de los Andes, Colombia. She is interested in the possibilities and contradictions inherent in participating in the design of tools, services, and media that allow more relational and affective interactions between people and between them and their environments. Her latest publications include 'Scalar Trajectories in Design: The Case of DIY Cloth Face Masks during the COVID-19 Pandemic' (with J. Saad-Sulonen; *Artifact: Journal of Design Practice*, Vol. 9, Issue 1-2) and 'Open Forest: Walking with Forests, Stories, Data, and Other Creatures' (with M. Dolejšová, J. H. Jeong Choi, and C. Ampatzidou; *Interactions*, Vol. 29, Issue 1).



Before Repairing: Pausing and Knotting Discomfort

Tania Pérez-Bustos

Universidad Nacional de Colombia
School of Gender Studies
Bogotá, Colombia
tcperezb@unal.edu.co

 <https://orcid.org/0000-0002-2885-2606>

Andrea Botero

Aalto University
School of Arts, Design, and Architecture
Espoo, Finland
andrea.botero@aalto.fi

 <https://orcid.org/0000-0003-1719-1061>

“I mean, nothing serious or fatal [has happened to me], but you know...”

—The closing sentence of a chat conversation between the authors, which indicates that difficulties do not matter and that the work can continue.

**“Now I know that heart, the great master,
Is an abyss”**

—Alonso del Río

SPECULATING AND FACING THE ABYSS

This reflection on the place that vulnerability and unease can have when thinking about repair, as a practice linked to design, begins with a material speculative exercise¹ inspired by the ancestral artisanal making of the Andean communities of America, specifically, the making of quipus and other textile recording devices (Arnold & Espejo, 2012). Each of us, within the framework of our postgraduate pedagogical work, made and invited a group of our classes to make, every week, a mnemonic record on textile surfaces—a small personal, speculative, and textile archive of data and situations. In our joint premise, the record would allow us to account, through knots, for those things that happened to us and that were capable of either containing us or overwhelming us in personal and emotional terms. This invitation was carried out in two different contexts: one group at the School of Art, Design, and Architecture at Aalto University in Finland; and another at the School of Gender Studies at Universidad Nacional de Colombia. In both places, between ten and fifteen people participated (apart from us), performing the exercise throughout the course, which lasted between eight and twelve weeks.

1 Here, we understand the speculative in two senses. First, as a research-creation practice that invites us to understand phenomena in an emergent way, in the sense that we are doing what we are trying to understand (Lindström & Ståhl, 2016). Secondly, as a feminist political practice that involves engagement with the future of worlds in crisis, to transform them (Puig de la Bellacasa, 2012).

This exercise of material speculation on how we could create personal archives through knots sought to intertwine the daily life of students outside the classroom with the everyday life that emerges in classroom work. This was done as a way to strengthen learning processes in which care and intimacy were at the center of our pedagogical endeavor. This exploration entangled the students' bodies with the textile materials we used to make the personal archives, generating new questions about the course, memory, data, care, and design. Here, we share the history of these entanglements, the personal abysses they confronted us with, and the way this calls us to consider how repair—as a practice linked to design—is a way of making that deserves to be propitiated by contemplation and catharsis.²

² We thank Gloria Baigorrotegui for her preliminary reflections on the abyss that we had the opportunity to hear at the 4s Congress in Cholula. Listening to her was very generative for this work.

But before we begin with this story, it is important to point out that writing it has not been easy, and that it is part of the story itself. This, aside from being a spoiler and an incorrect complaint (Ahmed, 2021), is also an ontological statement. We cannot describe a material speculative practice, a design exercise, without accounting for everything that hindered it from the beginning. We are well aware that this is not how academic articles traditionally begin; but today, they do start like this (Pérez-Bustos, 2019): with the difficulty of writing them, not only because research, design, and writing are intricate and complex trades, but because of the capitalist and patriarchal context in which these trades are exercised. We have questions that deserve answers; we invite others (human and more-than-human) to think about them together as part of a pedagogical, creative, investigative, and political endeavor; we initiate a collaborative empirical work—and the abyss begins to become visible. We tell ourselves that everything is fine, that what is happening around us, hindering empirical work and its writing, can be endured. We continue with the task, create schemes, organize data, meet to discuss them, and the abyss deepens. Fatigue begins to set in, time shrinks, daughters get sick, mothers pass away, colleagues resign, colleagues support, but deadlines haunt us, and we keep saying that everything is fine, that we can adapt—and fatigue takes hold. Other urgent things come in, meetings, assessments, reports, peer-reviews, invitations to talks, sick cats, pending mourning—and the abyss confronts us (or we confront it) with each new adaptation we make to continue the task. In the end, we move forward, the creative exercise is done, the article is written, not without exhaustion, given the difficulties we had to overcome. Paying attention to them and how we manage to take care of ourselves amid creative processes and their vital interferences is part of what these lines invite us to think about. Recognizing them and giving them space may be one of the many ways to repair design that might be worth exploring.

