TRACES & THREADS

EXPLORING TRANSVERSALITY OF LINES THROUGH DRAWING AND CROCHET

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I SUMMARY

KEYWORDS LINES; DRAWING; CROCHET; CRAFTS; MAKING; PRACTICE-BASED RESEARCH

Reacting to a context of constant creative secularization, with this research project I seek to respond to a necessity for re-framing the interactions between different creative fields. Approaching disciplines as tools, I see the value of artistic creation as something that belongs to the realm of the *maker* and not the media. This thesis proposes the conceptualization of lines as hybrid elements that link all disciplines and contribute to a trans-disciplinary view of various creative fields. Lines are an intrinsic part of *making*, they construct form and contain their maker's intention, body and movement.

With this in mind, I investigate the *making* of lines through a process of *reflection-in-action*. Considering *making* as a way of thinking and drawing as a way of *making*, it is always through the principles of drawing that I think and express myself. In this thesis I extend my previous drawing universe towards the technique of crochet, seeking to establish an encounter between the two disciplines. Therefore, this practice-based research focuses on the difference between the experience of drawing lines in the two-dimensional space with graphic materials — *traces* — and drawing lines in the four-dimensional space using textile — *threads*. While *traces* exist on a surface, *threads* have volume.

This theoretical framework grounded my practical research. The first part of this research took a parallel look into the specificities of crochet and drawing techniques in three phases. Phase one looked into form: *straight*, *curved* and *zigzag* lines. Phase two focused on material by creating a parallel between textile yarns and graphic media. The third phase looked into human and material agency, approaching how the hand affects the drawing of lines in comparison with conventional and unconventional material tools. The know-how acquired in this initial part built a foundation for the development of the second practical part of the thesis, which concerns an artistic project called *Threads, Traces and Everything In-between*. This project consisted of five artistic installations that followed an incremental rationale. At first, I explored form, material and support by approaching the shadows of *threads* as an input for the drawing of *traces*. I continued to explore the same elements, adding the subject of the body, testing the physical dialog between me, the *threads*, and *traces*. Next on, I introduced material agency by investigating how *threads* can be used to draw *traces*. At last, I reflected on how the perception of drawings is transformed by the properties of real time and space such as depth, composition, perspective, light and movement. Ultimately questioning how, by materializing lines and thus making them accessible, a new type of agent is generated: the other, the one that creates lines not by *making* but by acting.

RESÜMEE

MÄRKSÕNAD JOONED; JOONISTAMINE; HEEGELDAMINE; KÄSITÖÖ; TEGEMINE; PRAKTIKAPÕHINE UURIMUS

Reageerides pidevale loomingulisele sekulariseeritusele soovin käesoleva uurimisprojektiga anda oma panuse erinevate loomealade vaheliste suhete ümbermõtestamisse. Käsitledes erinevaid loomevaldkondi kui tööriistu, näen ma loomingu väärtust eelkõige selles, mis kuulub tegijale, mitte meediumile. Pakun antud magistritöös välja käsitluse joontest kui hübriidsetest elementidest, mis ühendavad kõiki distsipliine ning aitavad kaasa erinevate loomealade valdkondadeülesele käsitlemisele. Jooned kuuluvad lahutamatult tegemise juurde, nende abil luuakse vormi ning need hõlmavad endas tegija kavatsust, keha ja liikumist.

Seda arvesse võttes uurin joonte tegemist läbi tegevusaegse reflekteerimise (reflection-in-action) protsessi. Käsitledes tegemist mõtlemise viisina ja joonistamist tegemise viisina, mõtlen ja väljendan end alati läbi joonistamise põhimõtete. Käesolevas magistritöös laiendan oma senist joonistamisel põhinevat maailmanägemist heegeldamise tehnika läbi, soovides luua kahe valdkonna vahele kokkupuutepunkte. Seetõttu keskendub see praktikapõhine uurimus kogemuslikele erinevustele graafiliste vahenditega kahedimensioonilises ruumis joonte tõmbamise (jooned) ning tekstiilidega neljadimensioonilises ruumis joonte tõmbamise (niidid) vahel. Kui jooned eksisteerivad vaid tasapinnal, siis niitide puhul lisandub mahuline mõõde.

Selline teoreetiline raamistik oli aluseks minu praktilisele uurimusele. Uurimuse esimeses osas vaatlesin paralleelselt heegeldamis- ja joonistamistehnikate eripärasid kolmes etapis. Esimeses etapis keskendusin vormile: sirgetele, kumeratele ja siksakilistele joontele. Teises etapis võtsin vaatluse alla materjalid, võrreldes lõngu graafilise meediumi vahenditega. Kolmandas etapis vaatlesin inimese ja materjali agentsust, uurides, kuidas käsi mõjutab joonte tõmbamist võrreldes traditsiooniliste ja ebatraditsiooniliste materiaalsete tööriistadega. Esimeses osas kogutud oskusteave oli aluseks magistritöö teise ehk praktilise osa väljatöötamisel, milleks on loominguline projekt „Niidid, jooned ja kõik muu selle vahel". Projekt seisneb viies installatsioonis, mis järgisid järkjärgulise kasvamise põhimõtet. Kõigepealt uurisin ma vormi, materjali ja pinnastruktuure, kasutades niitide varje alusena joonte joonistamisel. Jätkasin samade elementide uurimisega, lisades võrrandisse keha ning katsetades füüsilise dialoogiga enda, niitide ja joonte vahel. Järgmisena tõin sisse materjali agentsuse, uurides, kuidas on võimalik niite kasutada joonte tõmbamiseks. Siis vaatlesin, kuidas joonistuste taju muutub vastavalt reaalajas ja ruumis olevatele omadustele nagu sügavus, kompositsioon, perspektiiv, valgus ja liikumine. Lõpuks uurisin, kuidas läbi joonte materialiseerimise ja nende seeläbi kättesaadavaks tegemise tekib uut tüüpi agent: teine, kes loob jooni mitte tegemise, vaid tegutsemise kaudu.

II ACKNOWLEDGEMENTS

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1 INTRODUCTION

This first chapter introduces the topic of this research by presenting the context and personal motivation from which it emerged. Further on, I explain how the project came to be, describing the material and technical choices that framed the practical research. At last, I provide an overview on the structure of the written thesis.

1.1 SEEKING MEANING IN MAKING

Having a past in Communication Design, I have devoted most of my academic and professional life to the study and exploration of two-dimensional aesthetics. For being an extremely tacit person who grew up also with an experience in dance and body movement, throughout this path I have always felt attracted to manual processes that implied a dialog between action and material. During my time as a communication designer, I began to develop a strong interest for drawing, derivative from the movement qualities which it implies. Drawing encompasses bodily experience: its "very grammatical form is the gerund, the *-ing*, an action, the action of making marks on a blank ground with a tool, and with your body."[1]

My keenness for textiles stemmed from a similar motivation as drawing. In my opinion, textile proposes a most prominent tactile experience and holds a closer relationship to our bodies. We are embraced by textile throughout day and night — either by sheets, towels or clothes — seeking them for warmth, comfort, hygiene, refuge and pleasure. Textile is shape shifting, moving and transforming in space and therefore generating an extremely diverse interaction with the maker.

When creating a textile object, once the making process is finished, the object does not become stagnant — one can stretch, squeeze, throw, twist, turn, wave it, etc. — thus proposing an even higher embodied experience than the act of drawing on paper. Because of the rhythmic qualities that are typical of most textile techniques, textile crafts also propel the meditative and reflective mood which I previously found in the drawing process.

[1] Amy Sillman, "Drawing in the Continuous Present," filmed January 2017 at Menil Collection, Houston, TX, video, 33:09, https://www.youtube.com/watch?v=BLOgc466nRk&ab_channel=TheMenilCollection.

[2] Taylor Carman, foreword to *Phenomenology of Perception*, by Maurice Merleau-Ponty (London: Routledge, 2012), IX.

Fig.1 Vincent Van Gogh, *Still Life: Vase with Twelve Sunflowers*, August 1888, oil on canvas, 91 x 72 cm. Munich, Neue Pinakothek.[3]

In my opinion, the artist's body works like a lens, a camera or machine that absorbs experience and crystallizes it into something that resembles, yet differs, from what is being perceived. Variations in the results depend on the experience of the lived body, what and how we sense, and our life experiences, memories and skills.[2] Representations imply reinterpretation of a situation. When a person draws a chair, the drawing is different than the actual chair that is being seen. Van Gogh's sunflowers (see fig.1) are different than the sunflowers that were actually in front of him; the painting represents reality but not reality itself. *Making* is an act of transforming an experience as it flows through our body.

Two people might write exactly the same set of words on a piece of paper, and yet the aesthetics of these words are unique to each one. Material agency also has its influence in this process, as the ink has its own unpredictable behavior, and the paper can be textured or absorbent. Essentially, the maker's hand is what most impacts the visual qualities of the drawn line. The actor's representability through their makings is, as I see it, transversal to any media with which a person might create.

In Portuguese, when one wishes to address another person's expressiveness or aesthetic quality in drawing, they refer to their *traço*, which literally translates as *trace*. In this thesis I explore two types of lines: *traces* and *threads*. In particular, how the individual *trace* of the maker can transcend media, dimension, material and form by materializing into *threads*. I aim to test the relationships between these elements by analyzing my own practice with the medias of drawing and crochet as case studies.

Reacting to a context of constant creative secularization, with this thesis I seek to respond to a necessity for re-framing the view on structures and interactions between different creative fields. New discourses in favor of more multidisciplinary approaches have been becoming more prominent within contemporary creative contexts.[3] Nevertheless, I believe that this approach is still very much based on establishing collaborative relations between different disciplines instead of envisioning creative practice as something that transcends materiality or technique. To put it differently, I believe that being inserted in a particular discipline should not restrict the discourse of the creator. I see the value of artistic creation as something that belongs to the realm of the *maker* and not the media. This thesis contributes to a trans-disciplinary view of various creative fields by proposing the conceptualization of lines as a hybrid elements that link all disciplines. With this in mind, I extend my previous drawing universe towards the technique of crochet, seeking to establish an encounter between the two disciplines.

3 Van Gogh, Vincent. *Still Life: Vase with Twelve Sunflowers*, August 1888. Oil on canvas, 91 x 72 cm. Munich, Neue Pinakothek, accessed May 19, 2021, https://commons.wikimedia.org/wiki/File:Vincent_Willem_van_Gogh_128.jpg.

4 Katja Fleischmann and Clive Hutchison, "Creative Exchange: An Evolving Model of Multidisciplinary Collaboration", *Journal of Learning Design 5* (2012), 24.

1.2 THE RESEARCH

This *practice-based research* arose from my interest in the exploration of three-dimensional textile materials and two-dimensional drawing techniques. As I began to explore the textile field, I became engaged with the concept of it being a media that transforms two-dimensional images (in the form of patterns, for example) into the realm of the physical space. Thus attributing them qualities such as thickness, texture and movement (see fig.2).

My interest in this topic first came into practice in 2018 during a two-week origami workshop with Paul Jackson,[4] where I tested the deconstruction of printed patterns through the three-dimensional manipulation of surfaces (see fig.3). As I experimented further with the topic and with textile techniques, my research naturally evolved from an approach to textile as a surface for drawing to an exploration of its sculptural potentiality.

In this thesis I research how one can draw in the four-dimensional space with textile and how this process differentiates from drawing on paper. I delved into the study of lines as a starting point to understand drawing as an expanded field. The decision to resort to lines as the object of study stemmed from it being identified as the primary element of drawing.

As the research focuses on a truthful comparison between drawing with textile and drawing on paper, I narrowed down the selection of textile techniques based on three parameters. Firstly, my intent was to research three-dimensionality to expand maker's physical interaction. For this reason, I sought for techniques of a sculptural nature. Secondly, I required a technique with a similar process to drawing with a pen, brush or bar. When drawing with textile materials, the maker uses a tool such as a needle or a hook — or what Ingold calls a *manual implement*[5] — to apply a material such as yarn, constructing a line and guiding its orientation. The third criterion I established concerned a technique which would imply a high physical engagement throughout the construction process. To allow me to grip, move and turn it, or if it is big enough, rest it on my lap or shoulder. Textile techniques that meet all these criteria are: embroidery, basketry and crochet.

4 The workshop was conducted at the Estonian Academy of Arts under the course *Speciality Project 3*.

5 Tim Ingold, *Lines: A Brief History* (London: Routledge, 2007), 43.

Fig.2 Inês Neves, pattern experiments testing how the shape-shifting qualities of textile can impact a two-dimensional image, 2019, electric wire sublimated on synthetic fabric, 15 x 25 cm. Tallinn.

Fig.3 (top) Inês Neves, pattern experiments in origami testing how two-dimensional images can be deconstructed through three-diimensionality, 2018, 42 x 59 cm, jet-print on paper. Tallinn.

I finally decided to use crochet for my research, based on how the technique involves the manipulation of a single yarn from point A to B through a succession of stitches, and how this changes conceptually the construction of lines. In short, it proposes a dual exploration of lines (see fig.4): the yarn that constructs the form and the visual of the form being constructed.

In sum, in this research I seek to test the relations between line, form, body, material, tool, space and time. Through this process, I aim to answer what is the difference between the experience of drawing in the two-dimensional space with graphic materials — *traces* — and in the four-dimensional space using textile — *threads*. As a consequence, I will also question: Can the drawn line transcend media? How can I take advantage of the textile materials and techniques to build four-dimensional lines? And does the individual signature transpire equally towards *traces* and *threads*?

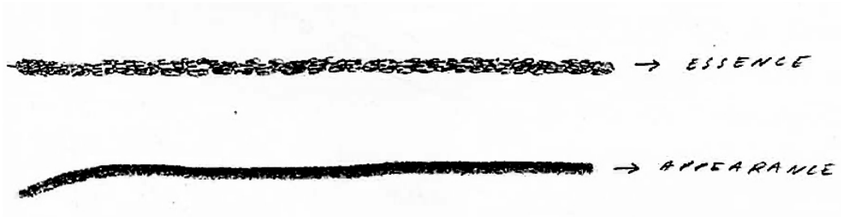


Fig.4 (top) Inês Neves, sketch from autoethnographic journal (entry reference F1) illustrating the essence and appearance of a line made in crochet, scanned image, 2020. Tallinn.

Fig.5 (bottom) Inês Neves, *Threads, Traces and Everything In-between*, 2021, photograph of installation series. Tallinn.

1.3 STRUCTURE

This written thesis is structured in four chapters. The first and current chapter is the *Introduction* providing an overview of the theoretical and practical components of the research. Its first section — *Meanings in making* — presents the personal and general context that frames the work. The second section introduces my research questions. The present and third section describes the structure of the thesis.

The second chapter delves into the methodology used to conduct this study, and has three sections. The first section presents *practice-based research*, delving into drawing as the specific method that was used to produce the artifacts. The second section introduces *autoethnography* as the method for collecting qualitative data regarding the process. The third section is the literature review that framed my practice, articulating it with my own personal reflections.

The third and fourth chapters introduce the thesis' practical explorations. The third chapter *Drawing the line* concerns the material exploration. It presents the process of creating two-dimensional lines with drawing and three-dimensional lines with crochet. Presenting drawings and textile samples in parallel with reflections on the process, this chapter includes three sections. The first section examines three types of line: *straight*, *curved* and *zigzag*. It shows my initial recognition of the medias based on their structure, technique and gesture. The second section focuses on material, comparing and contrasting textile and graphic materials based on their texture, behavior and aesthetic. The third section presents an exploration of different human and material agents in order to understand how they can impact the process and outcomes.

The fourth and final chapter of this thesis is entitled *I drew the line*. Structured in two sections, the first presents an artistic project called *Threads, Traces and Everything In-between*. It presents five installations which sought to test the research's potentiality to propel towards an expanded interaction with time and space. The second section concludes the thesis and speculates on the extensiveness of the topic and potential for further development.

This thesis is complimented with three appendixes. The first appendix comprises a visual catalogue of the drawings and samples presented in the journal in its entirety. The third appendix includes the data charts which gather qualitative data collected through the autoethnographic journal.

2 METHODOLOGY

This project was conducted through the concurrent use of practice-based research and literature review as research methods. I recur to practice-based research to approach drawing as a tool for studying different types of lines, materials and agents. This process was registered and transformed into qualitative data using autoethnography. In parallel, literature review was used to support my personal reflections on lines, drawings and the meanings and implications of *making*. While literature review helped to structure and conduct the conceptual component of the study, reflective writing was used to articulate the findings and propose new perspectives on the practice. The practical and theoretic knowledge collected through these methods were adopted to build a technical and conceptual foundation that informed my artistic practice.

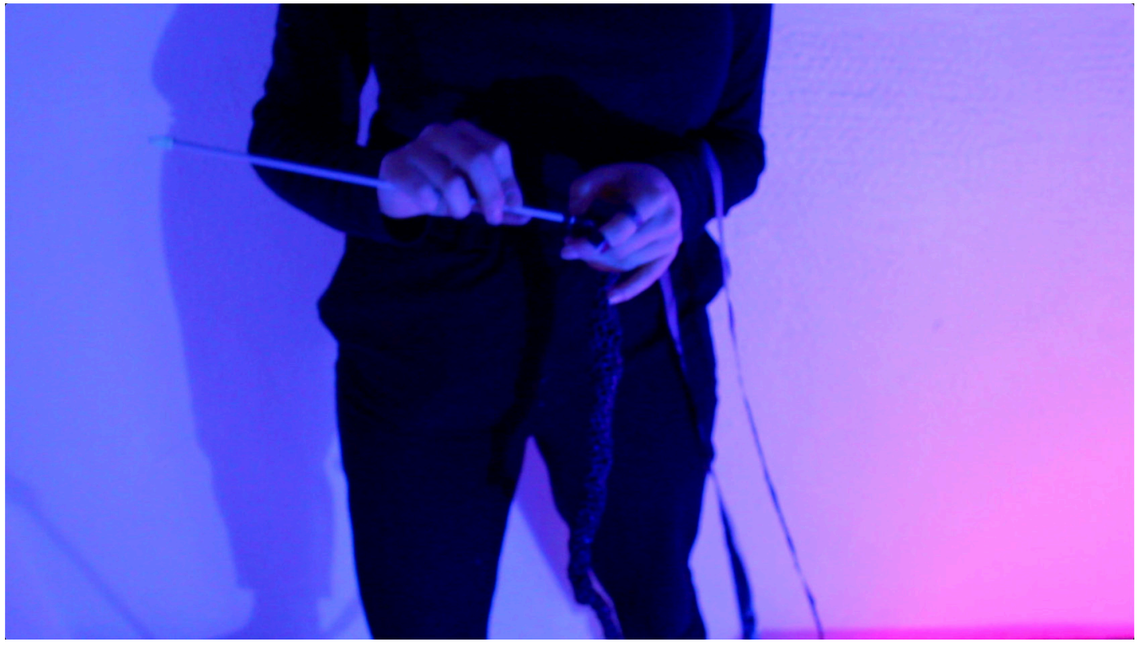


Fig.6 Inês Neves, process of crocheting lines during the project *Threads, Traces and Everything In-between*, 2021, video still. Tallinn

2.1 PRACTICE-BASED RESEARCH

By producing original artifacts which stem from material thinking and *reflection-in-action*, *practice-based research* presents an opportunity to explore drawing methods through the production of original artifacts that stem from material thinking and *reflection-in-action*. *Practice-based research* is a methodology which considers creative practice and its outcomes as the central instruments to generate new knowledge or theory, thus grounding the relevance and innovation of the findings on the created artifacts.[6] The practitioner-researcher is a central part of this type of research, as not only are they responsible for carrying through the creative process, but also for reflecting on it, in order to generate knowledge.[7] There are three models of *practice-based research* which allow the integration of projects in academic research.[8] While the first refers to researching design practices, the second concerns the improvement of design methods, and the third is directed towards improving designed artifacts.[9] Considering the first model, this project explores possible alternative functionalities of textile crafts and expands the drawing practice. Crochet is examined as a possible tool for four-dimensional drawing, and the relationships between the author, space, material and practice are questioned by the production of original artifacts. Practical experiments result from theory as much as from a reflective dialog with the practical process which was conducted using drawing as a research method.

Throughout history, drawing has been used for studying and documenting both the real (see fig.7 and fig.8) and the imaginary (see fig.9). As a tool for discovering and dialoging between the known and the unknown,[10] scientists, inventors or artists have been recurring to it for constructing and deconstructing the physical and exploring what lies beyond the visible and the possible. “In drawing we seek truth, not power”[11], as it unravels the artist’s thoughts trough *intimacy* and *immediacy*.[12]

Besides for its inquisitive qualities, the methodological potential of drawing is also set on the fact that it is *diagrammatic*[13]. According to The Cambridge Dictionary, *diagrammatic* is described as what is used “to explain where something is, how something works, etc.”[14] During my studies in academic drawing[15], I learned that *diagrammatic drawing* is a way to construct the representation of something by building relations between its parts (see fig.10). With time and experience I began to understand that this method is transversal to any and all drawings. Drawing is a process of establishing spacial relations between “substance, surface and body.”[16]

6 Linda Candy, “Practice Based Research: A Guide”, *Creativity and Cognition Studios Report 1* (November 2006), 3.

7 Ibid., 1.

8 Owain Pedgley, “Capturing and Analyzing Own Design Activity”, *Design Studies* 28 (2007), 464, doi:10.1016/j.destud.2007.02.004

9 Ibid., 464.

10 Maarit Mäkelä, Nithikul Nimkulrat and Tero Heikkinendrawing, “Editorial / Drawing as a Research Tool: Making and understanding in art and design practice”, *Studies in Material Thinking* Vol. 10 (2014), 6, ISSN: 1177-6234.

11 Christian Rattemeyer, *Vitamin D2: New Perspectives in Drawing*, (New York: Phaidon Press, 2013), 9.

12 Ibid., 9.

13 Sillman, “Drawing”, 41:36.

14 “Diagrammatic”, Cambridge Dictionary, accessed May 3, 2021, https://dictionary.cambridge.org/dictionary/english/diagrammatic.

15 Studies conducted in the classes of Drawing I and Drawing II at the University of Porto Faculty of Fine Arts (2013-2014).

16 Sillman, “Drawing”, 33:59.

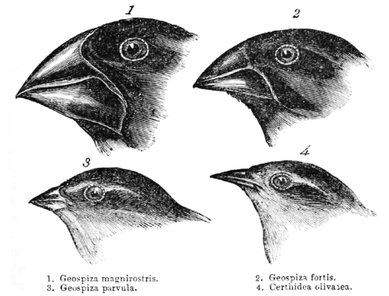


Fig.7 (top-left) John Gould, *Darwin’s finches or Galapagos finches. Darwin, 1845. Journal of researches into the natural history and geology of the countries visited during the voyage of H.M.S. Beagle round the world, under the Command of Capt. Fitz Roy, R.N. 2d edition*, C. 1882.[17]

Fig.8 (top-right) Leonardo da Vinci, *Studies of the Foetus in the Womb*, C. 1510, pen over red chalk. Windsor Castle, Royal Library.[18]

Fig.9 (bottom-left) Hieronymus Bosch, *Grotesque Figures*, engraving, 30 x 22 cm. Rotterdam, Museum Boijmans Van Beuningen.[19]

Fig.10 (bottom-right) Alberto Giacometti, *Untitled*, 1952, Ink on paper, 50,2 x 33,1 cm. New York, The Museum of Modern Art.[20]

17 John Gould, “Darwin’s finches or Galapagos finches”, C. 1882, accessed May 19, 2021, https://commons.wikimedia.org/wiki/File:Darwin%27s_finches_by_Gould.jpg.

18 Leonardo da Vinci, *Studies of the Foetus in the Womb*, c. 1510, pen over red chalk, Windsor Castle, Royal Library, accessed May 19, 2021, https://en.wikipedia.org/wiki/Leonardo_da_Vinci#/media/File:Leonardo_da_Vinci_-_Studies_of_the_foetus_in_the_womb.jpg.

19 Hieronymus Bosch, *Grotesque Figures,* engraving, 30 x 22 cm, Rotterdam, Museum Boijmans Van Beuningen, accessed May 19, 2021, https://commons.wikimedia.org/wiki/File:Ieronimus_bosch_drollen.jpg.

20 Alberto Giacometti, *Untitled*, 1952, ink on paper, 50,2 x 33,1 cm. New York, The Museum of Modern Art, accessed May 19, 2021, https://www.moma.org/collection/works/36478.

Furthermore, drawing is *intellectual*,[21], *speculative*,[22] and a way of thinking or producing knowledge.[23] Drawing is also *projective*, as it materializes something that was observed or imagined before its existence.[24] However, because it results directly from our body, from the gesture of the hand,[25] it is also a *private expression*.[26] Drawing comes from the self, the attitude, and, by default, the hand follows. [27] In its duality, drawing becomes an intermediate dimension, or a *messenger*, between the inside (drawer) and the outside (tangible world).[28]

There is an undeniable spatiality to the act of drawing, but there can also be spatiality within a drawing. Whereas the technician (engineer, architect, etc) resorts to this spatiality in straightforward manner, as a way reach content or *meaning*, the artist uses it to pursue materiality, or the graphic substance that exhibits the *meanings*.[29] Conversely, Richard Serra (see fig.11) explores *materiality* in drawing to convey a feeling of space, stating that "I don't draw image, I draw interval or I draw space."[30] In the context of his large-scale sculptures which seek to engage the spectator, Serra recurs to drawing to depict the same feeling of volume and immersiveness through the use of materiality. In his drawings, you can "enter into the space of the drawing because it deals with the delineation of the architecture."[31] Although Serra's graphic work does to seek to represent his sculptures,[32] the transversality of this spatiality creates an undeniable dialog between drawing and space, thus transpiring a dissolution of the line that separates the three-dimensional and the two-dimensional space. Another artist who works on the spatialization of drawing is Helena Almeida (see fig.12), who seeks to "surpass the limits of the canvas"[33] and "challenge the physical space".[34] In her work, Helena enters the two-dimensional space of the drawing through the dialog between her photographed body and the brushed line or stain. Through this process, the drawing dimension is expanded, becoming inhabitable, reaching an illusion of four-dimensional physical interactivity. Similarly, in William Kentridge's scenographic drawings (see fig.13), the dimension of the drawn line is also challenged through perception, exploring how graphics can transcend to the four-dimensional space. By using live, recorded, plastic, projected, multi-dimensional and multi-material lines, he immerses the space, objects and people that occupy it in a "360° experience of drawing."[35]

21 Ibid., 37:33.

22 Rattemeyer, *Vitamin D2*, 8.

23 Judith Dobler, "Reflect | React | Redraw", p.3), *Studies in Material Thinking* Vol. 10 (2014), 6, ISSN: 1177-6234.

24 Ibid., 10.

25 Ibid., 10.

26 Rattemeyer, *Vitamin D2*, 9.

27 Marie Rebecchi and Elena Vogman, *Sergei Eisenstein and the Anthropology of Rhythm*, (Rome: Nero, 2017), 81.

28 Sillman, "Drawing". 36:13.

29 Roland Barthes, "Cy Twombly: works on paper" [1979], in *Cy Twombly: fifty years of works on paper*, ed. Julie Sylvester, (New York: Distributed Art Publishers, 2004),169.

30 Richard Serra, "Richard Serra on his Drawing", interview by Charlie Rose, *The Metropolitan Museum of Art*, April 2011, video, 12:53. https://www.youtube.com/watch?v=92haKUsVHBQ&ab_channel=KunstSpektrum.

31 Ibid., 4:28.

32 Ibid., 9:32.

33 "Helena Almeida", Joana S. Henriques, Museu Calouste Gulbenkian, accessed May 3, 2021, https://gulbenkian.pt/museu/artist/helena-almeida/.

34 Ibid.

35 Giulia Lanza, "Research through drawing" class at Estonian Academy of Arts, April 7, 2021.

Fig.11 (top-left) Richard Serra, *Transparency #5*, 2012, litho crayon on mylar, 76,2 x 60,9 cm. San Francisco, Berggruen Gallery.[36]

Fig.12 (top-right) Helena Almeida, *Estado para un enriquecimiento interior*, 1976, digital image. Madrid, Colección Helga de Alvear.[37]

Fig.13 William Kentridge and Sabine Theunissen, *Wozzeck*, 2017, scenography, photography by Ruth Walz. Salzburg, *Salzburger Festspiele*.[38]

36 Richard Serra, *Transparency #5*, 2012, litho crayon on mylar 76,2 x 60,9 cm, San Francisco, Berggruen Gallery, accessed 19 May 2021, https://www.berggruen.com/exhibitions/richard-serra2?view=slider#10.

37 Helena Almeida, *Estado para un enriquecimiento interior*, 1976, digital image, Madrid, Colección Helga de Alvear, accessed 19 May 2021, https://www.nytimes.com/2018/10/11/obituaries/helena-almeida-dead.html.

38 William Kentridge and Sabine Theunissen, *Wozzeck*, 2017, scenography, photography by Ruth Walz, Salzburg, *Salzburger Festspiele*, accessed 19 May, 2021, https://www.scenographytoday.com/william-kentridge-sabine-theunissen-wozzeck/.

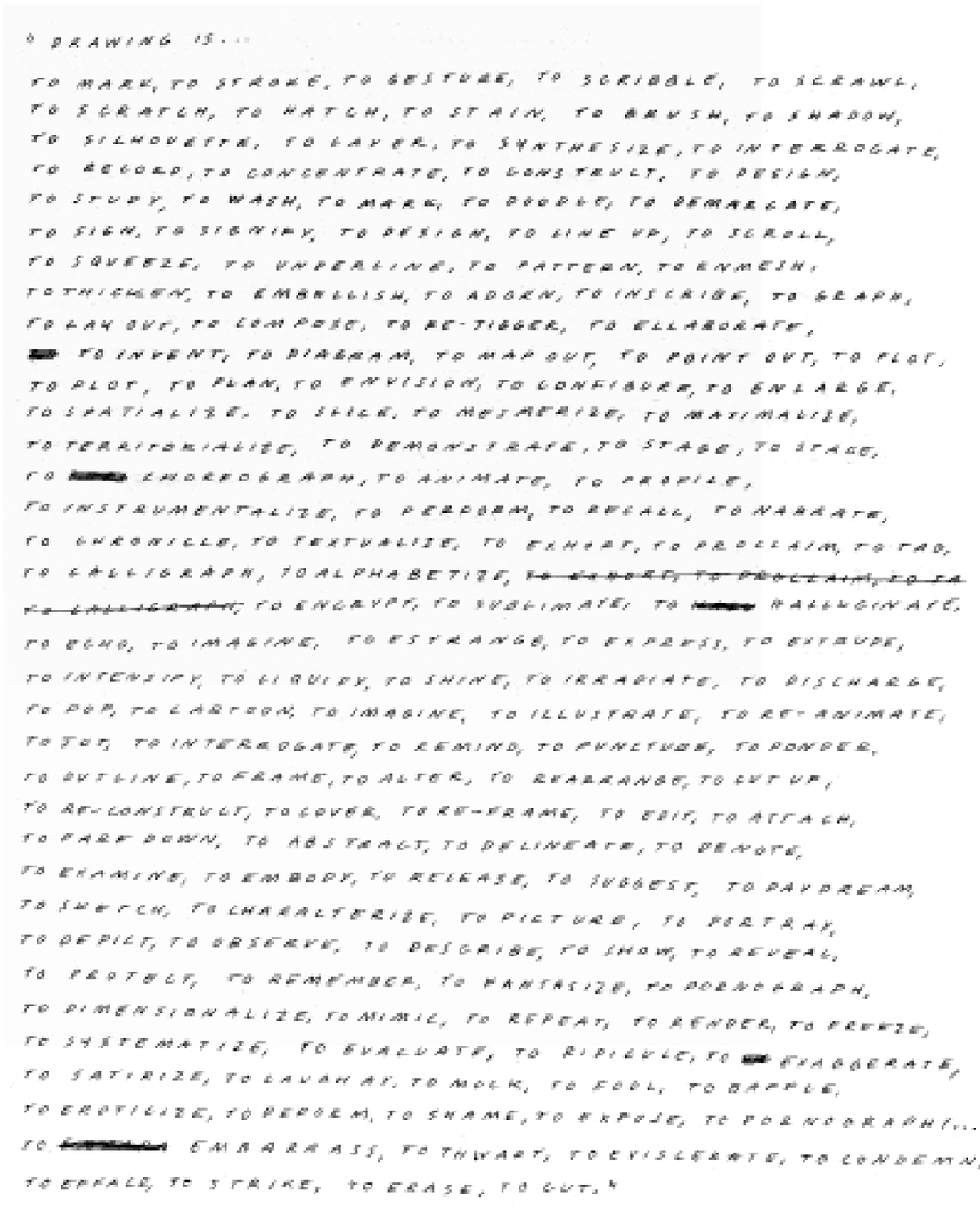


Fig.14 Inês Neves, image describing what is drawing, with the words of Any Sillman.

In this research I recur to the multiplicity of drawing to research the dimensions of the body, practice, material and space. On a primary phase, I used drawing as a tool for documenting[36] and investigating[37] material exploration regarding the nature of lines and crochet.[38] Further on, at a final stage, I explored the artistic potentiality of drawing and the expanded interaction between its different dimensions in relation to body and space through artistic installations which resulted from performative actions.[39]

One of the core qualities of *practice-led research* is that it is extremely personal, focusing on the self's creative practice and making their discourses public.[40] This echoes with my intention, as a researcher, to specifically study my capability as a *maker* and my individual practice. For this reason, *autoethnography* was used as a tool to register my process, reflections and findings during the drawing process. An autoethnographic journal was developed to document and analyze qualitative data related to my practice and interact with the overall research.

36 Through the autoethnographic journal presented on *Appendix two: journal.*

37 Through the drawings presented on chapter *Appendix one: samples.*

38 Explored on chapter *3. Drawing the line.*

39 Explored on chapter *4. I drew the line.*

40 Pedgley, "Capturing and Analyzing", 464.

2.2 AUTOETHNOGRAPHY

With this thesis I aim to study drawing and textile craft through my own experience as a maker. I employed *reflection-in-action* and *reflection-on-action*[41] using my own practice as a case study. Combining "verbal and non-verbal dimensions" (or writing and drawing) within the creative process is of crucial importance, as they compound the *language of designing*.[42] For this reason, I gathered visual and narrative data related to my perspective as a maker and the materialization process through the use of *autoethnography*. *Autoethnography* is a research method that describes and analyses personal experience,[43] accepting it as an inevitable part of the research process.[44] It envisions "the body as the site from which the story is generated",[45] therefore basing the research on the collection and analysis of qualitative empirical data.

41 Pedgley, "Capturing and Analyzing", 475.

42 Donald Schön, *The Reflective Practitioner: How Professionals Think in Action*, (New York: Basic Books, 1983), 80-81.

43 Carolyn Ellis, Tony E. Adams, and Arthur P. Bochner, "Autoethnography: an overview", *Historical Social Research* 36 (2011), 273, URN: http://nbn-resolving.de/urn:nbn:de:0168-ssoar-363237, 2011, 273.

44 Ibid., 274

45 Tamy Spry, "Performing autoethnography: An embodied methodological praxis", *Qualitative inquiry Volume* 7 Number 6. (Sage Publications: 2001), 708.

In this research I gathered technical notes, sketches and reflective writings based on my experience through an autoethnographic journal. Its structure was inspired by Owain Pedgley's research methods in the "guitar project". Pledgley presents tools for facing the challenges intrinsic to capturing both the observable (sketching or model-making), and the immaterial (the thought process) parts of his own process.[46] Pedgley's diary comprises timed entries that were both written concurrently to the design action and in retrospective (on the same day).[47] This format includes three types of stationaries: "no detailed", gathering a short summary of the day's activity; "standard", providing a free space to process thoughts; and "tracing", referring to the use of tracing paper to point out details in the "standard" stationary.[48] The data was gathered using a system of codes referring to characteristics identified by Pedgley in his entries (e.g.: LEVEL, Lv: meaning that a certain level of detail was reached). These codes were then converted into a chart that organized the proceedings of the diary chronologically.[49] Testing the journal on his own practice allowed Pedgley to adapt its structure overtime in order to answer to the needs and challenges of the design process.

The autoethnographic journal developed for my thesis constitutes three types of entries:

1) *Free entry*[50] (see fig.15): filled concurrently to the practice *(reflection-in-action)*. It gathers notes and sketches that record the creative thought process in real time. Each note indicates the time and the reference for the sample in study;
2) *Detailed entry*[51] (see fig.16): filled at the end of the practice (*reflection-on-action*). It gathers more detailed notes on the conclusions found in that session and proposes questions to be explored next;
3) *General entry*[52] (see fig.17): the last entry to be filled, after the practice session. It gathers one-liner descriptions on the research done in each session and links it to the other entries, functioning as an index for the rest of the research.

46 Pedgley, "Capturing and Analyzing", 471-472.

47 Ibid., 472.

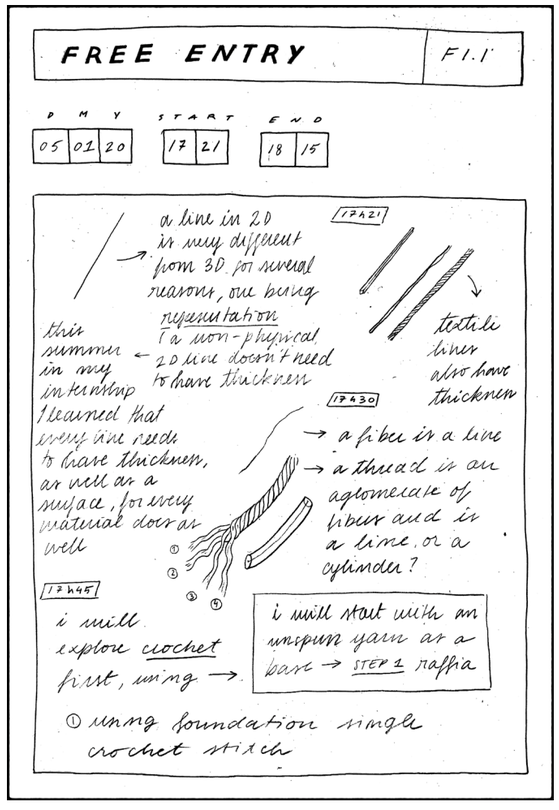
48 Ibid., 474.

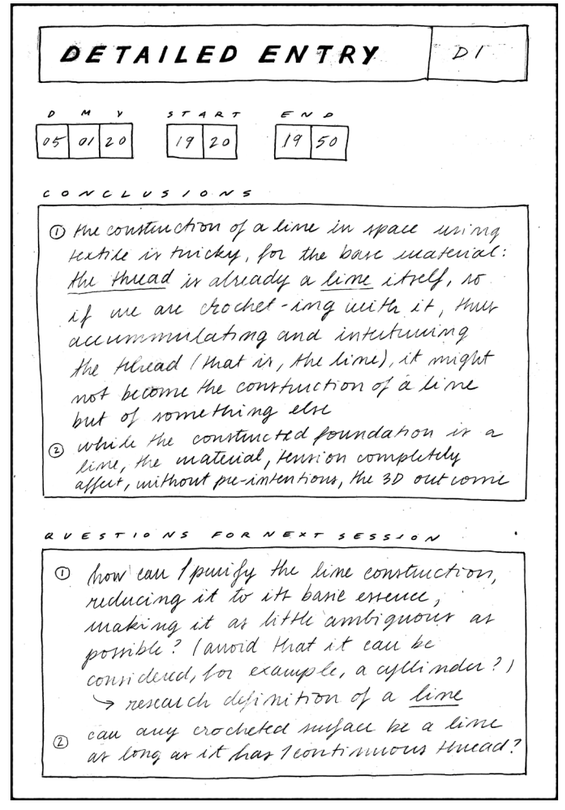
49 Ibid., 477.

50 In the Appendix two: journal, the entry reference for free entries is *F* (e.g. *F1*, *F2*, etc).

51 In the Appendix two: journal, the entry reference for detailed entries is *DE* (e.g. *DE1*, *DE2*, etc).

52 In the Appendix two: journal, the entry reference for general entries is *G* (e.g. *G1*, G2, etc).





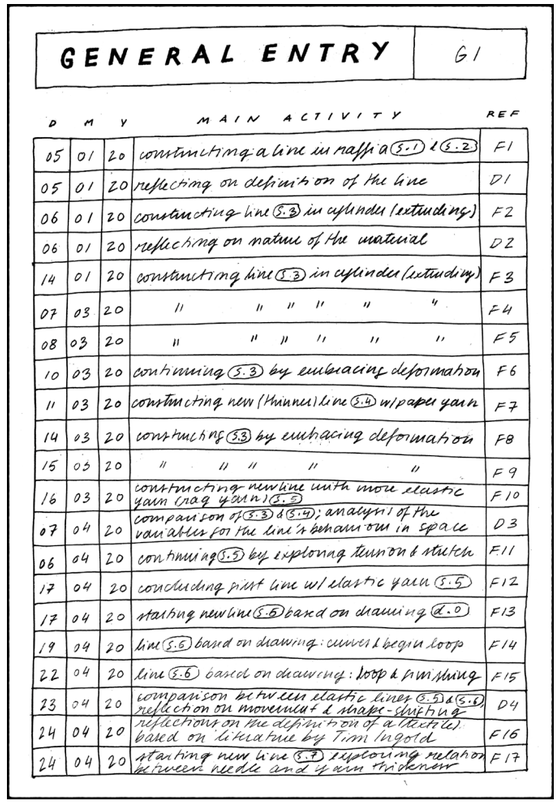


Fig.15 (top-left) Inês Neves, scan of free entry *F1.1* from autoethnographic journal, 2020.

Fig.16 (top-right) Inês Neves, scan of free entry *D1* from autoethnographic journal, 2020.

Fig.17 (bottom) Inês Neves, scan of free entry *G1* from autoethnographic journal, 2020.

Fig.18 (top) Inês Neves, *Table 1* from the autoethnographic journal collecting information on the samples developed in textile for *phase one: form*, 2020.

Fig.19 (bottom) Inês Neves, *Table 8* from the autoethnographic journal collecting information on the samples developed in textile for *phase one: form*, 2020.