Having anticipated the outcome of this story, let us now return to the material speculative exercise. The initial idea of creating a personal textile

3 This project proposes an imaginary encounter between two research infrastructures: a boreal forest instrumentalized with sensors in Finland and the environmental knowledge recorded in the belts or *tsombiachs* woven by the Kamëntšá people in the Colombian Andes. For more information on this project, see: <https://www.studio-lab-forest.org/>

record originated from a research project on data and memory infrastructures, which we will not delve into now,³ and for which we set out to make, each of us, our own daily data record on what contained and trapped us, through knots. Seeking that the work was also linked to our pedagogical practice, we invited our students to join us in this task. To start, we shared some of our research questions about data, materiality, record-keeping, temporality, and obsolescence of different archives with each group. How can we design and create information and memory record devices thinking from and in continuous repair? How can we record what affects or contains us materially and on a daily basis?

Along with these guiding questions, we provided a series of images as an initial reference for the mnemonic work that each student and we would create. These images showcased examples of quipus made by Quechua- and Aymara-speaking peoples in the South American Andes. The word 'quipu' comes from the Quechua *kipu*, which designates a knot, ligature, or tie. Quipus, along with other textile artifacts and technologies, have played a vital role in the Andes for centuries (Arnold & Espejo, 2012). Despite how little we still know about them, these archival artifacts, and of course those who weave them, mobilize threads, fibers, and fabrics that, knotted in various ways, account for multiple records about social practices, knowledge, and information, configuring archives and memory (Arnold & Espejo, 2012; Urton, 1998). Its key role as the accounting system in the Inca Empire is known, but recent research also points to new interpretations and speculations about more diverse uses of these archival technologies (Medrano, 2021). It was this speculative and evocative capacity that we also wanted to harness for the exploratory and pedagogical work with our students. It is important to clarify that the idea was not to recreate quipus or to understand such a complex practice in such a short time. We sought to approach—respectfully—experimenting with alternative ways of recording that engage senses (e.g., touch) and actions (e.g., knotting), that we do not typically associate with observation, archiving, and recording practices, and for which the quipu served as a paradigmatic example.

The concrete evocation of these textile records (quipus) was accompanied by the delivery of a small skein of wool for each student to perform their personal exercise, along with a general explanation of possible techniques for making the record. For instance, we shared that, as with quipus, knotting techniques could be simple or gain complexity if the knots themselves were made more elaborately: with more turns, or by winding different accessory materials in them, usually from the same environment in which the record was made. This information served as a generative starting point that allowed the group to create records of varying complexity, and provided room for multiple personal and collective interpretations to emerge, regarding the way in which each personal memory artifact could evolve.

The invitation was to activate the senses to account for personal observations and reflections regarding at least two types of records. The first type referred to recording what we felt could contain us (in identity, bodily, or emotional senses). The second type of record sought to capture situations in which we felt trapped, identifying what extracted information from us. The record had to emerge from specific actions on the skein of wool that each participant received at the beginning of the class; for example, making a loose knot or tying it to secure something, adding to the initial wool (Figure 1). We did not predefine any frequency for producing the records, nor did we create any shared convention for making them. Each person was free to interpret the initial invitation, adapt it to their exploration, and speculate a little to develop and design it.

Figure 4: Above and below: Initial wool skeins we made to deliver to all participants. Right: A participant tying knots with the material. Source: Project Archive, 2022.