SAMPLE	REFERENCE	TYPE OF LINE	DURATION	MATERIAL	NEEDLE	STITCH	DEFORMATION	BOUNCYNESS	FLEXIBILITY	WEIGHT	HARDNESS
S.1	F1.1, DE1, DE2, F28.1	STRAIGHT/ CURVED (LOOPS)	15MIN	RAFFIA	3MM	FOUNDATION SINGLE	CURVED (LOOPS)	HIGH	HIGH (STRAIGHT)	LIGHT	HARD
S.2	F1.1, DE1, DE2, F28.1	STRAIGHT/ CURVED (LOOPS)	21MIN	RAFFIA	3MM	FOUNDATION SINGLE + SINGLE	CURVED (LOOPS)	HIGH	MEDIUM (STRAIGHT)	LIGHT	HARD
S.2.1	DE6, F28.1	STRAIGHT/ TWISTED/ CURVED	UNKNOWN	RAFFIA	3MM	FOUNDATION SINGLE + SINGLE (CLOSED)	CURVED	LOW	LOW (SAME)	HEAVY	HARD
S.3	F2, DE1, F3, F4, F5, F6, F8, F9, DE6, DE3, F28.1,	STRAIGHT	44H18MIN	RAFFIA	3MM	COMBINATION OF SINGLE, DOUBLE & TRIPLE	STRAIGHT ZIGZAG	LOW	LOW (SAME)	MEDIUM	MEDIUM
S.4	F7, DE3, F28.2,	STRAIGHT	7H25MIN	PAPER YARN	3MM	COMBINATION OF SINGLE & DOUBLE	STRAIGHT	LOW	LOW (SAME)	MEDIUM	HARD
S.5	F10, F11, F12, F28.3, DE4	CURVED	3H42MIN	RAG YARN	3MM	SINGLE: COMBINATION OF TIGHT & LOOSE 1/2	CURVED	MEDIUM	MEDIUM (STRAIGHT)	HEAVY	HARD
S.6	F13, F14, F15, DE5, F28.3	CURVED (LOOPS)	21H24MIN	RAG YARN	3MM	SINGLE: COMBINATION TIGHT & LOOSE + EXTRA ROWS 1/2	NONE	LOW	LOW	HEAVY	HARD
S.7	F17, F28.3	STRAIGHT	2H50MIN	RAFFIA (CUT IN 2)	7MM	SINGLE	CURVED	HIGH	HIGH	LIGHT	SOFT
S.8	F19, F28.3	STRAIGHT	3H12MIN	RAFFIA (CUT IN 2 & OPEN)	7MM	DOUBLE	CURVED	HIGH	HIGH	LIGHT	SOFT
S.9	F21, F28.3	STRAIGHT	3H57MIN	RAG YARN (CUT IN 3)	10MM	DOUBLE	CURVED	MEDIUM	VERY HIGH	HEAVY	SOFT
S.10	F21, F28.3	STRAIGHT	UNKNOWN	PAPER YARN (CUT IN 4)	10MM	DOUBLE	CURVED	VERY HIGH	MEDIUM	LIGHT	SOFT
S.11	F22, F28.4	CURVED (LOOP)	9H11MIN	PAPER YARN	3MM, 4MM & 6MM	SINGLE: COMBINATION NEEDLE SIZE + EXTRA ROWS	NONE	HIGH	MEDIUM	MEDIUM	MEDIUM
S.12	F24, F28.4	ZIGZAG	1H43MIN	RAG YARN	4MM, 7MM & 10MM	SINGLE: COMBINATION NEEDLE SIZE + EXTRA ROWS + COLLAPSE	STRAIGHT & MIX OF CURVED + ZIGZAG	MEDIUM	HIGH	HEAVY	SOFT
S.13	F26, F27	ZIGZAG	7H32MIN	RAFFIA	4MM	SINGLE: COMBINATION EXTRA ROWS + COLLAPSE AT THE END	MIX OF CURVED, STRAIGHT & ZIGZAG	MEDIUM	MEDIUM	MEDIUM	HARD
S.14	F28.2	STRAIGHT	1H37MIN	RAG YARN	4MM	SINGLE	NONE	LOW	MEDIUM	HEAVY	SOFT
S.15	F28.2	STRAIGHT	2H26MIN	RAG YARN	4MM	SINGLE	NONE	LOW	LOW	HEAVY	MEDIUM

DATE	ARTIFACT	ENTRY	IMPORTANT HIGHLIGHTS & CONCLUSIONS
05/01/2020	S.1, S.2	F1	• ALL PHYSICAL LINES HAVE THICKNESS • A FIBER IS A LINE, A THREAD IS AN AGGLOMERATE OF FIBRES TWISTED TOGETHER BUT ALSO A THICKER LINE • CHOICE OF RAFFIA WAS DUE TO IT BEING AN UNSPUN MATERIAL
05/01/2020	NONE	DE1	• CONSTRUCTING A TEXTILE LINE IS TRICKY BECAUSE THE THREAD IS ALREADY A LINE ITSELF, SO WHEN CROCHETING A "LINE", I AM ACCUMULATING AND INTERTWINING A LINE ON ITSELF, BECOMING PARADOXAL • THE MATERIAL AFFECTS THE CONSTRUCTED FORM
06/01/2020	S.3	F2	• RAFFIA IS A VERY IRREGULAR MATERIAL - GEOMETRIC SHAPES ARE HARD
07/01/2020	NONE	DE2	• TO CONTROL BETTER THE MATERIAL, I DECIDED TO IMPROVISE
14/01/2020	S.3	F3	NONE
07/03/2020	S.3	F4	NONE
08/03/2020	S.3	F5	NONE
10/03/2020	S.3	F5	NONE
11/03/2020	S.4	F7	• PAPER YARN OFFERS MORE REGULAR RESULTS BECAUSE: ① IT'S CONTINUOUS; ② THE WIDTH IS CONSTANT
14/03/2020	S.3	F8	NONE
15/13/2020	S.3	F9	NONE
16/03/2020	S.5	F10	NONE
17/03/2020	NONE	DE3	• FACTORS DISCOVERED TO THAT POINT THAT INFLUENCE THE MOST THE CONSTRUCTED FORM STRUCTURALLY ARE: ① REGULARITY OF YARN'S WIDTH (REGULAR YARN = REGULAR SHAPE); ② ELASTICITY OF THE YARN (RIGID YARN = STRAIGHT SHAPE / ELASTIC YARN = BENDING SHAPE); ③ TENSION OF THE STITCHES (BENDING WHERE IT IS TIGHT); ④ NUMBER OF STITCHES PER WHOLE (MORE STITCHES = WIDER SHAPE)
06/04/2020	S.5	F11	• LOOSE STITCHES: DON'T HOLD THE SHAPE WELL BUT ENHANCE MOVEMENT AND FLEXIBILITY
17/04/2020	S.5	F12	NONE

This structure was operated as a foundation for collecting the data; however, as the research evolved, the fluidity of the process sometimes required changes in the registration methods. For example, not every *free entry* had a corresponding *detailed entry*, as most often an entry was often not conclusive enough to justify a general analysis on the observations. In other cases, some of the artifacts (textile lines[53] and graphic lines[54]) continued to be developed in-between entries; this happened when the making process became more mechanized and for that moment there were no relevant observations to be taken.

Although the structure of this journal was inspired by Pedgley's methods, the strategy for processing the data gathered from the autoethnographic journal was defined based on the specific needs of my project and content of the journal. I stipulated two methods for processing and analyzing the data alongside the created artifacts. The first method served to gather technical information about the process and outcomes (see fig.18). The second method was dedicated to collecting data regarding reflections and conclusions (see fig.19).

To conduct the first method of analysis, I designed different charts[55] for each media, which were adapted to each research phase. These charts analyzed each object or drawing in a chronological order, noting down the entry and sample reference codes, the time spent, the material, and the tools. The charts directed towards the textile samples also collected information regarding the type of stitch that was used, as well as the materials' deformation, bounciness, flexibility, roughness, sharpness, plasticity, fluidity and stiffness. In turn, the chart dedicated to the graphic drawings, including information regarding the hand's rotation, fluidity and pressure during the making process, as well as the material's contrast, sharpness, roughness and plasticity.

I implemented the second method, by marking important findings and conclusive reflections (see fig.20). I designed a second chart gathering these conclusions in the form of bullet points, linking them to a timeline with the respective entries and developed artifacts (both textile and graphic). This structure allowed me to create a connection between the theoretical and practical outcomes by filtering the most relevant parts of the narrative. The same structure was applied to all the research phases.

53 The journal entry reference for textile samples is *S* (e.g. *S.1*, *S.2*, etc).

54 The journal entry reference for graphic samples is *D* (e.g. *D.1*, *D.2*, etc).

55 Consult *Appendix three: charts.*

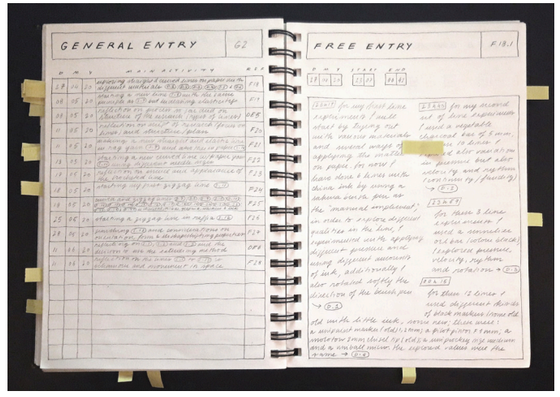


Fig.20 Inês Neves, photograph of the autoethnographic journal during the second method of analysis, 2020.

2.3 LITERATURE REVIEW

2.3.1 Thinking with things

LEARNING THROUGH EXPERIENCE

In its core, this project ponders how drawing with our hands using different resources affects the way we create. As I see it, *to create* entails not only the act of *making* but also of comprehending how the physical properties of the space, materials and techniques mold the envisioned artifact. To create is to *prepare*, *dwell in mistakes* and then *recover form*.[56] In other words, it implies learning and incorporating that knowledge in order to act towards improvement.

Although our body is often considered *non-thinking* in opposition to the mind being *the thinking agent*,[57] knowledge is essentially tacit and implicitly present in our everyday patterns of action.[58] This *knowing-in-action* occurs from automatic performance and from *reflection-in-action*, when one is thinking about something while doing it and studying their successful and unsuccessful actions in order to improve their future actions.[59] Experiential knowledge and skills acquired from the interactions between ourselves and the surrounding materials and environments are essential for encountering new material challenges,[60] which ground practical competence.[61] In regard to craft and design practices, knowing and thinking are intrinsic to *making*.[62] *Making* is a celebration of "the material and skill as sources of meaning in the work", that is, a materialistic approach that is settled in our subconscious.[63] Based on the creative and intellectual stimuli that *making* brings forward to the creator's experience, manual engagement enriches not only the ultimate potentiality of the artifact but also the mind and spirit of the maker. The adoption of an experimental practice results in the idea of the maker as a reflective practitioner,[64] suggesting the contemplation of *making* not only as a way of materializing an idea, but also as a way of thinking.[65]

When writing, one thinks with words, but when crafting a piece of furniture, for example, one thinks with *things*. With this in mind, whereas the theorist "*makes* through *thinking*", the craftsman "*thinks* through *making*".[66] This complements an idea of material sketches on which the value of crafted objects is grounded on their endurance to time and physical accessibility in opposition to thought, which is fleeting and hard to grasp. This concept can be described as the *art of inquiry*,[67] considering the evolution of thought to be dependent on the behaviors of the materials we work with.

56 Richard Sennett, *The Craftsman*, (London: Penguin, 2009), 161.

57 Maarit Mäkelä, "Knowing Through Making: The Role of the Artefact in Practice-led Research", *Knowledge, Technology & Policy* 20 (September 2007), 4, doi:10.1007/s12130-007-9028-2.

58 Schön, *Reflective Practitioner*, 49.

59 Ibid., 50-54.

60 Camilla Groth and Maarit Mäkelä, "The Knowing Body in Material Exploration", *Studies in material thinking* 14 (May 2016), 18.

61 Schön, *Reflective Practitioner*, 53.

62 Nimkulrat, "Hands-on Intellect", 2.

63 Peter Korn, *Why We Make Things & Why It Matters: The Education of a Craftsman* (London: Vintage Digital, 2013), 56-57.

64 Thomas Binder and Eva Brand, "Design (Research) Practice," in *Practice-Based Design Research*, ed. Laurene Vaughan (London: Bloomsbury Visual Arts, 2017), 101.

65 Nimkulrat, "Hands-on Intellect", 1.

66 Tim Ingold, *Making: Anthropology, Archaeology, Art and Architecture* (Abingdon: Routledge, 2013), 6.

67 Ibid., 6.

Knowledge can only be achieved "through an act of self-discovery", [67] so to understand what is around us, we must understand ourselves and where we stand in relation with our surroundings. To put it differently, in order to really comprehend something, one must experience it themselves instead of learning *about* it. These ideas fall into the philosophy of Phenomenology, which focuses on the truth behind experience based on the premise that there is no absolute knowledge; for each individual, reality is molded by their own perception of an experience.[68]

According to Maurice Merleau Ponty's Phenomenology, the world and the objects within it exist to us because we exist next to them, as "to see is always to see from somewhere".[69] Even if an object is always the same, when one looks at it, their perceived properties change because it is the individual self who is seeing it and not someone else. This happens because we interact with the world with a *perceptual sense*.[70] When facing an object, a person approaches it not only with their sight, touch, hearing, smell and taste, but also with a "vast background of assumptions, memories, associations, and anticipations".[71] Perception shapes all knowledge[72] but it is also partial, for what we see and touch merely represents a small sample of reality.[73] Because there is further sensory depth to the perceived world beyond the mere visible or tactile, the perceiving self is provided with endless inputs and stimulation.[74]

Considering that to perceive one must perceive some *thing*, which by definition must exist in the physical space, then there must be spatiality in order to sense.[75] Since it is in space that all things originate, it is not a setting that frames *things* but yet what enables the existence of those *things*.[76] Therefore, space becomes the connector of everything, rather than a mere environment in which all things lay.[77] Space is objective,[78] and as such, the *things* that exist in it are by themselves objective.[79] When perceiving a *thing*, the space in which it exists helps us make sense of its traits. For example, characteristics like size or form depend on where the object is placed in relation to our body, as well as the surroundings.[80] When sensing *things*, we form a "context of relations"[81] based on "appearance, distance and orientation"[82] that helps us shape our perception and construct some objectiveness.[83]

Following this line of thought, one can say that space propels the maker's understanding of the created artifacts and themselves. A line that I build with my body can spatially relate with is more informative and stimulating than an imaginary line. When acting in space, different parts of the body have different roles in harvesting different types of spacial information.[84] When it comes to the specific act of making, a certain part of the body that is mostly responsible for the input and output of information is the hand.

67 Ibid., 1.

68 Dermot Moran, Introduction to *Phenomenology* (London: Routledge, 2000), 4.

69 Maurice Merleau-Ponty, *Phenomenology of Perception,* trans. Donald A. Landes, (London: Routledge, 2012), 95

70 Carman, foreword, ix.

71 Ibid., ix.

72 Merleau-Ponty, *Phenomenology*, 252.

73 Ibid., 224.

74 Ibid., 224.

75 Ibid., 262.

76 Ibid., 291.

77 Ibid., 291.

78 Ibid., 262.

79 Ibid., 253.

80 Ibid., 254.

81 Ibid., 254.

82 Ibid., 255.

83 Ibid., 253.

84 Ibid., 255.

THE THINKING HAND

This section seeks to find answers to why the hand is the body part that is most often related to the act of *making*. The hand is the most versatile and capable limb in terms of moving, gripping, touching and harvesting data.[85] The *intelligent hand* describes this body part as a more reliable source for gathering information than the eye.[86] "Our mindful hands know the shape, temperature, orientation and surface structure of the material instantly, as if our hands could think."[87]

Having a direct link to the brain and the eye through a neural network, the hand makes sense of what the eye sees, providing us with tacit information on matters of texture, hardness, volume, etc. "Stored information about holding a ball, for instance, helps the brain make sense of a two-dimensional photograph of a ball: the curve of the hand and the hand's sense of the ball's weight help the brain think in three dimensions, seeing a flat object on paper in the round".[88] There is a diverse panoply of hand movement patterns at our disposal.[89] A grasp informs us of the weight of an object, our fingers gather information on its texture, the pressure of a grip tells us how hard or elastic it is: "each hand movement pattern seems to be optimal for telling us a little bit about the world."[90]

Our hand is composed of a vast set of nerve endings, all of which specialized in gathering different types of haptic data: being it temperature, pain, vibration, pressure, etc.[91] These nerve endings are distributed in different depths on different areas of our skin, therefore different parts of our bodies are more sensitive to certain sensations than others. However, the hand is not capable of harvesting this information in a completely impartial way, "there is no sensation without emotion", meaning that haptic data gathered travels towards two different systems: the somatosensory cortex, which discriminates the objective location and manner of the touch, and the posterior insula, which assigns these various kinds of touch to different emotions.[92] "We are used to thinking of certain sensations of having an intrinsic emotional tone but this is a trick our brain plays on us".[93] We may feel our thumb hurting, but the related emotion that makes us scream "auch!" is a mere consequence of these two systems being simultaneously active.

With this thought process I merely seek to illustrate how making things with our bare hands contributes to having a highly complex and stimulating creative experience. "Experiences we have collected through our hands provide us with an understanding of materials"[94] so not only can we gather an enormous amount of information about the object we have in our hands, but based on our haptic memory we also add emotion to this information: we take in what physically exists in the outside world and add a bit of us and our experiences to our perception of such objects.

85 Sennett, *The Craftsman*, 149.

86 Ibid., 149-150.

87 Groth and Mäkelä, "The Knowing Body", 27.

88 Sennett, The Craftsman, 153.

89 Susan Lederman, *The Science of the Senses: Touch*, directed by Elise Swerhone (Breakthrough Entertainment, 2008), 08:30.

90 Ibid., 9:45.

91 David Linden, "The Science of Touching and Feeling", filmed February 27, 2016 at TEDxUNC, Chapel Hill, NC, video, 06:20, https://www.youtube.com/watch?v=lW8pJ7E9taQ.

92 Ibid., 08:43.

93 Ibid., 10:20.

94 Monika Auch, "The Intelligent Hand", in *Crafting Textiles in the Digital Age*, ed. Nithikul Nimkulrat, Faith Kane, Kerry Walton (New York: Bloomsbury Academic, 2016), 65.

2.3.2 Making, the maker and the made

THE MOVEMENTS OF MAKING

In this research I examine how interacting with kinesthetic lines can enhance the making experience. *Making* is an action, a "process of growth",[95] therefore in order to make, there must be movement. This section explores how we approach materials and surroundings through these movements and gestures. In the world, we are surrounded by *transitional objects*:[96] *things* that move and mutate. These objects propel the making process by forcing us to anticipate different obstacles that might appear in the process of molding them: "in anticipation rather than retrospection, lies the path of discovery".[97] Although one can also explore different gestural qualities in the action of drawing on paper, the movement potentiality of soft materials such as textile is much greater, as it can bend, stretch and flow through space. With textile, the maker can manipulate the shapes while constructing them and afterwards.

Gesture is the surplus of an action.[98] So if *making* implies action, gestures represent the artist's expression in what is being made, the surpluses of the graphic code: "the nervous turn of the letters, the spurt of the ink, the tensile quality of the strokes."[99] There are many gestures implied in *making*. When first approaching a material through touch, we perform a *gesture of perceiving*, *grasping* and *comprehending*.[100] However, *making* comprises other gestures that are not simply related to understanding an object but which also imply imposing value on it. We start by *evaluating* the material, then we *produce*, *research* and *fabricate*.[101]

Nevertheless, a making process concerns more than just the mere imposition of forms into materials, it requires thought. "Hands are only creative when, in the course of their struggle with a raw material they have just grasped, they need to develop new ideas, that is, prototypes."[102] In order to complete the object that is being made, one must conform through the *gesture of realization*.[103] With a last *gesture of presenting*, the made object is removed from the maker's individual sphere and shared with a collective: "as [artists] present their work, the hands offer themselves to another. They expose their work, making it public."[104]

95 Villém Flusser, *Gestures*, trans. Nancy Ann Roth (Minneapolis: University of Minnesota Press, 2014), 38.

96 Sennett, *The Craftsman*, 159.

97 Ibid., 39.

98 Barthes, *Cy Twombly*, 160.

99 Ibid., 169.

100 Flusser, *Gestures*, 35-36.

101 Ibid., 38-40.

102 Ibid., 39.

103 Ibid., 46.

104 Ibid., 47.

Considering the learning virtues of existing in the four-dimensional space, what truly builds the experience of the maker is attitude,[105] "it is by moving that we gather information by interacting with our surroundings".[106] Movement is described as "a displacement or a change of position".[107] Drawing is movement that allows ink to flow on and through the paper, while crochet allows yarn to intertwine itself. Different natures in movement dictate the intensity and level of reflectiveness of an experience.[108] Fast movements render an opportunity for impulse: stemming from intuition and revealing the maker's *knowing-in-action*.[109] On the other hand, slower movements propel the maker's *reflection-in-action*:[110] making space for intention and rationality, a process of carefully analyzing the experience while it is happening.

However, there must be a distinction between movement, the moving object and the reference points that are connected through the movement.[111] "Every movement – in order to be movement – must be a movement of something",[112] and often the movement of the material, the agent and the moving object do not act in accordance with one another. When we move our hand holding a brush, the movement we make may be straight and assertive whilst the brush (the moving object) – as it creates traction against a surface – can perform in an irregular and corrugated manner. In sum, the act of making is affected by the movement of its different agent.

HUMAN AND MATERIAL AGENCY

It seems to be a matter of common sense that the hand is the main agent in the act of making; however, in the process of drawing and crocheting, this act often entails the use of a tool. When we recur to tools and materials to make, this system of agency expands. Being exclusively a human property, the assumption of agency as a result of consciousness and intentionality has been a prominent tendency within the social sciences.[113] The Actor-Network Theory (ANT) accepts both human and material behaviors as being possibly responsible for agency, proposing its authorship as stemming from an international *network of agency*.[114] ANT suggests that agency does not fall under the responsibility of either the human or the material, but rather in a new *hybrid agent*.[115] A gunshot can exemplify this theory: the author of the shot is the *gunman*, that is, the intersection of both human and material agents, and the "socio-technical network" that enables said situation.[116]

Another example that can be used to reflect on material and human agency is the potter. The shaping of the material is influenced by both the hands of the potter, and the potter's wheel.[117] This example brings forward questions on authorship in the act of making "If we accept that agency is essentially about doing and that the problem of agency is essentially about who or what is the cause of the doing, then what we need to try first to understand is the relation between agency and causality".[118] In the potter example, the "sense of agency" is the potter's feeling of how he is moving his hands and shaping the clay while the "sense of ownership" is their feeling of the hands moving.[119] Furthermore, there must also be awareness of the difference between this sensing and the actual impact on the clay.[120]

105 Merleau-Ponty, *Phenomenology*, 356.

106 Mäkelä, *Knowing Through Making*, 4.

107 Merleau Ponty, *Phenomenology*, 317.

108 Carman, foreword, ix.

109 Schön, *Reflective Practitioner*, 50.

110 Ibid., 54.

111 Ibid., 319.

112 Ibid., 321.

113 Carl Knappett and Lambros Malafouris, *Material agency: Towards a non-anthropocentric approach* (New York: Springer, 2010), 10.

114 Ibid., 11.

115 Ibid., 11-12.

116 Ibid., 42.

117 Ibid., 19.

118 Ibid., 23.

120 Ibid., 41.

Even though we may claim ownership over our actions — *I sliced an apple*, *I made a drawing*, *I wrote a book* — in reality, agency results from the network between brain-hand-knife-apple, brain-hand-pen-ink-paper, or brain-hand-keyboard-computer-printer-ink-paper. In sum, "there is no way that human and material agency can be disentangled", for agency does not belong to the human or material realm, but instead results from *material engagement*, or "the grey zone where brain, body and culture conflate".[121]

DRAWN LINES AND MADE LINES

A line is "the track made by the moving point (…) the repose of the point".[122] It is "a visible action"[123], always connected to a "force"[124] or "direction"[125]. A line is the proceeding of an action, the common element upon which activities are built, either "walking, weaving, observing, singing, storytelling, drawing and writing".[126] "Life is lived […] along paths, not just in places, and paths are lines of a sort",[127] they are everywhere.[128] In other words, the existence of lines is not limited to the products of gestures (material marks), but extends to material or immaterial lines that guide or trace a movement.

There are two core classes of lines: *threads* and *traces*.[129] A *thread* exists in the three-dimensional space connecting two points, "a filament of some kind".[130] As *threads* have volume, they also have surfaces.[131] Furthermore, threads[132] can be *artificial* — like a yarn or an electrical cable — or *natural* — like the stem of a flower, or the hair of the horse.[133] On the other hand, Ingold describes *traces* as "any enduring mark left in or on a solid surface by a continuous movement."[134]

Traces usually refer to paths or tracks produced by movements, they can result from animal life as well as the human hand using a *manual implement*.[135] Two types of *traces* are: *additive* when the trace applies material over a a surface, and *reductive* when the material is removed from the surface.[136] One example of an *additive trace* is the signature that is written with a pen on paper, or the slime track left by the snail on a surface, whereas a *reductive artificial trace* can be the embossment carved on a block of wood or the tracks left on the soli by a running horse.

Despite this categorization of lines, Ingold states that *threads* can also transform into *traces* and *vise versa*.[137] When a *trace* converts into *thread* it forms a surface, and in this surface, the *trace* re-appears. As I try to transmute a *trace*, a stroke, a drawn line towards the three-dimensional with yarns, a surface that forms the constructed cylinder is created through stitches or knots, creating an illusion of the *trace*: the visual *trace*.

"The stitch is a knot through whose iteration – as in knitting and crocheting – an unbroken surface can be formed from a continuous line of yarn."[138] When reflecting upon the crocheted line, I can see how it differentiates from the stroke on the paper not only regarding its physical qualities, but also the associated movement. While trace is the demarcation of one movement, the *thread* is constructed — in a single direction — "through the accumulation of movements."[139] These lines are threaded, not traced.

121 Ibid., 20.

122 Flusser, *Gestures*, 35.

123 Wassily Kandinsky, *Point and Line to Plane*, trans. Howard Dearstyne and Hilla Rebay (New York: The Solomon R. Guggenheim Foundation, 1947), 57.

124 Barthes, *Cy Twombly*, 170.

125 Kandinsky, *Point and Line to Plane*, 57.

126 Ibid., 57.

127 Ingold, *Lines*, 1.

128 Ibid., 3.

129 Ibid., 1.

130 Ibid., 1.

131 Ibid., 1.

132 Ibid., 41.

133 Ibid., 51.

134 Ibid., 41.

135 Ibid., 43.

136 Ibid., 43.

137 Ibid., 43.

138 Ibid., 52.

139 Ibid., 62.

3 DRAWING THE LINE

This project examines the interactions between space, form, material and craft. In an initial phase, although the literature review helped me build a stronger foundation for my research, material and technical exploration accompanied by notation helped mature it. Contemporary literature on craft and making such as Richard Sennet's *The Craftsman*, Tim Ingold's Making, and Peter Korn's *Why We Make Things and Why It Matters: The Education of a Craftsman* helped me develop a strong interest in the idea of craft as a tool to propel reflection and the creative process of the maker. Framing these ideas with my own experiences, I intuitively started comparing these concepts with the practice of drawing. From simpler explorations of three-dimensionality and two-dimensionality in printed textiles, my research evolved into an inquiry on the function of textile, and how textile can be used in an unique way to add three-dimensionality to drawing, not by implementing it into a surface with volume, but by sculpting it three-dimensionally.

Fig.20 Inês Neves, *Expanded Drawing 1*, 2020, photograph. Tallinn.

Initially, my study concerned drawing as a whole. I planned to start by investigating the construction of lines, then planes, and at last solids. However, the more I delved into the exploration of the line, the more I realized not only its immense physical and conceptual depth, but also its role as the core element of drawing. Reading Tim Ingold's *Lines: A Brief History* led me to realize an immense opportunity for researching lines that are everywhere, intrinsic to humans and the natural world.[140] For this reason, I decided to focus my research solely on the study of lines. Based on Ingold and Kandinsky's *Point and Line to Plane*, I structured my thesis around different types of lines — *threads* and *traces* — and their forms — *straight*, *curved* and *zigzag*.

These specific concepts were framed by more general theories of experiencing and making in space, which provided different perspectives on the process of constructing these lines. I delved into Merleau Ponty's *Phenomenology of Perception*, which describes our perception of things as depending on the perception of ourselves within space. This concept framed my approach to space as the element that links and distinguishes drawing and textile. Donald Schon's concept of reflection-in-action in The *Reflective Practitioner: How Professionals Think in Action* led me to the importance of tactility in the metabolization of thought, and Vilém Flusser's *Gestures* provided knowledge on the stages of making which structured my practical research. The focus on the hand and its gestures moved me to read Carl Knappett and Lembros Malafouris' *Material Agency: Towards a non-anthropocentric approach*, which led me to investigate the differences between the hand and the tool in the process of making and drawing.

Taking into consideration the extensiveness of both the textile and graphic fields, I reduced the variables to a limited amount of materials and tools, both of which were defined along the way as a consequence of *reflection-in-action*. Because I wanted to keep my focus on drawing medias that interact directly with the hand, I decided to use the same white paper for all the experiments.

The research is structured into three phases, each examining different properties of lines (see fig.21). Phase one researches form, phase two studies media and phase three focuses on the agent. This chapter shows the results of these phases and the data collected through the autoethnographic journal.

140 Ingold, *Lines*.

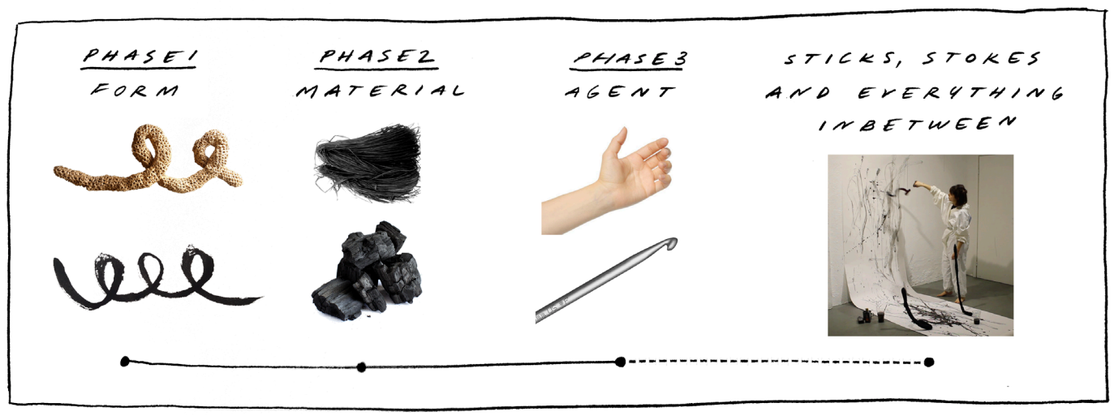


Fig.21 Inês Neves, diagram illustrating the research process, 2021.

3.1 PHASE ONE: FORM

The term *linear* or *linearity* often seems to imply straightness.[141] Yet, lines can have many forms not only in their material composition but also their structural and visual essence. The first phase of this research seeks to study the different forms of lines based on a varied application of forces. It concerns an initial contact with the techniques and materials at use through the exploration of the three types of lines: *straight*, *curved* and *zigzag* (see fig.22, fig. 23 and fig.24).

The structure of line is defined by the force which produces it, and therefore, lines can only be made from the "application of one force"[142] or the "application of two forces."[143] A *straight line* is made by one exterior force in a single direction.[144] However, when two forces form lines, these can act by alternating — forming *angular* (or *zigzag*) *lines* — or act simultaneously — producing *curved lines*.[145] The approximation of the forces (going from singularity to independent coexistence and then collaboration) outlines an increase in drama.[146]

In this phase, I developed a series of fluid line sketches on paper, considering material, the position and movement of the hand, and the scriber means. This served to understand which core qualities lines drawn on paper can exhibit. In parallel to this exploration, I crocheted various lines in raffia, paper yarn and rag yarn. The choice of materials for this phase followed an intuitive line of thought based on their physical characteristics, conditioned by what was available at hand due to the closure of the yarn stores during the beginning of the pandemic in 2020. The first material I explored was raffia: a hard, rough, non-stretchy material with uneven thickness. This material allowed me to understand how the material affects the shape of the built artifacts, as I often found myself struggling to control it when attempting to build a uniform *straight* line.

Based on the uneven properties of raffia, I started to experiment with paper yarn: a material which has similar visual and physical properties to raffia while keeping a very even width. The continuity of the thread also proposed a more similar result, taking into account that raffia yarn exists in small pieces and, on the connection between pieces, the structure becomes noticeably thicker. The choice for the rag yarn stemmed from the goal to explore curved shapes by relying on the elasticity of the yarn to bend the structure. Because of the limitations, I used rag yarn because it was the most elastic material I could have access to.

141 Ingold, *Lines*, 4.

142 Kandinsky, *Point and Line to Plane*, 65.

143 Ibid., 65.

144 Ibid., 57.

145 Ibid., 67-68.

146 Ibid., 67.

Fig.22 Inês Neves, *straight thread* (sample reference: *S.9*), 2020, crochet with rag yarn, 46 x 5 cm. Tallinn.

Fig.23 Inês Neves, *curved thread* (sample reference: *S.11*), 2020, crochet with paper yarn, 45 x 20 cm. Tallinn.

Fig.24 Inês Neves, *zigzag thread* (sample reference: *S.13*), 2020, crochet with raffia, 59 x 25 cm. Tallinn.

STRUCTURE

The process for this research begun with a simple reflection on what defines a textile line. I started from a notion that all physical lines have thickness, as they are made of a material. Therefore, a textile line must have a thickness too: a fibre is a textile line, and a thread is an agglomerate of fibers (lines) twisted together, which can also be seen as a (thicker) line (see fig.25). For this reason, I decided to begin the process using an un-spun yarn, in order to minimize the complexity of the line's identity.

Admitting that a line is a connection between two points, I started with a longitudinal approach, using just the chain stitch (see fig.26) to direct the thread from point A to point B (see fig.27). I then tried a second approach, in which I combined the foundation base stitch with one row of single stitches (see fig.28), this created a thicker and stronger line, but which is guided from A, to B and back to A (see fig.29). A third sample followed the same method as the second but combined the foundation stitch with 6 rows of single stitches, closing together the first and last row, thus forming a cylinder (see fig.30).

Although in all these three samples I was aiming for a *straight* line, the tension of the stitches in a longitudinal approach made the structure unintentionally collapse into a spiral and twisted structure. In retrospect, I noticed that these methods did not allow an easy manipulation of form, imposing a non-intentional curved structure on the *straight* line. For this reason, I decided to experiment a third method, aiming to obtain a more free and precise exploration of form (see fig.31). Here I constructed the line by making a circular base in foundation single stitch and extruding it using a combination of single, double and triple stitches in a cylindrical structure from point A to point B, following a circular accumulation of thread. This method turned out to fulfill my needs and expectations, and therefore it was used for the rest of the phase one.

Fig.29 Inês Neves, experiment using the first method for attempting a *straight thread* (sample reference: *S.1*), 2020, crochet with raffia, 120 x 22 cm. Tallinn.

Fig.30 Inês Neves, first experiment using the second method for attempting a *straight thread* (sample reference: *S.2*), 2020, crochet with raffia, 128 x 1 cm. Tallinn.

Fig.31 Inês Neves, second experiment using the second method for attempting a *straight thread* (sample reference: *S.2.1*), 2020, crochet with raffia, 95 x 2 cm. Tallinn.

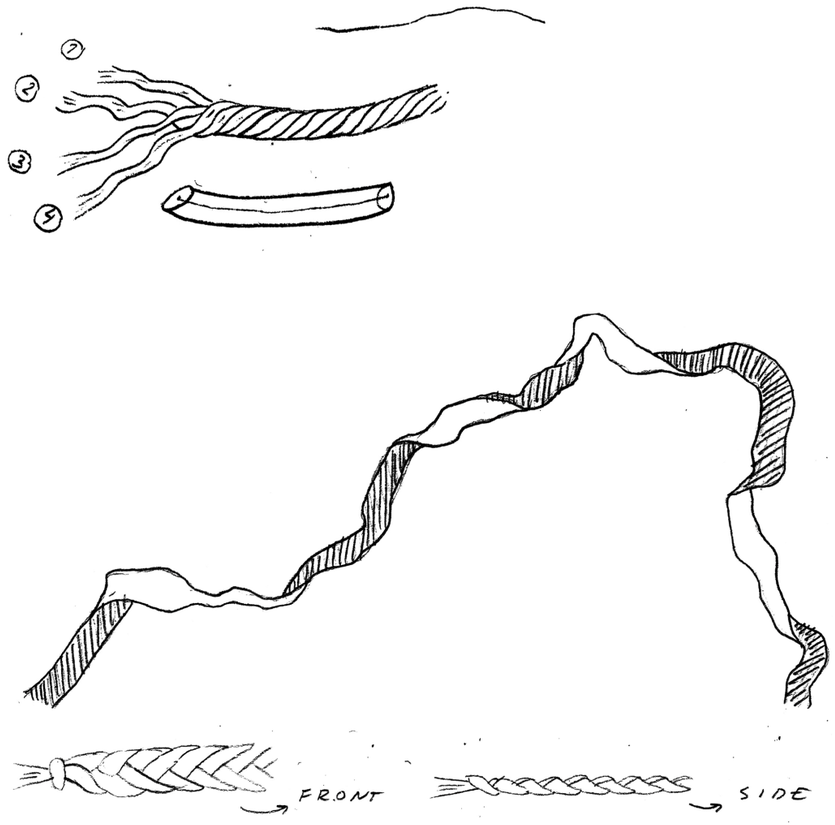


Fig.25 Inês Neves, sketch illustrating the structure and essence of a textile line (entry reference in autoethnography journal: *F1*), 2020.

Fig.26 Inês Neves, sketch illustrating the structure of first experiment in crochet (sample reference *S.1*), (entry reference in autoethnography journal: *F1.2*), 2020.

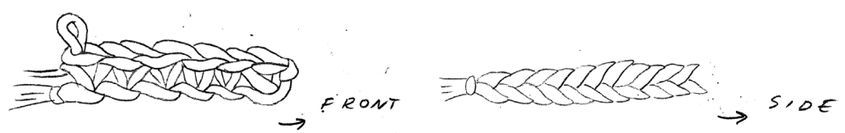


Fig.27 Inês Neves, sketch illustrating the structure of second experiment in crochet (sample reference: *S.2*), (entry reference in autoethnography journal: *F1.2*), 2020.

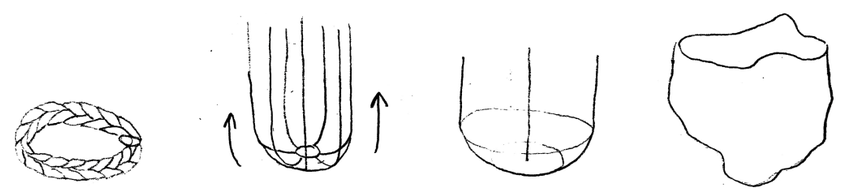


Fig.28 Inês Neves, sketch illustrating the structure of second experiment in crochet (sample reference: *S.3*), (entry reference in autoethnography journal: *F2.1*), 2020.

TECHNIQUE

Throughout the practical part of this thesis, the process was generally very intuitive and unpredictable even if it was based on a solid and logical structure. Along with analyzing premeditated performances, surprise and intuitive thinking are just as important to propel reflectiveness. When a performance renders nothing more than expected results, the action becomes automatic and reflection-less: it is in surprise (positive or negative) that lies thought-stimulation.[147] In such situations, thinking and doing act as one, and learning occurs outside of pre-established theory through the conversion of intellect into practice, practice into intellect and so on.[148]

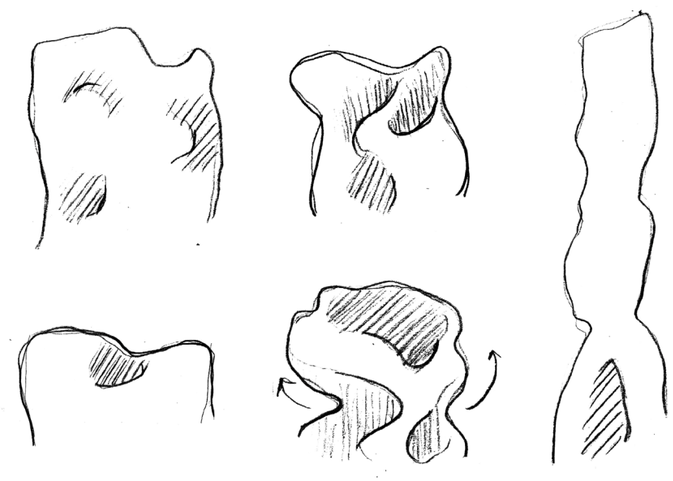
Throughout the building of the first five samples, although I was planning to construct from the start a *straight* or *curved* line, I was still learning the behavior of the materials and technique. Therefore, my approach was to let myself be surprised by the process, and even embrace deformation at times in order to better understand the media (see fig.32). I soon discovered that there are several factors that influence the structure of the form:

1) Evenness of the yarn's width (even yarn results in even shapes);
2) Elasticity of the yarn (a more rigid yarn creates a straight shape, while an elastic yarn generates bending shapes);
3) Tension of the stitches (by combining looser and tighter stitches, the structure bends, collapsing inwards where the stitches are tight);
4) Number of stitches (double and triple stitches result in wider shapes).

147 Schön, *Reflective Practitioner*, 56.

148 Ibid., 68.

Fig.32 Inês Neves, sketch illustrating the deformation of a *straight thread* (sample reference *S.6*), (entry reference in autoethnography journal: *F8*), 2020.

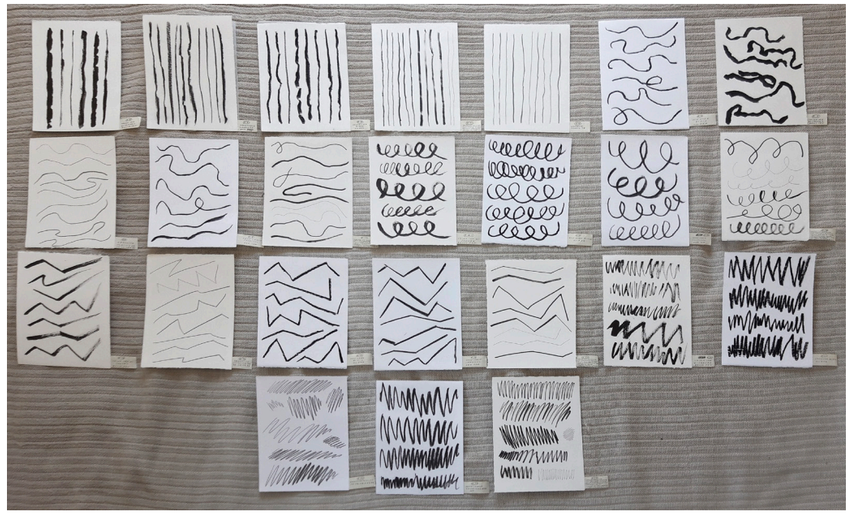


Further on, I also realized that the shapes' movement is influenced by the following factors:

1) Tightness of the stitches (looser stitches lead to softer and more dynamic structures);
2) Hook and yarn size proportion (using a bigger hook with a thinner yarn result in looser stitches);
3) Number of stitches (double stitches entail more elastic structures);
4) Twist of the yarn (e.g.: when using raffia, untwisting the yarns enhances the elasticity drastically).

Once I started to understand better and feel more comfortable with the materials and techniques, I begun to work these textile lines alongside an exploration of graphic lines drawn on paper (see fig.33). Through this experimentation, I could observe the following: first, while crocheting I adapted my practice to fit the expected properties and interactivity of the final artifact. Second, that when drawing on paper I intuitively took the making process more into consideration than the end-result.

Fig.33 Inês Neves, series of *straight, curved* and *zigzag traces* using china ink, graphite, charcoal, oilbar, markers and pens developed during *phase one: form* (sample references from top left to bottom right: *D.1, D.2, D.3, D.4, D.5, D.6, D.7, D.8, D.9, D.10, D.11, D.12, D.13, D.14, D.15, D.16, D.17, D.18, D.19, D.20, D.21, D.22, D.23, D.24, D.25*), 2020, 16,7 x 24 cm each. Tallinn.



GESTURE

The main parameters that were examined referred to the way I moved my hand and interacted with the material: velocity, pressure, rotation and amplitude of the hand gesture and level of mindfulness (directly related with the velocity). I discovered that the velocity, pressure and mindfulness level when drawing depended on:

(1) The type of line, *straight* lines related to slow, controlled and strong movements, *zigzag* lines were connected with fast, impulsive and light gestures, and *curved* lines concerned a slower and more mindful approach, in which the orientation of the line was thoroughly considered;
(2) Tightness, in tight *curves* and *zigzags*, the movement was faster, looser and more impulsive than in wider ones;
(3) Material, drawing with graphite and markers resulted in fast gestures, with charcoal and oilbar the action was average in speed, and with china ink, the movements were slow.

As for the rotation and amplitude of the hand gesture, it varied depending on identical factors:

(1) The type of line, *zigzags* required smaller rotation yet wide movements, *curved* lines needed higher rotation and wide movements, while *straight* lines gathered a smaller rotation and movements;
(2) Material, charcoal and oilbar stood for wider movements and high rotation, china ink recurred to small movements and high rotation and graphite and markers concerned wide movements and small rotation.

In sum, this phase of the research revealed several differences and similarities between constructing a crocheted line in the three-dimensional space and drawing a two-dimensional graphic line on paper. For once, the textile line considered an extra dimension: depth. For example, when drawing a loop, a line could not be drawn simply according to the directions *z* and *x*, I also had to consider *y* (see fig.33), otherwise the structure could have clashed against itself (see fig.34).

Nevertheless, the textile and graphic formats held more similarities than I initially expected in regard to the movement and interactivity between the maker and the media. This is true even considering that, while in textile the maker's behavior adapted to serve the ultimate artifact, on paper the line was drawn having in mind the maker's interaction with the process.

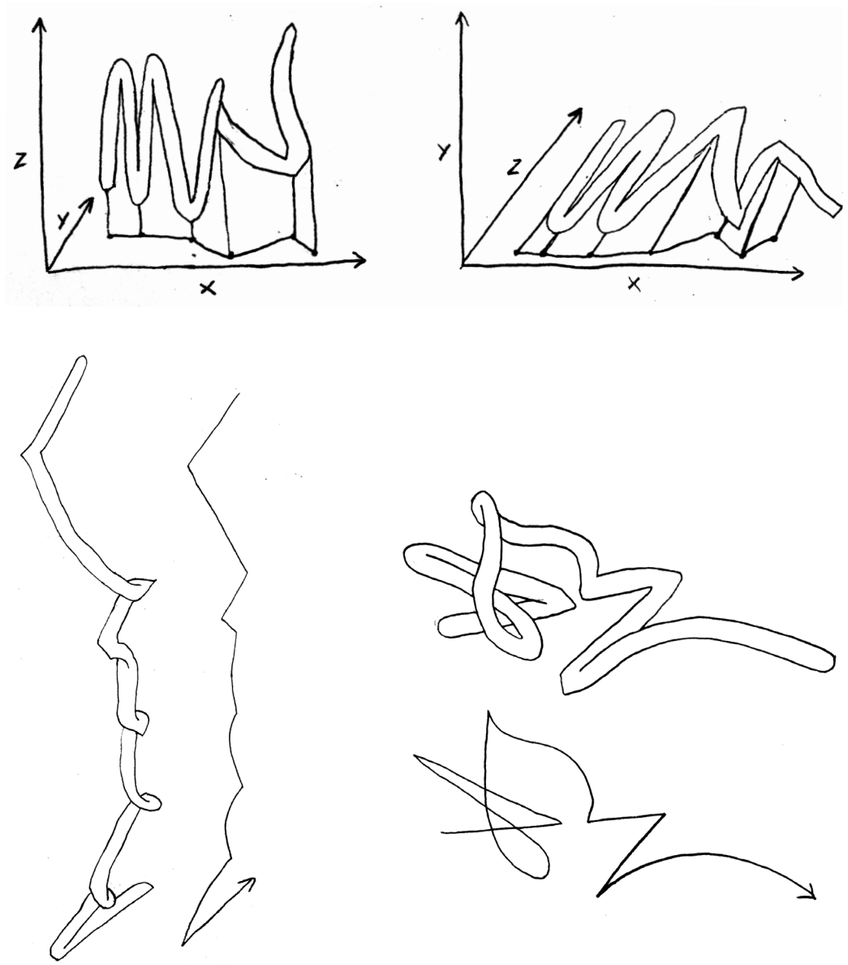


Fig.34 Inês Neves, sketch illustrating the process of drawing considering *z*, *x* and *y* (entry reference in autoethnography journal: *F27*), 2020.