This material speculation guided by these two general records continued to expand in unexpected ways: multiple records and multiple ways of recording emerged (Figure 2). Our students and ourselves tied knots of different sizes and shapes, adding different kinds of things to the skeins. In some cases, the base strands (common to all people in each group) were woven or embroidered, knotted to other structures, or intertwined. All these forms of recording reflected on how we responded to our observations about what was happening in our lives, and was able to contain or trap us. Later on, we will show some examples of this diversity in a situated manner.



Figure 2: The images depict the variety of records and ways of recording that were developed. Some students, following the quipu as a reference, used the base wool and divided it into fragments that represented different personal themes, tying each fragment to a main strand, and adding new knots to each of these strands or knotting other materials such as papers or strands of other colors to them. Others used the base wool to crochet figures to which they added new colors, signifying new situations depending on their personal record. Some used the base material to mend objects they had and wanted to work on as a material diary such as, for example, clothes or textile pieces made by someone close. Source: Project Archive, 2022.

TIE KNOTS, MAKE RECORDS

To accompany the manufacture of these personal records weekly—for a period of eight to ten weeks—, at the beginning of all classes we asked each student to display their works so that they could be collectively appreciated. We invited some students—in turn—to share something about their experience during those first minutes of class. Opening pedagogical spaces with this invitation became a way of daily threading together the personal explorations that emerged week by week with how they could be understood in relation to those of other students. Seeing oneself in relation—from one’s own material making—was presented as an opportunity to discover the complexity of each record, the way in which one’s own experiences of entrapment or containment became knots (Ingold, 2013).

At the beginning of the process, the accompaniment we proposed didn’t always prove sufficient. For our students, facing a speculative exercise of personal recording such as the one we proposed was challenging. They needed clarity on what to do with the textile materiality we had given them, but even more certainty of what could or could not be a recordable piece of data. Many students wished we could provide them with conventions to use and collectively define what each category consisted of. We resisted this because we wanted that clarity to be built precisely by sharing personal work. We had to emphasize the possibilities offered by thinking with others, and thinking through making, without prior clarity about what would result from it. The initial difficulties gradually dissipated, and as the weeks passed, each participant began to appropriate the guiding questions and create their own material conventions as correspondences to the invitations we had extended.

Through the process, we set out to be attentive to what ‘the making’ (knotting) did to the way of making records. We were interested in thinking about how each knot, as a material practice, informed and gave meaning or life to the personal archive that each participant was constructing (Jungnickel, 2022).

In an effort to address this emerging question collectively, we asked the students to observe what they had recorded at different points in the process. To do this, we provided them with a series of questions that invited them to stop at the knots they had made between classes. With these questions, observing meant not only looking, but also going through their work with their hands and, through that close gesture, remembering, to respond to the questions.

In addition to asking them to describe each record formally and thematically and account for the conditions that enabled them to manufacture it, we separately inquired with each group about two central issues on which we will now dwell here. On the one hand, about the accuracy of the records in a material sense, to account for the subjects recorded; that is, how much of the data they contained was revealed by the records (knots). The response to this question was marked by descriptions of what they had done. For P, for example, tying buttons of different shapes and sizes to strands of different colors, helped her remember the situations she had wanted to record (button shape) and their intensity in an emotional sense (button size) (Figure 3).

Figure 3: Material exercise by P. The color of the threads on which the buttons are sewn account for the initial category of the exercise: contain, fuchsia thread; trap, blue thread. Each button represents a different situation that P remembered, according to its shape. The buttons' size reveals the importance and emotional value she attributes to the situation. Source: Project Archive, 2022.



Carefully revisiting the act of making revealed how it spoke of the information of daily events collected materially. The making inscribed on sewn buttons—in the case of P—, on knots made with certain shapes or sizes, or on the use of beads of a particular color threaded onto strings—as in other cases—, made sense and specified what each participant had done. The material making was a personal way of remembering (Callén Moreu & López Gómez, 2019).