PHASE TWO: MATERIAL

The second phase of this research delves into material. It aims to compare and contrast textile and graphic materials in an attempt to create a visual and processual parallel between the two. In order to reduce the variants, the color palette was restricted to only black-colored materials. The choice for the color black was based on an identification of monochromatism as a recurrent quality within the field of line-based drawing.[149]

Similarly to the first phase of this research, the choice of materials was equally based on intuitive thinking, and some of the comparisons were found more immediately than others. I began by taking the five graphic materials that were instinctively used in phase one: china ink, charcoal, graphite, oil bar and pens/markers. I then attempted to find equivalent textile materials for each of these which would have similar visual, tactile and behavioral properties, making a first selection based on the graphic experiments done in the previous phase.

[149] Sillman, "Drawing", 29:11.

OILBAR AND VELVET

To replicate the oilbar's pasty appearance and irregularity in shape, my first thought was to experiment with elastic yarn (see fig.35). However, I soon understood that, due to its extremely uniform appearance, texture and structure, it did not represent the expressiveness of the oilbar line and therefore I quickly abandoned this alternative.

Next on, I experimented with a 5mm wide organza ribbon. The result had similar properties to the oilbar (see fig.36), resembling it in their irregular contour (see fig.37). In terms of plasticity, it was rather shiny, but it still did not have the doughy quality that is typical of the oilbar. Although it slightly resembled ink due to its transparency, or graphite in its metallic appearance, its silhouette still did not reach that much verisimilitude in these comparisons.

Still not content with my findings, I proceeded to experiment with plastic raffia (see fig.38). I could observe that for some reason the structure was adopting a twisted nature (see fig.39). Technical-wise, I knotted the yarn using a single chain stitch, therefore this result did not stem from the structure or technique but rather from the behavior or characteristics of the material itself.

Fig.35 Inês Neves, oilbar, photograph, 2021.

Fig.36 Inês Neves, detail of first experiment with organza (sample reference: *S.17*), 2020, crochet with organza ribbon, 18 x 3 cm. Tallinn.

Fig.37 Inês Neves, sketch illustrating the contour of a line made with organza (entry reference in autoethnography journal: *F30*), 2020.

Fig.38 Inês Neves, detail of first experiment with plastic raffia (sample reference: *S.18*), 2020, crochet with plastic raffia, 38 x 4 cm. Tallinn.

Fig.39 Inês Neves, sketch illustrating the contour of a line made with plastic raffia (entry reference in autoethnography journal: *F30*), 2020.

In the meantime I came upon a fake fur yarn. This material had a doughy appearance that was very similar to the oilbar, so I immediately gave up the idea of using plastic raffia in favor of this fake fur. To my dismay, after finishing my first line (see fig.40) I gathered that there were several aspects that still did not convince me in this comparison. First, unlike the oilbar which effortlessly flows through the paper, this was extremely hard to manipulate and to identify the structure of the crochet stitches. Second, the contour of the line turned out to have a more blurred out or brushed aspect (perhaps more similar to that of the charcoal or china ink), instead of a lumpy aesthetic.

Looking backwards at plastified raffia, I understood that I was moderately content with this material, so I tried to look for larger quantities in order to explore further how to manipulate it while avoiding deformation. However, I found quite hard to find it in local stores, so in order to continue exploring this process at a consistent rhythm, I decided to replicate the same materiality of the plastic raffia by cutting strips from black plastic bags. As I finished these experiments I understood that, after cut and manipulated, these plastic bags did not resemble at all the oilbar's materiality, turning out to look very metallic.

After a series of unsuccessful attempts, I decided to looked for alternative materials to experiment. About one month after, I found a polyester-based yarn with a velvet touch (see fig.41). This material fulfilled all the parameters I drew as necessary to be considered equivalent to the oilbar: not only did it have a similar lumpy silhouette and doughy materially, but the making process was also very fluid. When making with oilbar and velvet yarn, I manipulated the matter as if it was dough: softly flowing through my fingers, these materials were full of texture and depth, adding a quality of organic matter to any line that was drawn.

Fig.40 Inês Neves, detail of first experiment with fake fur (sample reference: *S.19*), 2020, crochet with fake fur, 83 x 5 cm. Tallinn.

Fig.41 Inês Neves, detail of experiment with velvet yarn (sample reference: *S.32*), 2020, crochet with velvet yarn, 95 x 3 cm. Tallinn.

CHARCOAL AND MOHAIR WOOL

When looking for a material that resembled the oilbar, I came across a mohair wool yarn which appeared to me very similar to charcoal (see fig.42). As I began to experiment with it, it became evident that the tactility and visual contour of the line seemed identical to that of the charcoal line: soft and with smudged edges. The charcoal line dissolved and smudged if we touched it. Similarly, the fibers of the mohair wool easily fell apart as we engaged with it.

In the first experiment I used a 4mm hook, which created a very dense line (such as the one of the synthetic charcoal). In the following experiment (see fig.43), I used a 10mm hook to achieve a softer line that resembled vegetable charcoal. The extra space in-between the stitches enhanced the blurriness of the material and created an even smoother tactility.

Fig.42 (top) Inês Neves, vegetable and synthetic charcoal bar, photograph, 2021.

Fig.43 (bottom) Inês Neves, experiments with mohair wool (sample references: *S.20, S21*), 2020, crochet with mohair wool, digital image. Tallinn.

However, while constructing this sample, I felt that this material did not allow a very sharp control of the line. I therefore made more line using mohair wool, this one *curved*. After finishing, I noticed that the method I was using was too subtle when applied to this material due to its softness, thus resulting in a *straight* line instead. I attempted again some months later (see fig.44), using the same technique which I used before for *zigzag* lines (see fig.45).[150]

The process of drawing with charcoal was rather fluid, but equally hard to control. In order to have a clean line, I had to use specific parts of the bar (where the edge was sharp), and the movement had to be slow and with high pressure. Similarly, making a crochet line with mohair wool also required me to be conscious in my practice. I had to be attentive in order to understand the structure of the stitches underneath the loose and messy fibers that surrounded the yarn in order to manipulate the material with success. In sum, making with mohair wool and charcoal demanded listening to the material.

150 Consult *Appendix two: journal* (entry reference: *F.14*) for the detailed description of the method.

Fig.44 Inês Neves, detail of *curved thread* with mohair wool (sample reference: *S.29*), 2020, crochet with mohair wool, 45 x 31 cm. Tallinn.

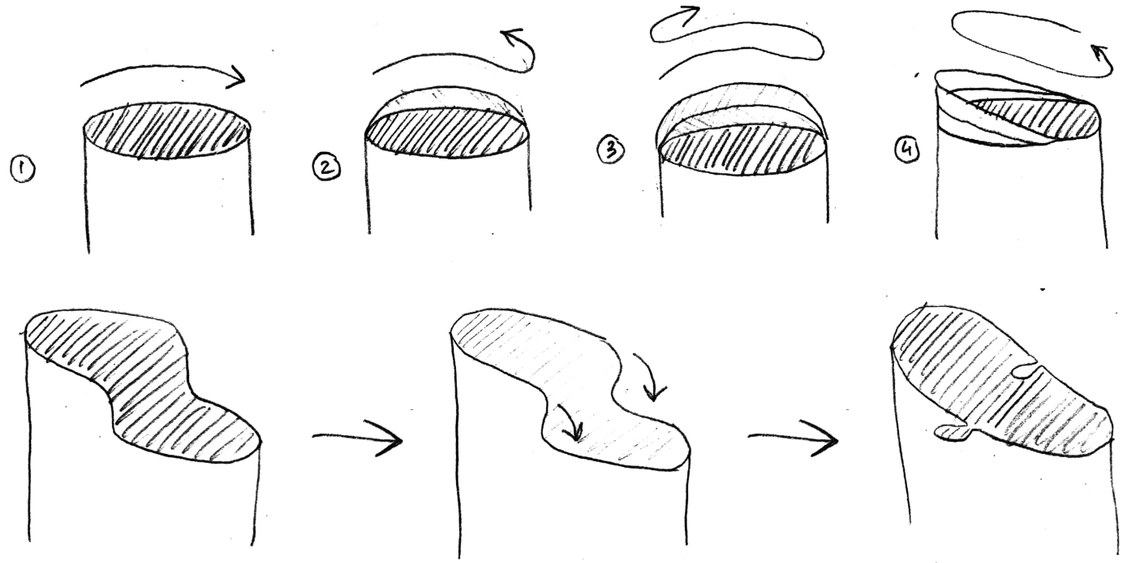


Fig.45 Inês Neves, sketch illustrating the method for constructing *zigzag threads* (entry reference in autoethnography journal: *F14*), 2020.

CHINA INK AND RAFFIA

In search for a textile material that would resemble china ink (see fig.46), I first started experimenting with fake fur. Based on my first drawings in china ink (see fig.47), all of which were made using a brush, I found that this material offered a similar brushed trait (see fig.48). However, its pasty and shiny appearance contradicted their full comparison and, therefore, I continued my quest to look for an alternative.

Unsatisfied with the materials available in the stores, I re-examined the samples made in the previous phase. When reflecting upon the samples made with raffia (See fig.49), I realized that some textile attributes overlapped with the materiality of the china ink. Firstly, both raffia and china ink had a brushed texture. The fibrous quality of the raffia closely resembled that of the ink that was applied with a brush.

Secondly, both materials were extremely hard to control. Due to its irregularity in width, hardness and texture, it was highly difficult to make a raffia line with a uniform width. The same happened when drawing with china ink (as it does with most water-based materials): the hand might have been steady in its movement, but it was hard to predict how the ink would flow through the paper. Despite attempts to control them, ultimately both raffia and ink followed their own will. In other words, they were stubborn and unpredictable, they required compromise. When using them, I had to embrace the spontaneity and organicity that defines them.

At last, in order to create more verisimilitude between both lines, I proceeded to dye the raw-colored raffia in black using fabric dye. As some parts of the raffia were more watertight than others, the material and the lines it built acquired different color intensities (see fig.50). Although unintended, this characteristic only came to enhance the relationship with the inked line which, for being a rather transparent hydrous media, holds an uneven distribution of pigment that results in different hues of black.

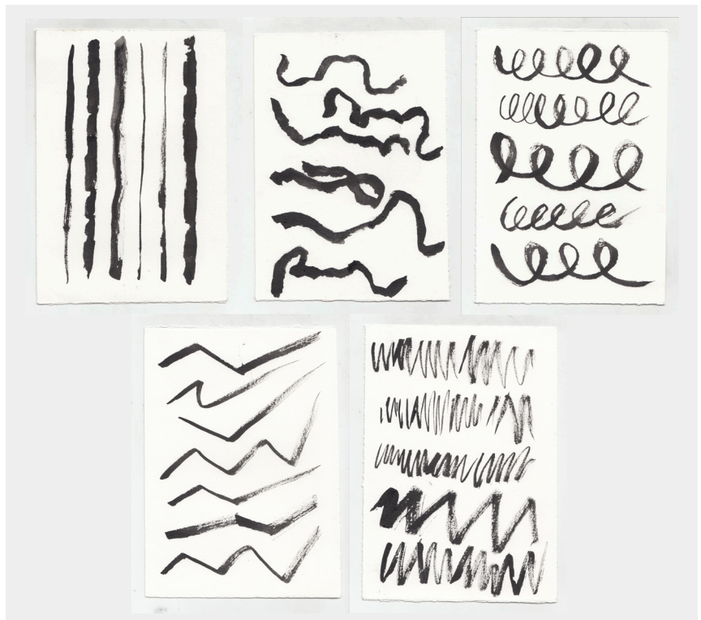


Fig.46 (right) Inês Neves, china ink and brush pen, photograph, 2021.

Fig.47 (left) Inês Neves, series of *straight, curved* and *zigzag traces* using china ink (sample references from top left to bottom right: *D.1, D.6, D.11, D.17, D.21*), 2020, 16,7 x 24 cm each. Tallinn.

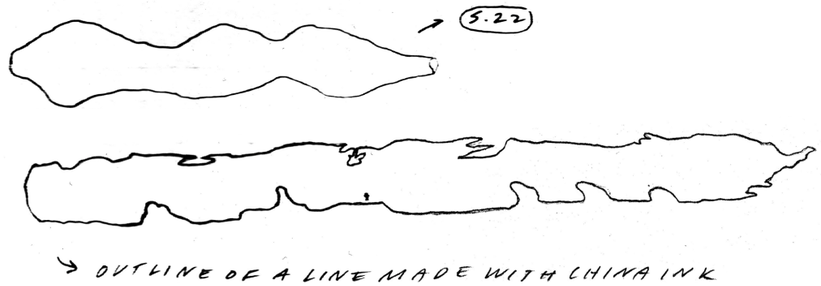


Fig.48 (top) Inês Neves, sketch illustrating the verisimilitude in contour of china ink *traces* and raffia *threads* (entry reference in autoethnography journal: *F33*), 2020.

Fig.49 (bottom) Inês Neves, *raffia threads* made in *Phase one: form* (sample references from top left to bottom right: *S.8, S.7, S.3, S.13*), 2020, digital image. Tallinn.

Fig.50 Inês Neves, detail of raffia *thread* with different hues (sample reference: *S.28*), 2020, crochet with raffia, 30 x 10 cm. Tallinn.

MAKER/PEN AND ELASTIC

My discovery on the likelihood between the lines made with markers (see fig.51) and elastic yarn were to me very immediate. As I began to experiment with elastic yarn (see fig.52), I observed its potential for high precision and control. This happened, firstly, because, due to its elasticity and strength, it was very easy to manipulate. *Curves* and *zigzags* were seamlessly achieved with little effort, as the tension of the yarn helped to mold the tightness and position of the stitches. Secondly, the created lines became very strong and hard, especially in the parts where the yarn was tensely stretched. This allowed the line to keep its shape when thrown around. Nevertheless, because of its elasticity, the shape would also adopt different forms when manipulated with the hand (see fig.53).

Likewise, markers and pens also stood for a very high control of the line. When making with makers and elastic yarn, I had the freedom of space to materialize accurately whichever line I had in my mind. Both are cooperative materials, they like to help the maker, to serve the path of the line.

Fig.51 Inês Neves, acrylic marker and gel pen, photograph, 2021.

Fig.52 Inês Neves, elastic *curved thread* (sample reference: *S.16*), 2020, crochet with elastic yarn, 44 x 28 cm. Tallinn.

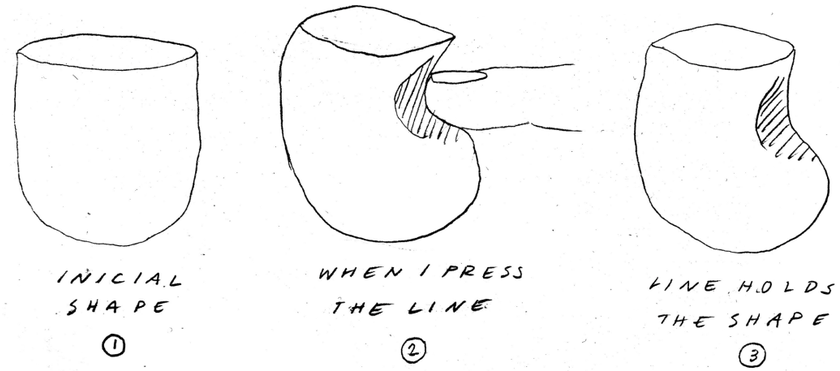


Fig.53 Inês Neves, sketch illustrating the malleability of elastic *threads* (entry reference in autoethnography journal: *F29*), 2020.

GRAPHITE AND PLASTIC BAGS

Initially, as I explored with organza, I considered this to be an interesting parallel material for graphite (see fig.54), however, some qualities that were still lacking. First, similarly to markers and pens, graphite allowed a very precise line, specially when implemented with a mechanical pencil. Secondly, although graphite is shiny just as organza, this is a metallic shine, rather than sparkling.

To my surprise, as I explored the cut-out plastic garbage bags when seeking for a replication of the oilbar (see fig.55), I found that these lines appeared extremely metallic (i.e. shiny and ashy) and had very high-definition. Like a line made in graphite which can be blurred or erased, the trash bags could be stretched and torn: they were malleable and breakable. Both graphite and plastic bags were suitable for work-in-progress, giving space for thinking and interacting. These materials are not rigid but do not surrender either; they allow a dialog with the maker.

Graphite is a very versatile material. For instance, it exists in different forms, powder, bar, pencil and lead (for mechanical pencil), and in different densities, from extremely dark and soft graphite (9B) to very hard and light (4H) or an in-between (HB). Trash bags can also provide many attributes. When I cut the strips very narrow (1 cm), the line was sharp like when drawn with a pencil, whereas a line that I built with thicker strips (4cm) was less defined like when it is drawn with a bar.

The way the strips are cut significantly influences the shape of the line. For example, I began by making a line made from strips which were cut without a ruler, so its shape was very lumpy and irregular in width. On the other hand, a second line was constructed using strips that were cut very precisely, so their uniformity transpired to the uniformity of the line it composed. Nevertheless, even though these two samples were crocheted with the same hook, in the following experiment I observed that the size of the hook also had a substantial impact on the character of the line. Using 1mm stripes and a 1mm hook, the resulting line was very thin, sharp and compact (see fig.56).

Fig.54 Inês Neves, graphite pencil and bar, photograph, 2021.

Fig.55 Inês Neves, detail of plastic *straight thread* (sample reference: *S.23*), 2020, crochet with plastic bags, 80 x 1,5 cm. Tallinn.

Fig.56 Inês Neves, plastic *straight thread* (sample reference: *S.25*), 2020, crochet with plastic bags, 34 x 0,5 cm. Tallinn.

GRAPHIC EXPERIMENTS

This material-driven research which focused on finding textiles that resembled graphic materials was conducted in consonance with a series of drawings that sought to delve further into the attributes and potentialities of these different graphic materials. Based on how qualities like movement, amount of material, pressure, rhythm and types of movements had been already investigated in the previous part of the research, I found myself intuitively moving towards another variant: the tool. With each material, I starting testing different material agents in the form of conventional tools (e.g. mechanical pencil for graphite, brush for ink, etc.) and unconventional tools (e.g. spatula, hook, etc.), as well as a human agent using the hand.

When exploring “material”, I naturally started to test different ways of implementing the graphic materials. It seemed natural to me that ink could be applied to paper using a pen, a toothbrush or a finger. Unfortunately, at first, this exploration of the agent or tool did not occur as naturally to me with textile as it did with graphic materials. Upon reflecting on this process, I recognized that by testing the potentiality of these materials, I elevated the drawing process to a higher level by exploring also different tools and agents. It was based on this framework that I moved into the third phase of the research which focused on agent in the act of making graphic and textile lines.

As we make, the way we perceive a material when we use a tool differs from when we use the hand to directly manipulate the material. By making with our hands, we gather immediate information about the material itself. Conversely, by using a tool we establish an indirect connection with the material: acquiring secondhand input. When making with a tool or gadget, our perception is rooted on how the tip of the tool (pencil, brush, crochet hook, etc) interacts with the material. This information is transmitted to us through the way this tool interacts with our hand.[151] I believe that in a making process in which a tool is used, the action is built on an interpretation and reaction to the tool and not the material (see fig.57). Therefore, the link between the maker and the material is somewhat broken, and the tacit knowing is affected.[152]

In this phase of the research I examine how the agent used in the construction of lines can affect the act of making and its outcomes. I explore material and human agency in drawing and crochet by recurring to three different approaches: using specialized tools designed for the particular technique at use, unconventional tools, and the hand.

151 Schön, *Reflective Practitioner*, 52.

152 Ibid., 53.

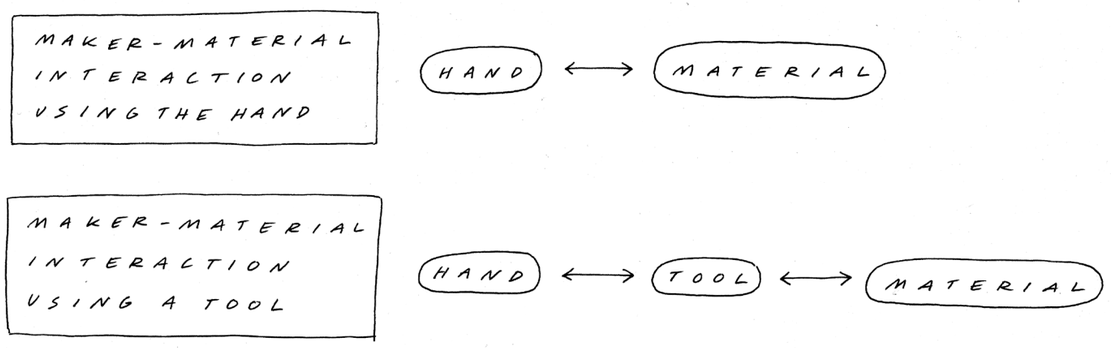


Fig.57 Inês Neves, illustrative diagram of hand-tool-material interaction, 2021.

MATERIAL AND HUMAN AGENTS IN DRAWING

The first two phases of this study were developed with conventional formats and tools. Whereas in crochet I made use of different crochet hook sizes (1mm - 12mm), I recurred to different brushes to apply ink (square tip, round tip and brush pen), markers, pens and pencils (normal and mechanical). When drawing with charcoal and oilbar, I implemented them with a bar, the form in which they are most commonly used.

As I began the next phases of research, I tested their behavior and potentiality by enforcing them as they are, in the form of bars, with conventional and unconventional tools, and the hand, depending on the characteristics of each material. I conducted these experiments by applying the following variations on the action:

(1) More and less material;
(2) Faster and slower movements;
(3) Fluid, intermittent and combined rhythms;
(4) Higher and lower pressure;
(5) Applying one or two forces.

My first tests with china ink used a brush pen and nº4 round and square brushes as conventional tools (see fig.58). These three experiments proposed similar results in flow, control, plasticity and appearance: a reduced diversity of lines, all moderately regular in width and with a consistent brushed appearance.

Fig.58 Inês Neves, series of china ink *traces* using conventional tools (sample references from left to right: *D.26, D.29, D.30*), 2020, china ink on paper, 16,7 x 24 cm each. Tallinn.

I then attempted to use unconventional tools such as a large big-eye sewing needle, a spatula, and a toothbrush (see fig.59). Even though these three tools did not relate to each other regarding shapes or textures, the lines they produced were rather analogous. With these tools, even the slowest movements generated aggressive, expressive and impulsive-looking lines. Their irregular shapes allowed for a wide range of lines: from thick to thin, compact to irregular, or continuous to interrupted.

Further on, my inspection on the oilbar equally focused on conventional and unconventional tools. I identified the bar as its most traditional form of application. I tested two types of oilbar, one softer and the other harder, coming to the conclusion that both provided a range of similar highly saturated lines with high control and material fluidity. Because this is a harder material than the ink, was the only tool that I used to implement it on the paper, using it to scoop lumps of material from the bar (see fig.60). Although the spatula enabled a bigger assortment of lines than when using the bar, the variety was still much smaller than when the spatula was used to apply china ink. When using alternative tools, the moisture of the material was key to explore its full potential.

Considering this, and bearing in mind how the rest of the graphic materials held a very dry nature, in the next experiments I sought to inquire other dimensions of the relationship between material and agent. I experimented the application of charcoal and graphite in the forms of bar and pencil.

In my tests on charcoal, I examined both synthetic and vegetable types. Their most obvious difference laid in the shine and pigmentation, with vegetable charcoal being more gray and metallic, and the synthetic darker and matte, similar to pastel (see fig.61). Yet, they could also be distinguished by their softness, as the synthetic charcoal allowed for more precise lines and the vegetable lines for blurrier ones.

Fig.59 Inês Neves, series of china ink *traces* using unconventional tools (sample references from left to right: *D.27, D.31, D.32*), 2020, china ink on paper, 16,7 x 24 cm each. Tallinn.

Fig.60 Inês Neves, oilbar *traces* using spatula (sample reference: *D.39*), 2020, oilbar on paper, 16,7 x 24 cm. Tallinn.

Fig.61 Inês Neves, detail of vegetable and synthetic charcoal *traces* (sample references from left to right: *D.41, D.43*), 2020, charcoal on paper, 16,7 x 24 cm each. Tallinn.

I was surprised to find more significant differences between the type of charcoal (soft or hard) and the type of bar (round or square) than between tools (bar or pencil). Vegetable charcoal, which is organically round (see fig.62), and synthetic squared bars (see fig.63) generated a higher variety of lines than synthetic round bars (see fig.64). The findings regarding graphite were similar, with the bar producing a higher variety of lines (see fig.65), pencils offering an average range, darker lines with softer pencils and lighter lines with harder pencils, and the mechanical pencil drawing extremely uniform sharp and thin lines (see fig.66).

As I came upon the markers and pens, I realized that throughout this whole process I had not been exploring a material, but an implementation of it. Although the visual appearance of the lines made with markers and pens was utterly different from those made with the china ink, in truth, these explored the same material: their difference was on the tool. With this in mind, instead of exploring various ways of applying the marker's ink on the paper, I tried to research different inks that can be applied with these tools instead.

Fig.62 Inês Neves, vegetable and charcoal *traces* (sample references from left to right: *D.41, D.42*), 2020, charcoal on paper, 16,7 x 24 cm each. Tallinn.

Fig.63 Inês Neves, square bar of synthetic charcoal *traces* (sample reference: *D.45*), 2020, charcoal on paper, 16,7 x 24 cm. Tallinn.

Fig.64 (left) Inês Neves, round bar of synthetic charcoal *traces* (sample reference: *D.45*), 2020, charcoal on paper, 16,7 x 24 cm. Tallinn.

Fig.65 (right) Inês Neves, graphite bar *traces* (sample reference: *D.45*), 2020, graphite on paper, 16,7 x 24 cm. Tallinn.

Fig.66 Inês Neves, graphite pencil *traces* (sample reference from left to right: *D.34, D.33, D.35*), 2020, graphite on paper, 16,7 x 24 cm each. Tallinn.

Following this chain of thought, I experimented alcohol-based, acrylic-based and water-based markers and pens, and gel-based pens and markers (see fig.67). The outcomes were overall very similar. Water-based tools revealed themselves as more transparent and with a brushed appearance. Lines drew with alcohol-based tools were overall consistently uniform and dark (even when more dried out). Pens offered very delicate, fluid and precise results. Acrylic-based markers offered the higher variety in product, going from the most pigmented and compact line towards an extremely irregular line (when using dried out markers).

In retrospective to this process, I began to reflect on wether the bar of material could be considered a tool or not. In order for the hand to be the agent in the drawing of the graphic line, it should be in direct contact with its final form. In other terms, that for the hand to be fully responsible for the line, it should touch its surface. When making with a bar, although there is no actual tool involved, the material itself forms an obstacle in the relationship between the hand and the matter that is being molded. Therefore, the bar identifies as both tool and matter.

Having considered this, my last experiments aimed to tackle this question by exploring how to establish an immediate relation between the hand and the drawn line. I made four drawings using my finger as the tool to apply the material on the paper. I used ink in, oilbar and charcoal (see fig.68). I purposefully left markers and pens out of these equation, assuming that they were already represented in the research through ink.

Fig.67 Inês Neves, *traces* from top-left to bottom-right: alcohol, acrylic, water, gel based markers and pens (sample references: *D.46, D.47, D.48, D.49*), 2020, charcoal on paper, 16,7 x 24 cm each. Tallinn.

Fig.68 Inês Neves, finger-made *traces* from left to right: ink, oilbar, charcoal (sample references: *D.28, D.40, D.45*), 2020, charcoal on paper, 16,7 x 24 cm each. Tallinn.

MATERIAL AND HUMAN AGENTS IN CROCHET

This section details my challenge to transpose the thought process that so intuitively took place with the graphic materials towards the textile dimension. While when crochet implies a great deal of hand-material interaction, with a graphic material, the material molds itself to the shape of the tool. For instance, when using a brush its hairy texture reflected on the ink, or as I drew with a mechanical pencil, the thickness of the line was based on the size of its leads.

By contrast, the same does not happen with textile materials. Their behavior might have changes — the stitches might have become looser, or more irregular — but the yarns remained the same independently of the tool that was being used. Based on my experience, I could observe that the textile yarns did indeed mutate, as the plastic bag became thinner if stretched, and the wool's fibers would fall apart if pulled. However, this process resulted from the interaction with the material and not the particularities of the tool. Taking this into consideration, for this phase I decided to focus on how the tool can affect the construction of the crocheted line.

I started these experiments by making a lines with velvet yarn using my finger as if it was a hook (see fig.69 and fig.70). I chose this material because it allowed very loose stitches but was also quite rigorous in how it shaped the line. Additionally, I considered it to be a very fluid material, sliding seamlessly through the tool and itself, therefore proposing a very organic manual interaction with it.

I immediately deemed this structure to be very flaccid, as if the stitches were collapsing on themselves. Assuming this to be a consequence of the material and not the agent, I repeated the process with raffia (see fig.71), hoping its stiffness would help to maintain the form. After finding this attempt still unsuccessful, I tried again, this time using elastic yarn (see fig.72), having faith on its strength and precision.

I was rather surprised to discover that, even throughout such different materialities, this particularity of the stitch was uniformly present in all the experiments (see fig.73 and fig.74). In order to eliminate all possible causes, I did one more attempt (see fig.75) using a hook with the same diameter of my finger (12mm). Upon achieving uniform-looking stitches and a rather sturdy general look, this experiment proved that the unique collapsing structure of these finger-made stitches was not a consequence of the material but the agent.

Fig.69 Inês Neves, sketch illustrating the process of crocheting *threads* with the finger (entry reference in autoethnography journal: *F48*), 2021.

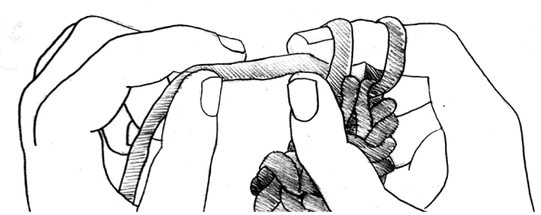


Fig.70 Inês Neves, velvet *thread* made with the finger (sample reference: *S.32*), 2021, crochet with velvet, 93 x 4 cm. Tallinn.

Fig.71 Inês Neves, raffia *thread* made with the finger (sample reference: *S.33*), 2021, crochet with raffia, 64 x 3 cm. Tallinn.

Fig.72 Inês Neves, elastic *thread* using the finger (sample reference: *S.37*), 2021, crochet with elastic, 46 x 2,5 cm. Tallinn.

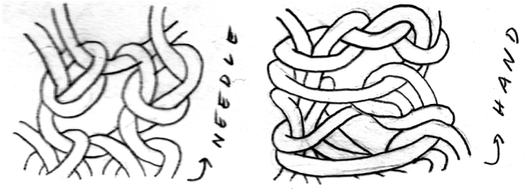


Fig.73 Inês Neves, sketch illustrating the structure of *threads* made with the finger (entry reference in autoethnography journal: *F49*), 2021.

Fig.74 Inês Neves, details of *threads* made with the finger (sample references: *S.32, S.33, S.34.*), 2021, digital image. Tallinn.

Upon a closer examination of the stitches constructed with my finger, I understood they looked different in structure, with a flat and horizontal form which distinguished from the round appearance of the hook-made stitches. In sum, my finger had its own identity in movement. Even when replicating its shape with a similar-looking hook, the manner in which its bones articulated and how I made them move was decisive to the way the material took shape.

My discovery of how the hand can change the structure of the crochet technique brought me to take the next step to test unconventional tools. For my first experiment I used a bobby pin to crochet elastic yarn (see fig.76). Initially, I attempted to replicate the movement of the crochet hook by placing the yarn at the end of the pin. However, the yarn consistently slipped from the pin thus requiring me to overuse my fingers in its manipulation. I then decided to change methods by slipping the yarn on and off the deepest end of the pin as I would do when using a sewing needle (see fig. 77). Although this process was much slower, it enabled a more purist approach to agency my downsizing the involvement of my hand. After repeating the process with a 3mm crochet hook similar in size to the pin (see fig.78), I realized that although the process made the line a bit more irregular, structure-wise the results were the same.

Attempting to test further if unconventional tools can deform the crochet structure, I continued exploring the topic, concurrently comparing them to the results of corresponding crochet hooks. I used a pencil on elastic, a tree branch on plastic bags and a cable of a toothbrush on wool (see fig.79). In all these experiments, similar results: moderately irregular lines made of regular-looking stitches.

On the aftermath of this study on three different agents in crochet, I understood several advantages of using each agent. Through plays on tension, crochet hooks provided an extremely high control of the line. Both unconventional tools and the hand required a dialog with the material: I had to be attentive to their peculiarities and behaviors, and act in conformity. Unconventional tools provided duality; they generated textured lines while keeping a strong foundation and some amount of regularity. As for the hand, it evoked organicity. The textile line made with the body has its own will and essence, as a third organism that is created merging the maker with the matter.

Fig.76 Inês Neves, detail of elastic *thread* using made with a bobby pin (sample reference: *S.38*), 2021, crochet with elastic, 37 x 3 cm. Tallinn.

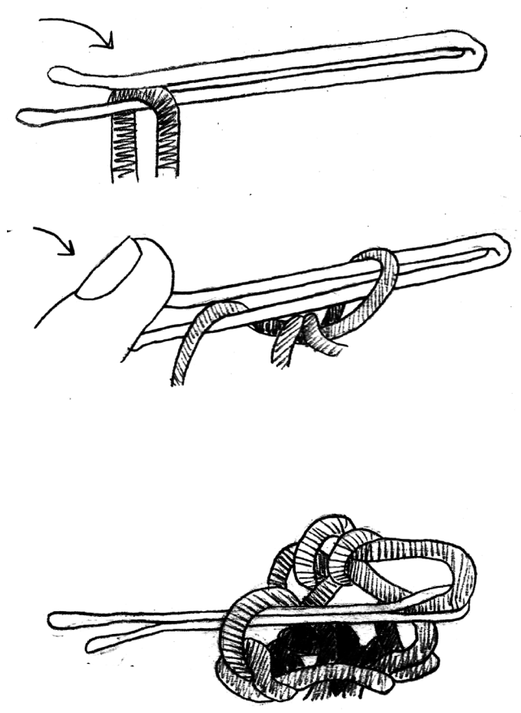


Fig.77 (left) Inês Neves, sketch illustrating the process of crocheting *threads* with a bobby pin (entry reference in autoethnography journal: *F51*), 2021.

Fig.78 (right) Inês Neves, detail of elastic *thread* made with a hook (sample reference: *S.37*), 2021, crochet with elastic, 45 x 3 cm. Tallinn.

Fig.79 Inês Neves, detail of elastic *thread* made with a hook (sample reference: *S.37*), 2021, crochet with elastic, 45 x 3 cm. Tallinn.

4 I DREW THE LINE

4.1 THREADS, TRACES AND EVERYTHING IN-BETWEEN

Upon developing the material-driven research presented in the previous chapter, I felt the necessity to move towards a larger space where I could test the physical limits of the materials and agents. The leap towards bigger scales led me to engage with the action of drawing with my whole body, moving from a practice that merely involved the hand and its immediate spacial context, to testing the limits of the operating body and as other bodies external to me. Furthermore, it also contributed to an expanded approach to space, enabling the consideration of new spacial values such as perspective, depth, light and movement. Although the previous research already implied some movement in the process of making, it did not serve as the main point for research. By contrast, at this point in the study I deemed necessary to test how textiles' shapeshifting and movement qualities can provide valuable input for the process of drawing by stimulating the dialog between body, object and space.

The material exploration was used as a language to build an artistic project called *Threads, Traces and Everything In-between* that examined the dialog between *threads* and *traces* (see fig.80).[153] By generating relationships between these two types of lines in a common practice, I aim to manifest my position in regard to how the drawing and textile fields should be perceived as more fluid disciplines. Throughout the time-span of one week I developed a set of installations which serve as personal expressions as well as experimental spaces for testing if and how the previous material exploration could function in an artistic practice. With the first four experiments I sought to register an intuitive incremental rationale on the relationships between form, media and agents. The first installation explored form and media, the second, form, media and body. The third installation approached, form, media, body and material agency, while in the fourth experiment I attempted to remove my body from the process. The last installation explored a culmination of the previous ones, discovering how their different elements converse and transform in real time, on what is missing and what is there, and the difference between perception and reality. Concurrently to the practice, the experiments were registered through notation in the form of writing (see fig.81) and voice recordings, as well as through photography and video.

153 This project was developed in the context of an artistic residency at the student-run gallery Vent Space Project in March 2021.

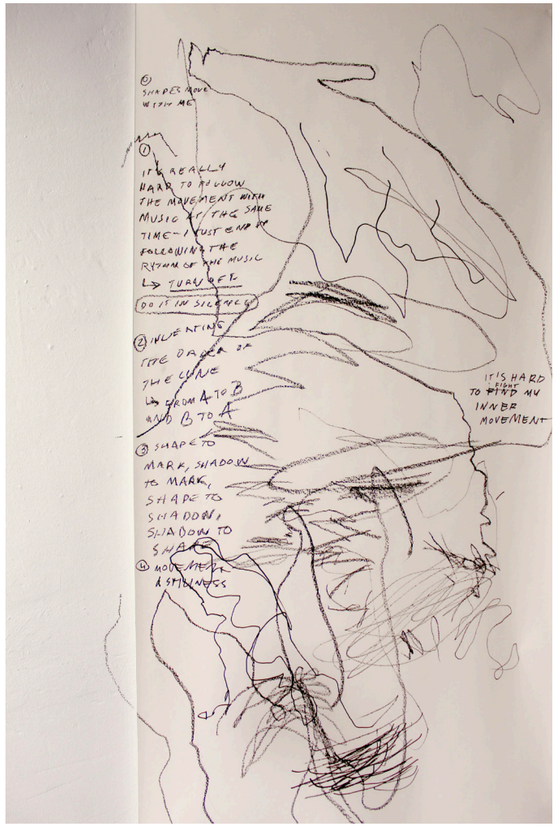


Fig.79 Inês Neves, detail of elastic *thread* using made with a hook (sample reference: *S.37*), 2021, crochet with elastic, 45 x 3 cm. Tallinn.

Fig.80 (left) Inês Neves, outside view on installation series *Threads, Traces and Everything In-between*, 2021, photograph of installation series. Tallinn.

Fig.81 (right) Inês Neves, detail of *Experiment #2: Dualities - Threads, Traces and Everything In-between*, 2021, installation, 100 x 200 x 200 cm. Tallinn.

EXPERIMENT #1: SHADOWS

My first experiment explored form and media. When I entered the gallery space, I had set for myself the premise of exploring how the four-dimensional space could influence the drawing process, so I began to move the *threads* around the room. As I moved them in space, I was most mesmerized by the shadows they were producing across the room (see fig.82): projections of the four-dimensional, immaterial two-dimensional lines, or *traces*.

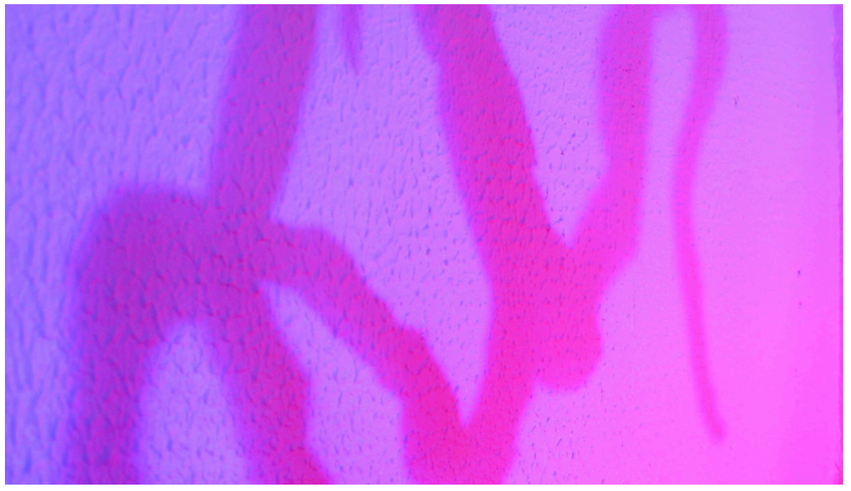
Shadows over a white wall were the first images of human representation,[154] the first form of drawing on a surface. What I found most interesting about these line shadows was how the four-dimensional line holds the movement quality that the ordinary two-dimensional material line lacks. A *thread* is interactive; I can move it around, bend it, squeeze it, even after it is finished. I find that, most often, this does not happen with *traces*.

After the two-dimensional line is drawn, it can be erased and drawn again, but this is not a process of mutation, but re-construction. I may rip the paper, but this is more an interaction with the surface than with the line itself. Once the two-dimensional is drawn, it becomes one with the surface. By contrast, a *thread* does not exist on a surface, it is the surface, and therefore independent and free. During this process I discovered that shadows create the drawings on the surface with the same independency, because they are immaterial and therefore transmutable. I could move the shadow, not by doing something to its surface, but to the object that was projecting it.

Additionally, what I found to be also interesting about the *threads* is that they also differ from the *traces* in form. Although shadows are a projection they are not an accurate one. By projecting a shadow, the line of the *thread* is deformed, and therefore this immaterial *trace* that is drawn on the space is not a replication of the line but rather a new line (see fig.83). This new line is drawn not only by the human hand, but also the properties of the space: depth, surface and light.

The process of drawing the *traces* jumped between a dialog with the shadows of the *threads* — or the projected lines — and my perception of them from different perspectives. As I approached the drawing, I did not have a plan on how to tackle these interactions, so the process followed an intuitive thought-process. Once I finished the experiment, I reflected on the structure of my approach through notation (see fig.84), which I organized in three phases.

154 Jean-Michel Geneste, *Cave of Forgotten Dreams*, directed by Werner Herzog (Creative Differences Productions, 2011), 25:15.



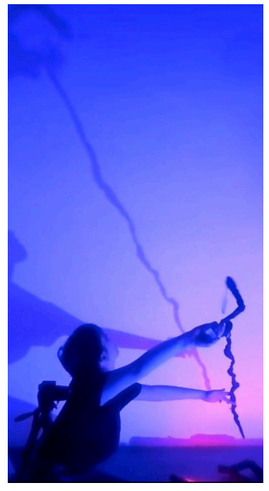


Fig.82 (left) Inês Neves, first tests for the project *Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

Fig.83 (right) Inês Neves, first tests for the project *Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

Fig.84 Inês Neves, detail of *Experiment #1: Shadows - Threads, Traces and Everything In-between*, 2021, installation, 150 x 200 x 150 cm. Tallinn.

Phase one was dedicated to analyzing the shadows. In this phase, I addressed the threads' shadows. Because these shadows were already imprinted on the paper by the light, I approached them not by tracing but interpreting. I soon realized I was too focused on the paper's surface, and my body was in-between the three-dimensional line and the paper (see fig.85), which meant I was disconnected from the objects. I tried a different approach on a second phase, stepping back and looking at the perspective of the line on space.

On phase two I decided to focus on the threads themselves. I started drawing what I was seeing, walking around, seeing different perspectives of this object (see fig.86). When drawing with charcoal and ink, I was very careful to avoid stepping over the lines on the floor in order not to smudge them. I then realized that I was moving the threads with my body, making them dance in the three-dimensional space, thus leading me to the next phase.

Phase three followed the movement of the shadow. This is something that only happened because they exist in space at the same time as I exist and move with them. If I was not there drawing with my body, the threads would just be still. I started to draw the trace of the shadow (see fig.87), first following the tip of one of the forms and then drawing the line from top to bottom while tracing how it was moving itself, point by point. In this movement, I realized that as my hand moved, my body moved with it.

In phase four, I returned to engaging with the threads by following their movement with my body, dancing with them and their shadows. As my body moved, the drawing was produced by the hand that followed it (see fig.88). Holding the tool, the traces I produced in this phase were originated both as traces of threads and shadows as well as and my own body.

Fig.85 Inês Neves, process of making *Experiment #1: Shadows - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

Fig.86 Inês Neves, process of making *Experiment #1: Shadows - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

Fig.87 Inês Neves, process of making *Experiment #1: Shadows - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

This first experiment resulted in a four-dimensional drawing which played on three-dimensional perception (see fig.89). The result was a spacial yet flat drawing: from the outside, threads and traces became indistinguishable, as if they were drawn simultaneously in one single expanded dimension. Although appearing as a single plane, the drawing was volatile in its spatiality, for its reading and composition changed with our position on the space (see fig.90).

Upon reflecting on the whole process that comprised this first experiment, I realized that when tracing the movement of the shapes, I barely drew on the walls, whereas when drawing the shadows, I almost did not use the space on the floor. Based on this, I decided to test how the different surfaces of space affect the way I draw in the next experiment.

Fig.89 Inês Neves, *Experiment #1: Shadows - Threads, Traces and Everything In-between*, 2021, installation, 150 x 200 x 150 cm. Tallinn.

Fig.90 Inês Neves, details of *Experiment #1: Shadows - Threads, Traces and Everything In-between*, 2021, installation, 150 x 200 x 150 cm. Tallinn.

EXPERIMENT #2: DUALITIES

The next three experiments (*Experiment #2*, *Experiment #3* and *Experiment #4*) delved into the relations of form, media and agent. For the second experiment, I wanted to create a more controlled environment where I could test in detail different interactions between the *threads* and *traces*. In order to achieve this, I covered the wall and floor with a paper roll and hung two *threads* from the ceiling. I gave a larger distance between the *threads* and the paper surfaces than in *Experiment #1*, allowing me to draw without going against the *threads* with my body.