The second issue we inquired about explored how independent the personal information recorded was from the body that created the record. With this, we sought to account for how material making—making records—entangled body, meaning, and knot in a single movement. And indeed, it entangled them. The record was personal, it made no sense to a third party, it was understood as an extension of one's own body and an affective memory of lived experiences. "The record makes no sense to anyone else, only to me," said P, for example. Thinking with feminist perspectives on design as a situated making (Suchman, 2002), it was clear to us, when asking this question, that it was not possible to understand the recording artifacts if we isolated them from those who had created them. But what did it mean for the students when this impossibility was also clear to them? What did it mean for them to be materially contained/trapped in their material making?

Seeing and touching one's own recording artifact, its knots, and relating it to those of the others, allowed us to recognize that it was impossible to distinguish that making from the person making it. This was a way of understanding that the knot or stitch made as a record was a material memory of what had been lived, experienced; a memory of what had trapped them, as well as what had made them feel contained. But it was also a memory of the difficulty of pausing in everyday life and thinking materially about each of these issues. Now, if having to record was difficult, at the same time, recording was a way to appease that difficulty, even if that record implied a conscious emptiness, of time to pause. In this regard, L shared with us that "there was a particular week where I couldn't put any information. That week has no knots, no flowers, no leaves (...) absence was the *most accurate data*" (Figure 4).

CONTAINING THE VULNERABILITY OF THE PROCESS

Considering these explorations, which drew attention to the difficulty of taking time to pause, but also to how important it was to record just that, a movement that created a material pause by itself was produced. Going back over the knot made it possible to dwell on what happened. There, we were answering that emerging question that cut across the entire process: what did material making do to the way of making records? Knotting became, for the students, a way to contain and give content to the experience. Understood as a surface (Ingold, 2007), when it became a record, the experience made knot revealed itself as a mirror of their own

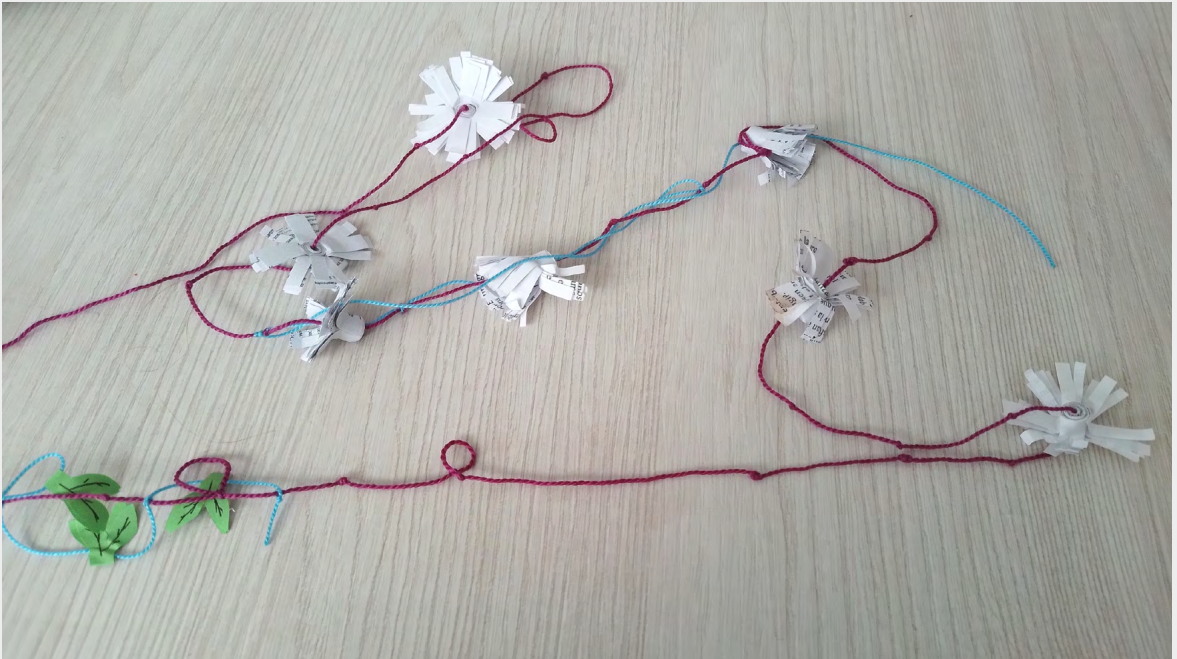


Figure 4: L records each week by a simple knot, and, between knots, she places paper flowers or leaves, depending on what she wants to record (body movement toward well-being or perceived violence toward her body). Where there are two nodes in which there are no such signals, it indicates the absence or impossibility of recording during that period. Source: Project Archive, 2022.

vulnerability, which they faced. And this implied assuming that it was not possible to make a record without the material making and vice versa.

As the weeks went by, the students' explorations began to draw attention to the frantic pace of work and study, and the productivity demands of the university. Paradoxically, the matters that took away their time were also the ones being recorded. Each mnemonic artifact, whether a knot in a strand, a crochet work, or a patch, and revisiting it week by week, became an infrastructure that made vulnerability visible, palpable. The records of difficulty, the search for well-being, anxieties, absences, or the hugs that registered ways of trapping or containing, were in the knots that recorded them. This knot-making, in turn, was a material sample of how life was interfering with the exercise itself, how it was configuring it. It was as if the initial question of how to think with these recording artifacts, seeing how they would interfere in the creation of each person's daily world, was brought back to us through our students' exploration: everyday life was interfering with the recording artifacts. Life and its vulnerability became palpable in every knot.

However, it is somewhat paradoxical to assert that everyday life interferes with an academic design process like the one described here. This implies assuming that these dynamics (academic, design, and vital) are dissociable: a deeply androcentric premise that configures a polarizing binary between the realm of knowledge and the realm of private life. At the same time, it genderizes each extreme, privileging the academic realm, associated with the public and the

masculine, while calling for the denial of the emotions tied to it, as they are detrimental to its presumed neutrality (Maffia, 2005). However, what is understood in these cases as the interference of life is a call to recognize how hijacked our existences are by the productive demands of modern capitalism (Giddens, 1991). Design processes in academic contexts, and in general, are crossed by life. The issue is that sometimes we ignore our own demands for company, pause, listening. However, this is not always possible.

If our students were overwhelmed, our situation was not much different. In fact, it was this resonance that ended up guiding the exercise of accompaniment, thereby opening up possibilities of mutual containment on a sensitive level. Although, we were more accustomed than them to dealing with the overdemands of neoliberal academia (Fannin & Perrier, 2019) as university professors, life knew how to interfere in very forceful ways in our exercise of material recording, confronting us with the abyss of our own vulnerability. Halfway through our work with our students, one of us separated from her partner, and the other was left orphaned.

Pause.

It is easy to say this in one line, but both events deeply destabilized us and were impossible to evade. The virtual meetings we had to follow up on the speculative exercise in our classroom spaces revealed how undermined we were. We would gather to talk about what had happened with our students and their material explorations, but we always needed to start the meeting by listening to what had happened in our own lives. Our rolled-up threads with their respective knots, on the other hand, were also containing this process (Figure 5).

In that material making, we needed to contain ourselves, talk about what was happening, and with it, we returned again and again to the initial question: what was recording doing (materially) to the making of the record? How did it give meaning to it? But moreover, in what way was this record-making unveiling the need for repair? As we revisited these questions time and time again, life began to embed itself with the record (our lives and that of our students): their/our personal crises, their/our burdened bodies. But also, the record accompanying that, became a material witness of that process and of us there, accompanying that exercise and letting ourselves be accompanied by it, accompanying us in the knot-making. Faced with the abyss of our vulnerability, the presence of the other was revealed as a form of containment, and it was recorded within the speculative exercise.