Whereas in *Experiment #1*, the notation process was done in a post-drawing stage, in *Experiment #2* I alternated between drawing and writing (see fig.91). With this in mind, the making process stemmed less from a stream of consciousness and more from a strategic step-by-step approach, thus allowing me to metabolize better my thoughts and facilitating a more open dialog between thinking and making. I started by exploring to a deeper level the fourth phase of *Experiment #1*, tracking the movement of the *threads* with my body whilst drawing *traces*. I adopted two different approaches in this phase. Firstly, I assumed an independent relation to the *threads*: going against the shapes with my body and then following and tracing their movement (see fig.92 and fig.93).

I I first drew their natural movement as in *Experiment #1*. Next on, I inverted the direction of the line. Considering that a line is a connection between two points following a movement — from A to B or from right side of the paper to left side of the paper — there is an implicit direction, a beginning and an end. Equally, the crocheted line also has the beginning of (or beginning of the yarn) and an end (or end of the yarn). I began to play with the appearance of the line, following different directions: from B to A, from middle to end, or around the circumference of the thread.

Unlike in *Experiment #1*, there was a generous distance between the *threads* and the *traces*, which generated moments of stillness. As I pushed the *threads*, when I went back to the drawing to interpret them into *traces*, they would eventually stop moving, thus giving me more time to reflect on their interpretation in movement *versus* stillness. Due to this constant alternation between object and surface, I began to explore presence and memory. Sometimes I looked at the threads that hung in front of me as I drew, and in other moments I tried to draw them from my memory. In order to do that, I recurred to a combination between sound, rhythm and visual or embodied orientation, thus exploring cognition through the senses (see fig.94).

Fig.91 Inês Neves, process of making *Experiment #2: Dualities - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

Fig.92 Inês Neves, process of making *Experiment #2: Dualities - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

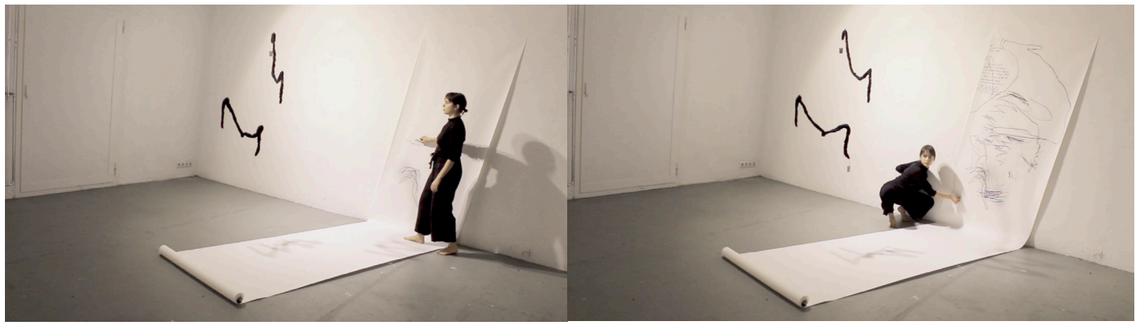


Fig.93 Inês Neves, process of making *Experiment #2: Dualities - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

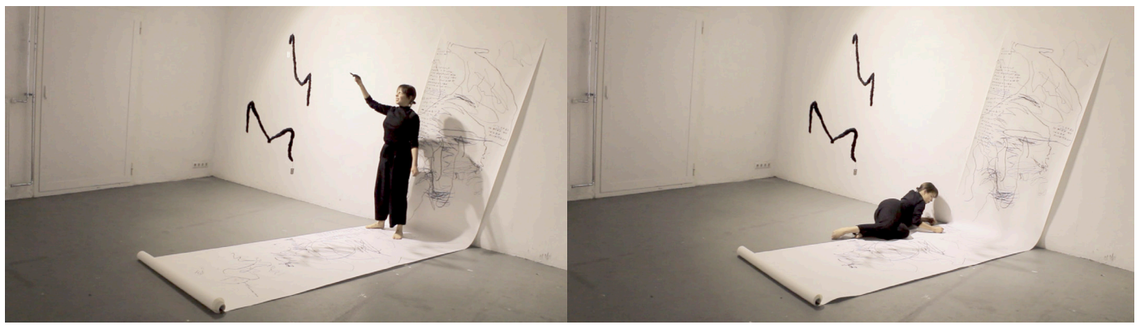


Fig.94 Inês Neves, process of making *Experiment #2: Dualities - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

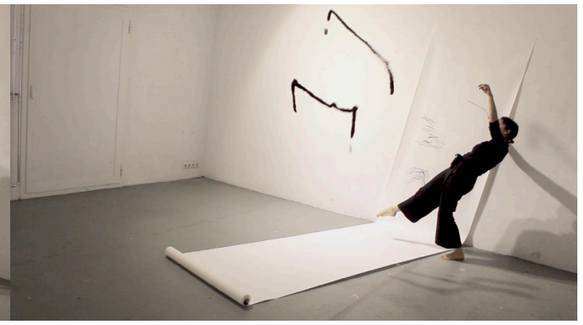


Fig.95 Inês Neves, process of making *Experiment #2: Dualities - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

Fig.96 (left) Inês Neves, process of making *Experiment #2: Dualities - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

In my general drawing practice, music is something that accompanies my process. For this reason, when performing these expanded drawings, music was playing on the background. However, as in this experiment I delved more consciously into the analysis of movement, I realized that it was distracting me from the movement of the *threads*. As I followed the objects and their shadows, my body inherently started to follow the rhythm of the music and not the movement of the shapes. This made me turn off the music in order to remove the variant. However, even without the music, I found it hard to fight my own movement. I became so immersed in the gestures of the shapes that recurrently became distracted from them. Even thought I was looking, staring, at the movement of these *threads*, I found myself not moving anymore in synchrony with the shapes but just following my own inner movement. This forced me to be extremely conscious about how I performed.

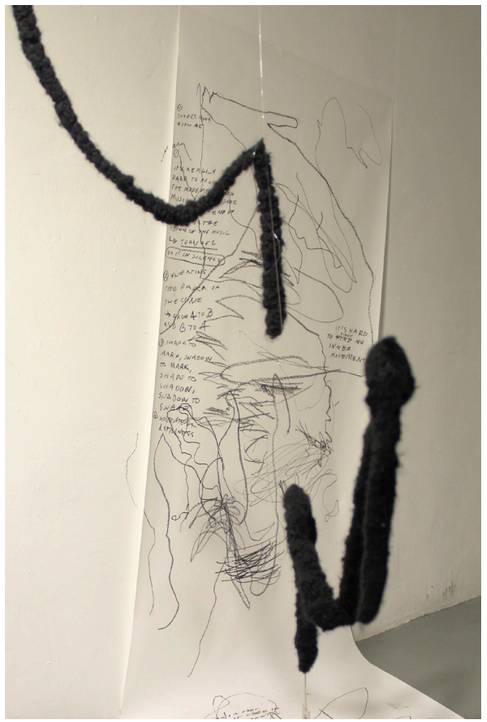
As I tried to fight my own movement, I began to wonder how I was also part of this four-dimensionality, this relationship between *threads*, *traces* and maker. If I was exploring how my identity could transpire through the act of making in space, shouldn't my movement and bodily qualities be equally crucial to the process of drawing? Even if I wanted to detach myself from this process, that will never be possible because I will always be a body that coexists with the lines, I will always be the one *making* the lines. My body was intrinsic to the drawing, and so was my mark. This realization made me move towards the second approach.

When installing these two *threads*, I connected them through a fishing line which extended outwards. Ergo, I held the thread connected to the *threads* with my hand, making so that as I moved, the shapes moved with me: acting as one (see fig.95). This phase dealt less with tracing the line and more with tracing the gesture or my movement, what is not visible. Then again, if lines trace movements, then by tracing myself, I was also tracing my line. Line and self were interrelated and interdependent because the line stemmed from the body. By acting, they became the same.

Ultimately I realized that this experiment was, above all about duality and the sensuous encounter between two forces. Primarily, this was explored by looking into the relations between object-surface and shadow-drawing, so different forms of representation. I then tested the duality of body-line (see fig.96) and material-material (see fig.97 and fig.98). At last, I researched the body-space relationship: first looking into left-right (left eye-right eye and left hand-right hand), and then into body-surface and wall-floor, to examine how my body influenced the drawing of the traces not only by dictating the movement of the *threads*, but also by defining the limits of the drawing. For example, the drawing on the wall could only go as high as my body allowed, and the drawing on the floor was affected by the position of my body on the paper, and if and how I stepped over these *traces*. With this process I understood that I became both an obstacle that interrupted and dictated the course of the line, and a tool (see fig.99). By stepping over the *traces*, I smudged them and transformed them into new lines. As my body became dirty from touching the material, it begun to produce also its own lines. This led me to explore the relationship between body-material, body-tool and material-tool.

Fig.97 (left) Inês Neves, detail of *Experiment #2: Dualities - Threads, Traces and Everything In-between*, 2021, installation, 100 x 200 x 200 cm. Tallinn.

Fig.98 (right) Inês Neves, detail of *Experiment #2: Dualities - Threads, Traces and Everything In-between*, 2021, installation, 100 x 200 x 200 cm. Tallinn.



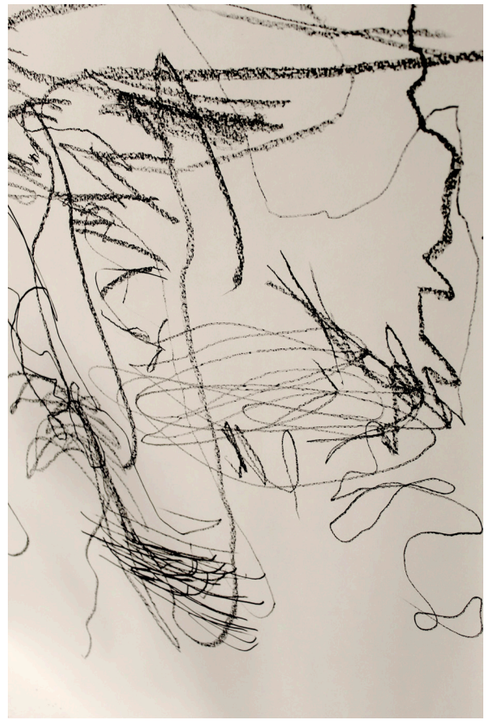


Fig.99 Inês Neves, process of making *Experiment #2: Dualities - Threads, Traces and Everything In-between*, 2021, photograph. Tallinn.

EXPERIMENT #3 AND #4: MATERIAL AS AN AGENT

Following the exploration of my body as a tool in *Experiment #2* — exploring human agency — in the next experiments I decided to test other forms of drawing by examining material agents. Concurrently, since I used yarns of different colors for all the samples exploring form that were developed in *Phase one: form*,[155] I decided to dye these in black to include them in this set of experiments (see fig.100).

On account of the local shops being closed due to restrictions related to COVID-19, and online deliveries not providing prompt enough solutions, I used china ink to dye these samples instead of fabric dye.[156] This necessity rendered the opportunity to explore the *threads* not only as elements of form and drawing, but also as tools. Therefore, for *Experiment #3* I placed another roll of paper on the wall and floor over which I hung *threads* dipped in china ink to explore three kinds of interaction with the surface and body (see fig.101).

The first *thread* was placed so that about a third of its surface was laying over the paper. When drawing on the paper over the ground, this *thread* proposed a similar process to when using a brush: the *traces* were made by dragging the object around the paper. The second *thread* was placed so that only its tip was touching the paper, resembling a pen or marker. As its weight was distributed less over the surface, moving the threads over the paper stood for a very easy and fluid process, leaving a thin and soft mark over the paper. The third *thread* was completely suspended from the ceiling, with a distance of about 50cm from the paper. With this *thread*, expressive *traces* were produced through a process of dripping.

However, in order to draw any of these three *threads* on the wall surface, my intervention was required. Without gravity's contribution to hold the shapes over the paper, as the shapes became heavy and softer with the ink, they consistently fell vertically towards the floor. As a consequence, holding the shapes next to the paper in order to draw on the wall did not suffice. I found myself having to push the *threads* against the paper (see fig.102), as if they were bars of charcoal or oil, where tool and material fuse into one. At times, I attempted to throw the threads in order to draw with the dripping ink (see fig.103). However, as this movement needed to be fast in order for the ink to be projected on the wall instead of falling over the floor, the dripping did not create a continuous line but a series of separate drops, or dots, on the paper. This process of drawing on the wall resulted, once again, from a deep engagement of my hand with the material and surface.

155 *Chapter 3. Drawing the line: 5.1. Phase one: form.*

156 Ultimately, I dyed all the samples a second time with fabric dye, as china ink didn't provide uniform coloring with some of the materials.

Fig.100 Inês Neves, process of making *Experiment #3: Material as an Agent - Threads, Traces and Everything In-between*, 2021, photograph. Tallinn.

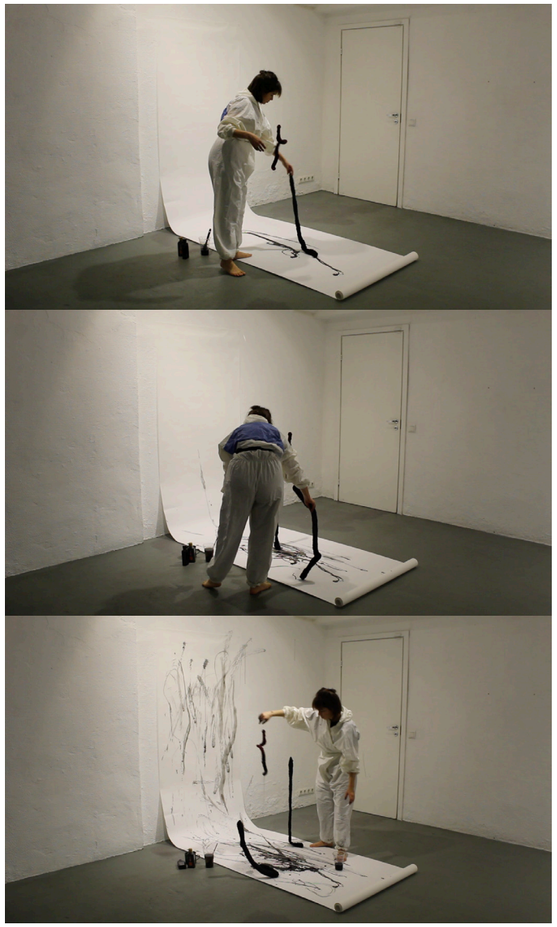


Fig.101 (top) Inês Neves, process of making *Experiment #23: Material as an Agent - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

Fig.102 (bottom-left) Inês Neves, process of making *Experiment #3: Material as an Agent - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

Fig.103 (bottom-right) Inês Neves, process of making *Experiment #3: Material as an Agent - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

Based on this experience, for *Experiment #4* I attempted to remove the input of my body as much as possible from the act of making, in order to explore at a deeper level the behavior of these threads as tools. After I finished dyeing all the samples, I placed them to dry at random over a sheet of paper (see fig.104). As the threads dried over the paper, moving as I stacked them over each other, they left marks, or prints, behind (see fig.105).

As I piled thread over thread, I was rather unsure on whether lines would be drawn through this process, when my active intervention was rather limited and so was movement. However, these threads were constructed from lines: the yarn that intertwined was a line, and so were the fibers that composed it. With this in mind, this experiment resulted in a manifestation of the threads and material's nature.

Fig.104 Inês Neves, process of making *Experiment #4: Material as an Agent - Threads, Traces and Everything In-between*, 2021, photograph. Tallinn.

Fig.105 Inês Neves, *Experiment #4: Material as an Agent - Threads, Traces and Everything In-between*, 2021, ink on paper, 64 x 89,5 cm. Tallinn.

EXPERIMENT #5: PERSPECTIVE, IMAGE AND PERCEPTION

The last experiment tested how media, form and agent conversed and transformed in real time. It delved into how *threads* and *traces* could emerge into a unique spatial and temporal dimension, thus questioning and demarcating the line that separates the two-dimensional and the four-dimensional through visual perception.

The first parameter that I addressed concerned how texture and perspective could be manipulated through a play on frame and composition towards an illusion of two-dimensionality. Making use of a small room that was connected to the main the exhibition space (see fig.105), I hung the *threads* throughout the space, occupying different depths. The small door provided a framing to this three-dimensional composition that flattened the image, thus making it look plane, as if it were a canvas (see fig.106).

I then started to reflect on my first tests in the space, when I moved the threads around the room to play with their shadows. This led me to think about how, in these first experiments with the visual and kinesthetic representation of *threads* into *traces*, I never truly explored how *traces* could be expanded into space. In this regard, I projected immaterial lines from images of *traces* and *threads* (see fig.107 and fig.108) over the physical composition of lines. With this approach I aimed to question what was missing and what was there, how immaterial lines can provide input to a three-dimensional space and the difference between perception and reality.

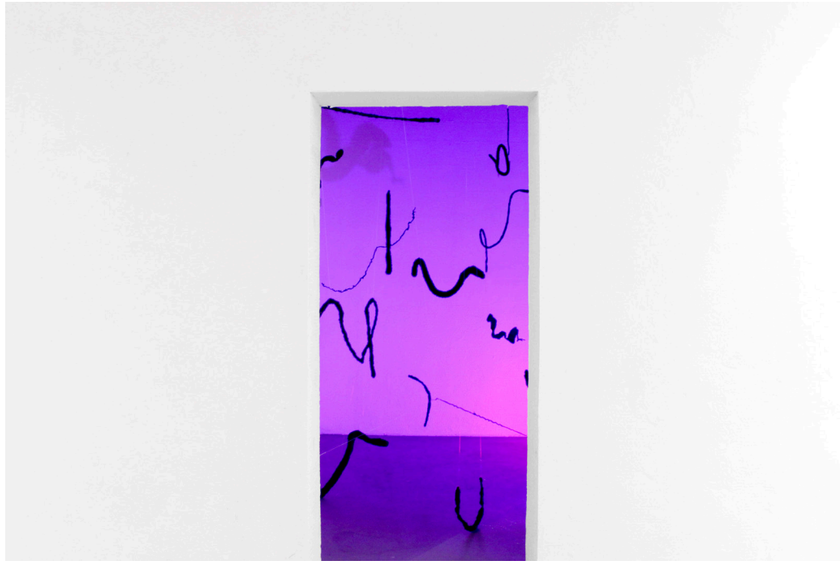
Although of a flat essence (originating from a photograph), these lines penetrated the room in its entire spatiality because light is four-dimensional. Consequently, I questioned new dimensions of the flat line: through the photograph and its projection. This made me understand that whereas the photograph is a two-dimensional interpretation of three-dimensionality, projection transposes this two-dimensional object onto the realm of space. I realized that while the projection of the *threads* and *traces* was opposed in their composition (as one is made from light and the other from the absence of light), they were similar to each other in their behavior. Both forms of projection proposed lines that, despite being immaterial, had the power to behave in space: they adapted to the corners of the rooms, they expanded and distorted with changes in perception, they were deconstructed by objects that overlapped their path. They mutated in space, they had motion. This new dimension of textile and graphic lines can attest to how the line that separates the two fields is, after all, thin and volatile.

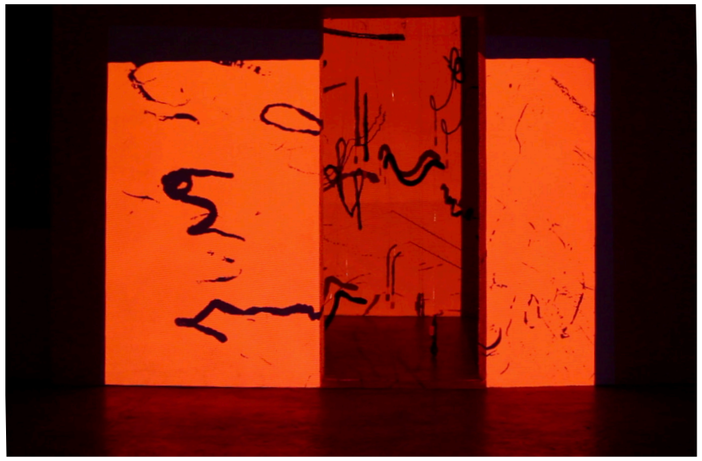
Fig.105 Inês Neves, process of making *Experiment #5: Perspective, Image and Perception - Threads, Traces and Everything In-between*, 2021, photograph. Tallinn.

Fig.106 (top) Inês Neves, *Experiment #5: Perspective, Image and Perception - Threads, Traces and Everything In-between*, 2021, mix-media installation, 270 x 211 x 300 cm. Tallinn.

Fig.107 (bottom-left) Inês Neves, *Experiment #5: Perspective, Image and Perception - Threads, Traces and Everything In-between*, 2021, mix-media installation, 270 x 211 x 300 cm. Tallinn.

Fig.108 (bottom-right) Inês Neves, *Experiment #5: Perspective, Image and Perception - Threads, Traces and Everything In-between*, 2021, mix-media installation, 270 x 211 x 300 cm. Tallinn.





4.2 CONCLUSIONS AND SPECULATIONS

Lines are intrinsic to *making*.[157] They construct form, space and experience; they are tools. They also contain experience: crystallizing matter, perception, body and movement. Lines exist in nature, in the animal world, in physics and even in the imaginary.[158] Lines occur in many forms and dimensions, and therefore, not all lines are man-made. Because lines are global, they are intrinsically present in any field. This research unravels the potentiality of lines by proving that they can simultaneously be a constructive element of the different fields and transcend them. The process of creation is not responsible for inventing lines, but for giving them a new form. The *maker* can give birth to new, inimitable lines by joining existing lines with the *maker*'s trace.