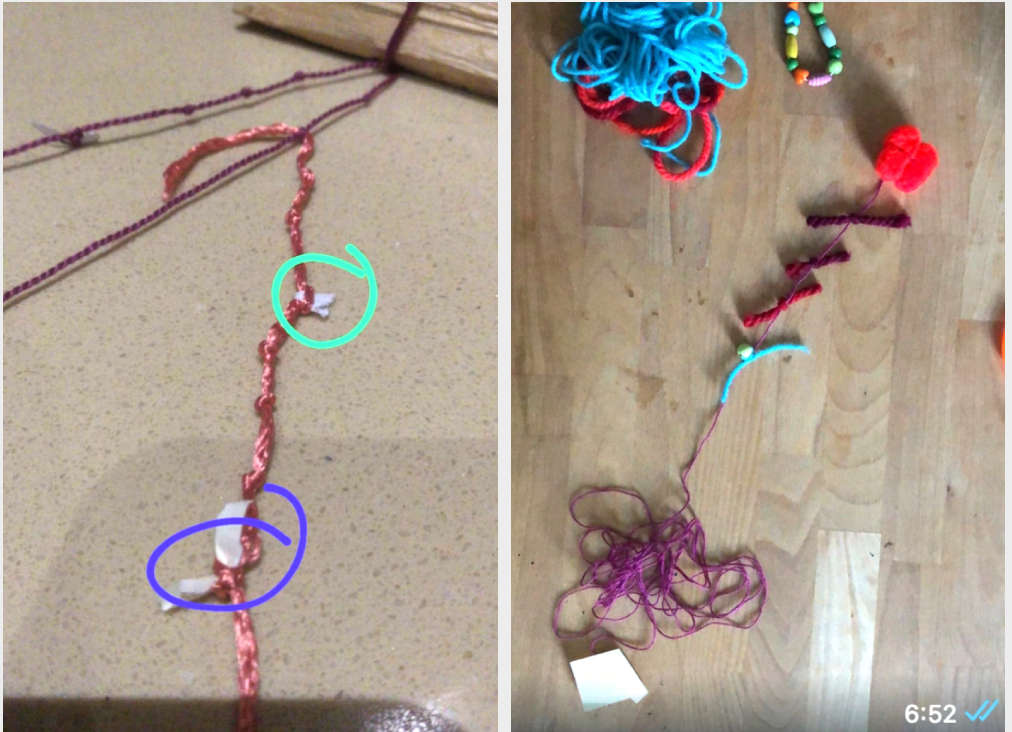


Figure 5: On the left, one of us marks her textile recording artifact with a paper taken from the hospital, indicating her mother's hip fracture, and highlights it in green for the other. Four days later, she marks with another paper (this time, from a hotel), the surgery her mother needs while she is away at a congress. Her mother passed away on that day. On the right, the other one of us ties red threads to the core of her skein to point out each time her ex-partner was aggressive towards her. This occurs in the days following her decision to separate from him. Source: Project Archive, 2022.

FACING THE ABYSS

The resounding emergence of life within our process of pedagogical exploration gradually reconfigured our questions about memory, data, care, personal archives, and textile making as a recording platform. The exercise confronted us with our fragility, and there was no chance of escaping it. As we revisited this reality, we returned to the question that had arisen from the exploration: to what did the material making do to the record, to the emerging material archive, to the forms of reparation that this making announced. In our review of this making, with vulnerability at the core of the search, we came to realize that the material exercise of tying knots was not necessarily something 'comprehensible' in cognitive terms. The collaborative, material speculative exercise we had undertaken had diverted us from the quest to understand how to design and construct information and memory recording artifacts thinking from and in continuous repair. The systematic nature of the exercise—despite its limitations—leads us to acknowledge that we are not well, that things are not right. In this sense, it unveils the need for repair, indeed. However, before that, repair is first presented to us by a pause.

It is necessary to pay attention and care to what needs repairment. To contemplate what we feel before repairing it. In the same way that before proposing any pedagogical exercise, it is necessary to be moved by the vulnerability

of those who participate in it. The resounding interference of life on our questions was inviting us to be affectively and emotionally moved, so that we could approach the abyss we were facing (and also the abyss of that other research that gave rise to the question, which we do not discuss here).

It is in this sense, we propose that repair, as a practice linked to design, needs to be anticipated by contemplation and catharsis. Understanding these as practices that allow the emergence of that which is to be repaired as repairable, for design. In other words, before repairing, there should be the practice of pausing and contemplating that which has suffered the damage, being affectively moved by that fragility, and connecting ourselves with the unrest it brings.

Things cannot 'just be repaired': before making (repairing), it is necessary to recognize (Graham & Thrift, 2007; Spelman, 2002) and perhaps, above all, be moved. Our exercise entailed the creation of a pause to contemplate what is damaged, to shake off the capitalist sorcery that spells us (Stengers & Pignarre, 2021). Alongside this being moved, there is also catharsis, here in these lines, which are an academic exercise, but not only that. We argue that repair can offer us a new model for complaining, in a feminist sense, as Ahmed (2021) points out; and for building infrastructures of mutual care and shared design (in this case, the critical and feminist classroom) where we can stage speculative, generative, and reparative ritual exercises that help us pause, recognize the unrest in which we live, the discomfort that inhabits us and that we inhabit, but above all, recognize that it is not possible to continue like this: neither us, nor design. **D**

Funding

We acknowledge the support of the Research Council of Finland through grant #324756.

REFERENCES

- AHMED, S. (2021, May 31). *La queja como pedagogía feminista. Seminario Permanente Ordinaria* [video]. <https://www.youtube.com/watch?v=HuAwheclHBE>
- ARNOLD, D. Y., & ESPEJO, E. (2012). Andean Weaving Instruments for Textile Planning: The Waraña Coloured Thread-wrapped Rods and their Pendant Cords. *Indiana*, 29, 173-200.
- CALLÉN MOREU, B., & LÓPEZ GÓMEZ, D. (2019). Intimate with your Junk! A Waste Management Experiment for a Material World. *The Sociological Review*, 67(2), 318-339. <https://doi.org/10.1177/0038026119830318>
- FANNIN, M., & PERRIER, M. (2019). 'Birth Work' Accompaniment and PhD Supervision: An Alternative Feminist Pedagogy for the Neoliberal University. *Gender and Education*, 31(1), 136-152. <https://doi.org/10.1080/09540253.2017.1358806>
- GIDDENS, A. (1991). *Modernity and Self-Identity: Self and Society in the Late Modern Age*. John Wiley & Sons.

- GRAHAM, S., & THRIFT, N. (2007). Out of Order: Understanding Repair and Maintenance. *Theory, Culture & Society*, 24(3), 1-25. <https://doi.org/10.1177/0263276407075954>
- INGOLD, T. (2007). *Lines: A Brief History* (1st ed.). Routledge.
- INGOLD, T. (2013). *Making: Anthropology, Archaeology, Art and Architecture* (1st ed.). Routledge.
- JUNGNICKEL, K. (2022). Speculative Sewing: Researching, Reconstructing, and Re-imagining Wearable Technoscience. *Social Studies of Science*, Advance online publication. <https://doi.org/10.1177/03063127221119213>
- LINDSTRÖM, K., & STÅHL, Å. (2016). Patchworking Ways of Knowing and Making. In J. Jefferies, D. W. Conroy, & H. Clark (Eds.), *The Handbook of Textile Culture* (pp. 63-78). Bloomsbury.
- MAFFÍA, D. H. (2005). Conocimiento y emoción. *Arbor*, 181(716), Article 716. <https://doi.org/10.3989/arbor.2005.i716.408>
- MEDRANO, M. (2021). *Quipus: mil años de historia anudada en los Andes y su futuro digital*. Planeta Perú.
- PÉREZ-BUSTOS, T. (2019). Mi tiempo ya no es mío: Reflexiones encarnadas sobre la cuantificación. *Nómadas*, 50, 35-43. <https://doi.org/10.30578/nomadas.n50a2>
- PUIG DE LA BELLACASA, M. (2012). 'Nothing Comes Without Its World': Thinking with Care. *The Sociological Review*, 60(2), 197-216. <https://doi.org/10.1111/j.1467-954X.2012.02070.x>
- SPELMAN, E. V. (2002). *Repair: The Impulse to Restore in a Fragile World*. Beacon Press.
- STENGERS, I., & PIGNARRE, P. (2021). *Brujería capitalista. Prácticas de desembrujo*. IF.
- SUCHMAN, L. (2002). Located Accountabilities in Technology Production. *Scandinavian Journal of Information Systems*, 14(2), 91-105.
- URTON, G. (1998). From Knots to Narratives: Reconstructing the Art of Historical Record Keeping in the Andes from Spanish Transcriptions of Inka *Khipus*. *Ethnohistory*, 45(3), 409-438. <https://doi.org/10.2307/483319>