I believe that to leave a mark, a trace, is a human need: to solidify in time and space our identity through the interaction between body and matter, the "continuity between ourselves and the larger world."[159] Since the beginning of times, drawn lines testify to the identity of their *maker*.[160] "We use the term line as we use the term signature, as capable of identifying the subject: Her line, her trace".[161] The artist's body is captured in the marks they make, surpassing "the exchange in which it is caught up". This makes the artist's line inimitable because the body where it comes from is itself individual and unique.[162] As I see it, this quality — or signature — results from a combination of many things. Our tastes and interests, our perceptual sense, our lived experiences transpire through our motor and visual knowledge and skill, leaving a tendency — or trace — in everything we do. By transposing our ideas to the realm of the physical space and manually engaging in the materialization process, we transpire our own line onto the object. The *maker*'s voice is more likely represented in an object that is made in person than through its visual representation.[163]

This research attests to the line's omnipresence and transversality by providing insight into how the *maker* can collaborate with lines, materials and tools in order to materialize their own trace towards the realm of space. It draws the line between what is textile and what is drawing, expanding the practice within these fields as well as the definition of line. A *trace* drawn on paper encompasses the line of the movement, form and material flow, whereas a *thread* made with crochet comprises the line of its visual appearance, the yarn that builds it and its fibers. When it comes to the life of lines, in duality rests sensuality. Experience is propelled through encounter, with the "approximation of two forces", being them body and mind, body and material, hand and surface, space and movement, or *traces* and *threads*.[164] Just as a square's reality is expanded by being pulled into the third dimension, the making experience is also amplified when the dimension of lines is challenged, when one tries to look beyond "limited Dimensionality."[165]

157 Sillman, "Drawing", 16:35.

158 Ingold, *Lines*.

159 Rattemeyer, *Vitamin D2*, 8.

160 Dominique Barter, Cave of Forgotten Dreams, 32:00.

161 Laura A. B. Ramirez, "From the body. [Animafilm: "Displaced Web"]" (MA thesis, Estonian Academy of Arts, 2020), 11.

162 Barthes, *Cy Twombly*, 170.

163 Peter Korn, *Why We Make Things*, 59.

164 Kandinski, *Point and Line to Plane*, 67.

165 Edwin A.Abbott, *Flatland: A Romance of Many Dimensions*, (New York: Penguin, 2013), 202.

Fig.109 Inês Neves, tests on merging *Experiment #1: Shadows* and *#5: Perspective, Image and Perception - Threads, Traces and Everything In-between*, 2021, photograph. Tallinn.

Drawing is *diagrammatic*, we use it by creating relations between elements. Drawing is a space, it is what helps us make sense of what is around us. When the dimension of drawing is challenged, its power for establishing relations is magnified. As I see it, this happens not only because it acquires depth and therefore the visual perceptional field is expanded, but also because the body has an extended tactile, spacial and kinesthetic ability to comprehend it. When drawing becomes four-dimensional, when the *trace* becomes a transitional object, the *maker*'s experience is propelled through the stimulation of the senses.

The research hereby demonstrates one of many possible ways in which a creative person can take advantage of the four-dimensional space's qualities. It provides a language to draw within the line that separates the textile and drawing fields — the in-between — as well as a record of examples on how they can be used and maximized. In order to apply this research, I had to learn a great deal about the different parts of the making process. The material exploration presented in chapter *2. Drawing the Line* refers to the gestures of *perceiving*, *grasping*, *comprehending*, *evaluating* and *producing*. Through material exploration based on *reflection-in-action*, I developed the necessary knowledge and skills to reach understanding of the materials and techniques at hand through the production of artifacts. During this process, I uncovered the nature of materials, finding qualities and behaviors that go beyond their physical and chemical composition. Materials have different personalities — some are resilient and rough, others are gentle and sensual — and these qualities mold not only the experience of the *maker* but also the essence of the line.

Furthermore, I found that different networks of agency also have a tremendous impact on the shaping of these materials: each tool, or hybrid agent, provides a different identity to the line. Conventional tools are very precise, they control the material with rigor and precision. Unconventional tools generate more organic structures, giving space to the material, allowing it to flow. As for the hand, its interaction with the material is sensory, it gives something to the material and takes something in return, there is a dance between one and the other and together they build lines that have an indomitable character. The act of *making* is a dialog, a process of negotiation, the exploration of the network between *maker*, tools and materials with each encounter rendering a different result.

The artistic exploration presented in chapter *3. I drew the line* concerns the gestures of *researching*, *fabricating*, *realizing* and *presenting*, exploring how the materials and techniques can dialog with my creative practice by presenting it in space. *Making* allows oneself to interact with what is around: I take a material and enter a dialog with it; I shape it according to my thoughts, feelings and intentions; I take a piece of it and give back a piece of myself; the material is now different because it was me who manipulated it, and not someone else. By constructing this artifact and thus placing it in a physical environment, even if I do not display it, it exists in the world for someone else than just me. I enter a dialog with the public, opening a door that affords — or enables — the possibility of accessibility or visibility.

The pieces built in the artistic project *Threads, Traces and Everything In-between* showcase a process of drawing that goes beyond pure materialization of thought and intention. As I liberated this language into an expanded space, allowing the lines to become trans-disciplinary, I understood that, by becoming accessible, lines leave the dimension of the *maker*, becoming public. A line that is public, that can be interacted with, earns an identity that is not only attached to their material or how they were made, but also how they change. Anyone who walks between these lines can become therefore the agent: not by *making*, but by acting.

This reflection on the nature of the gesture of *presenting* proposes a new way to see *making* as not only an act of building and learning but also interacting. Furthermore, because lines are inimitable,[166] so is this research. If another creative individual would apply the same process to their practice, the result would never be the same, because people (and their bodies) are not the same. This is a dimension of the study of lines whose surface I merely scratched, as this project is just an example of how this theory of lines can be explored in an artistic practice.

With this thesis I propose a bank of examples on how one can draw with crochet and graphic together. This is merely the start of what can be a much more extensive research. There are still many dimensions to lines that can be further explored. In this thesis I present a study on *additive threads* and *traces* using ten graphic and textile materials of my choice, however, the possibilities are endless, as there are still many materials to be explored, many techniques, many types of lines. Next, one could explore *reductive* lines. One could go forward by exploring not the forms in which lines are materialized, but also their nature. Not all lines have to be *threads* and *traces*. Next, one could explore *cuts* which are lines that divide a material, *cracks* which refer to accidental ruptures produced by “stress, collision or wear and tear”, or *creases* which are caused by folds.[167]

This research focuses on the visual qualities of lines, but it can leap towards other aesthetic dimensions, going beyond what we can see or touch towards a study of the “visionary or metaphysical”.[168] One could move forward to study immaterial *ghostly lines*, or even *lines that don’t fit* which are difficult to categorize, such as the line of a lightning bolt or the trace of a scent.[169] Moreover, not only can other types of lines still be explored, but also different creative fields. Individual traces exist in-between disciplines, materials and formats: a same line can be manifested through visual, sonic, lyric, tacit and movement expressions. As creators, lines are present in everything we do, they are an intrinsic part of us, our practice and our existence. This thesis contributes to a trans-disciplinary view of the various creative fields by proposing the conceptualization of lines as a hybrid elements that link all disciplines.

166 Barthes, *Cy Twombly*, 170.

167 Ingold, *Lines*, 44-47.

168 Ibid., 47.

169 Ibid., 47-51.

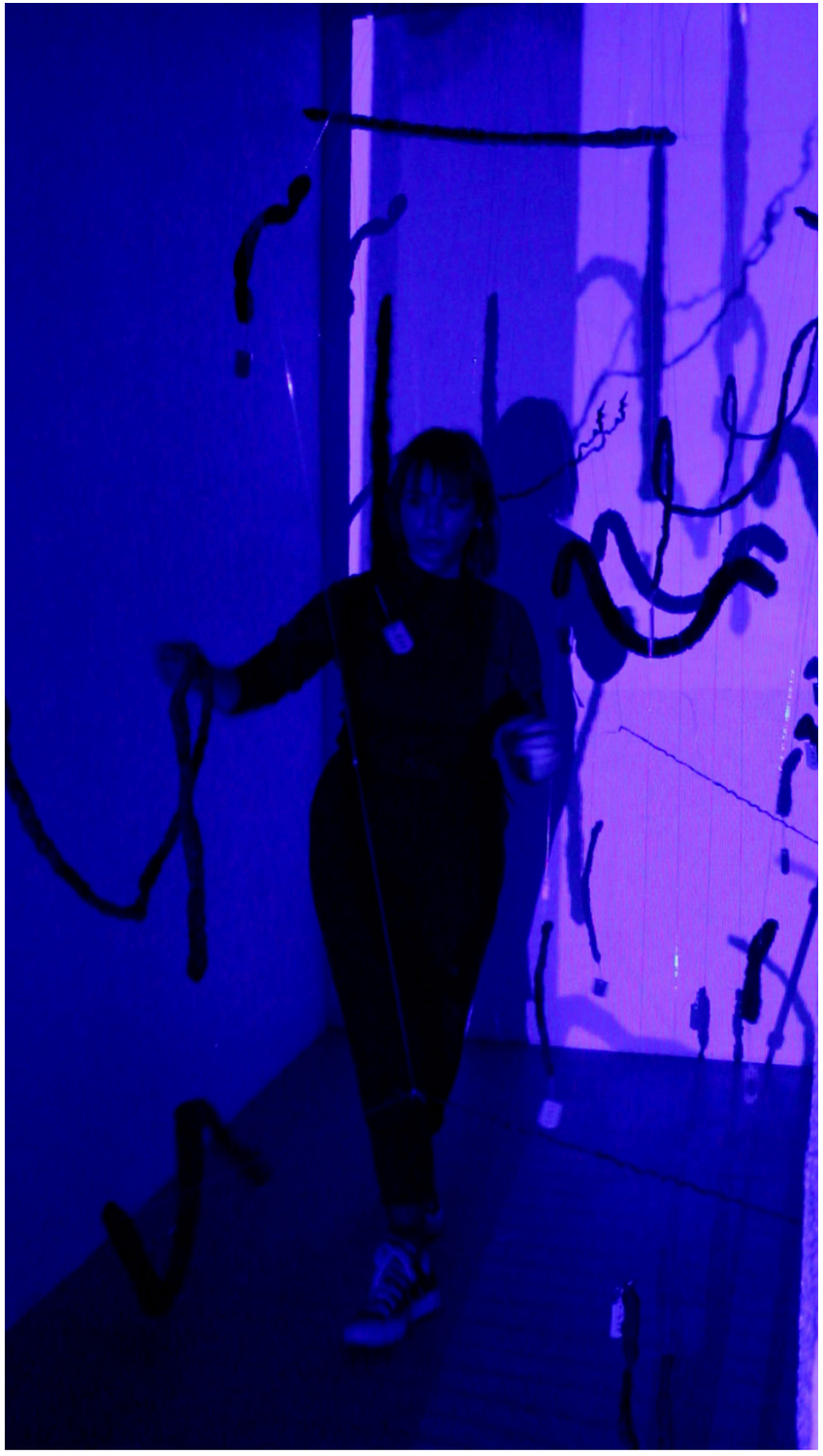


Fig.110 Inês Neves, process of making *Experiment #5: Perspective, Image and Perception - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

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6 FIGURES

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fig.83 Inês Neves, first tests for the project *Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

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fig.85 Inês Neves, process of making *Experiment #1: Shadows - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

fig.86 Inês Neves, process of making *Experiment #1: Shadows - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

fig.87 Inês Neves, process of making *Experiment #1: Shadows - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

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fig.91 Inês Neves, process of making *Experiment #2: Dualities - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

fig.92 Inês Neves, process of making *Experiment #2: Dualities - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

fig.93 Inês Neves, process of making *Experiment #2: Dualities - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

fig.94 Inês Neves, process of making *Experiment #2: Dualities - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

fig.95 Inês Neves, process of making *Experiment #2: Dualities - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

fig.96 Inês Neves, detail of *Experiment #2: Dualities - Threads, Traces and Everything In-between*, 2021, installation, 100 x 200 x 200 cm. Tallinn.

fig.97 Inês Neves, detail of *Experiment #2: Dualities - Threads, Traces and Everything In-between*, 2021, installation, 100 x 200 x 200 cm. Tallinn.

fig.98 Inês Neves, process of making *Experiment #2: Dualities - Threads, Traces and Everything In-between*, 2021, photograph. Tallinn.

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fig.102 Inês Neves, process of making *Experiment #3: Material as an Agent - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

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fig.106 Inês Neves, *Experiment #5: Perspective, Image and Perception - Threads, Traces and Everything In-between*, 2021, mix-media installation, 270 x 211 x 300 cm. Tallinn.

fig.107 Inês Neves, *Experiment #5: Perspective, Image and Perception - Threads, Traces and Everything In-between*, 2021, mix-media installation, 270 x 211 x 300 cm. Tallinn.

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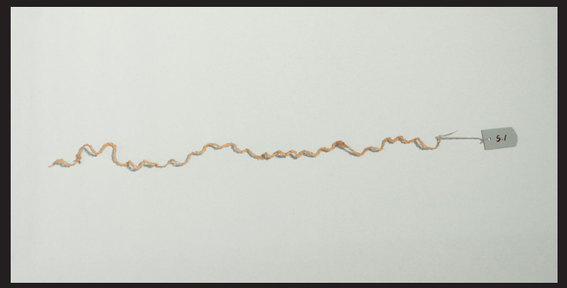
fig.109 Inês Neves, tests on merging *Experiment #1: Shadows* and *#5: Perspective, Image and Perception - Threads, Traces and Everything In-between*, 2021, photograph. Tallinn.

fig.110 Inês Neves, process of making *Experiment #5: Perspective, Image and Perception - Threads, Traces and Everything In-between*, 2021, video still. Tallinn.

APPENDIX ONE:

SAMPLES



S.1 *Phase one: form;* raffia with hook.

S.2 *Phase one: form;* raffia with hook.

S.6 *Phase one: form;* rag yarn with hook.

S.6 *Phase one: form;* rag yarn with hook.

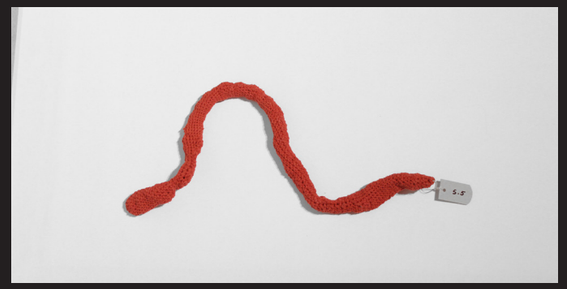
S.2.1 *Phase one: form;* raffia with hook.

S.3 *Phase one: form;* raffia with hook.

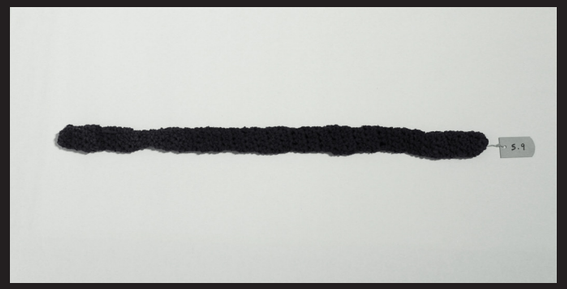
S.7 *Phase one: form;* rag raffia with hook.

S.8 *Phase one: form;* raffia with hook.

S.4 *Phase one: form;* paper yarn with hook.



S.5 *Phase one: form;* rag yarn with hook.

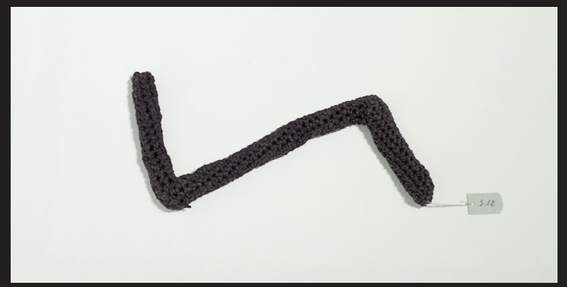


S.9 *Phase one: form;* rag yarn with hook.

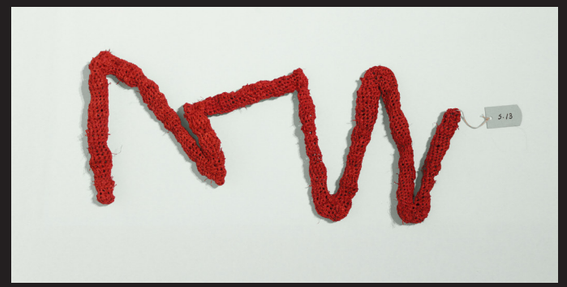
S.10 *Phase one: form;* paper yarn with hook.

S.11 *Phase one: form;* paper yarn with hook.

S.11 *Phase one: form;* paper yarn with hook.



S.12 *Phase one: form;* rag yarn with hook.

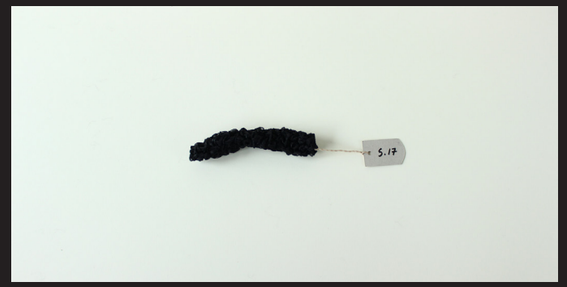


S.13 *Phase one: form;* raffia with hook.

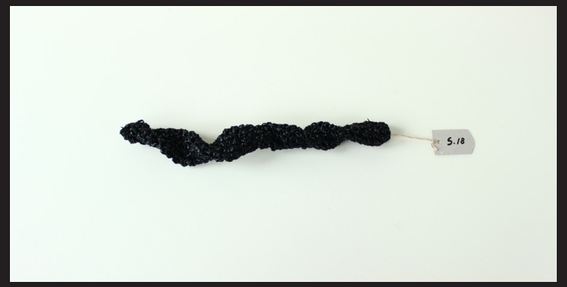
S.14 *Phase one: form;* raffia with hook.

S.15 *Phase one: form;* raffia with hook.

S.16 *Phase two: material;* elastic yarn with hook.

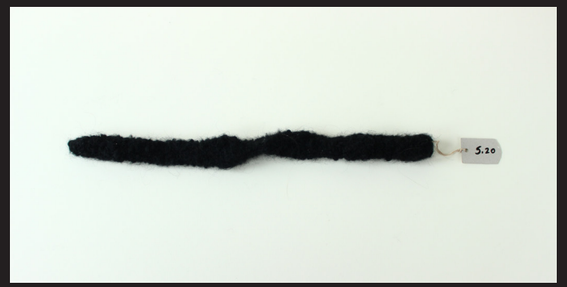


S.17 *Phase two: material;* organza ribbon with hook.



S.18 *Phase two: material;* plastic raffia with hook.

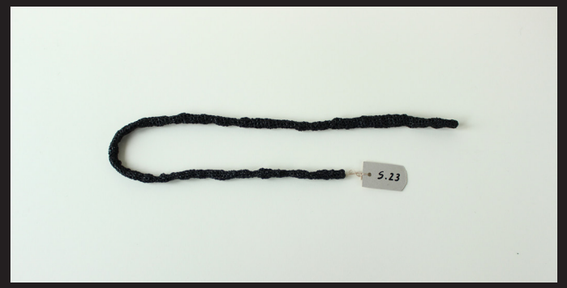
S.19 *Phase one: form;* fake fur with hook.



S.20 *Phase two: material;* mohair wool with hook.

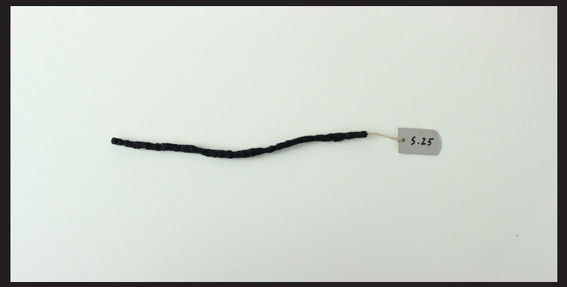
S.21 *Phase two: material;* mohair wool with hook.

S.22 *Phase two: material;* raffia with hook.



S.23 *Phase two: material;* plastic bags with hook.

S.24 *Phase two: material;* plastic bags with hook.



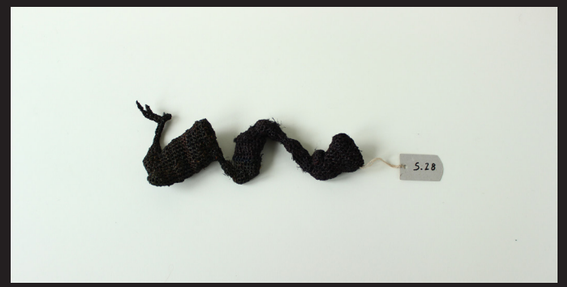
S.25 *Phase two: material;* plastic bags with hook.

S.26 *Phase two: material;* velvet yarn with hook.

S.27 *Phase two: material;* raffia with hook.

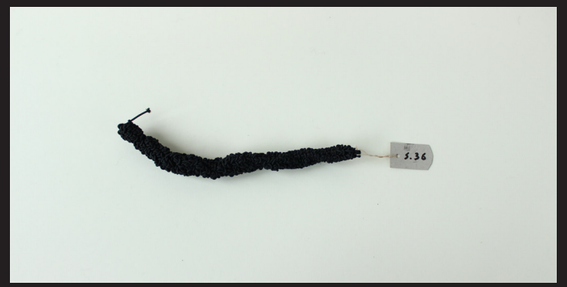
S.34 *Phase three: agent;* elastic yarn with finger.

S.35 *Phase one: form;* elastic yarn with 12mm hook.



S.28 *Phase one: form;* raffia with hook.

S.29 *Phase two: material;* mohair wool with hook.



S.36 *Phase three: agent;* elastic yarn with bobby pin.

S.37 *Phase three: agent;* elastic yarn with 3mm hook.

S.30 *Phase two: material;* velvet yarn with hook.

S.31 *Phase two: material;* plastic bags with hook.

S.38 *Phase three: agent;* elastic yarn with pencil.

S.39 *Phase three: agent;* mohair wool with toothbrush.

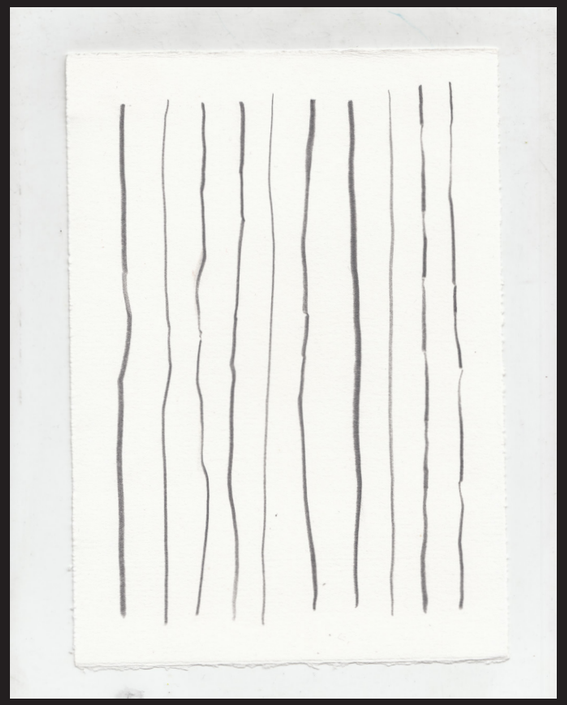
S.32 *Phase three: agent;* velvet yarn with finger.

S.33 *Phase three: agent;* raffia with finger.

S.40 *Phase three: agent;* plastic bags with tree branch.

D.1 *Phase one: form;* china ink.

D.2 *Phase one: form;* charcoal.

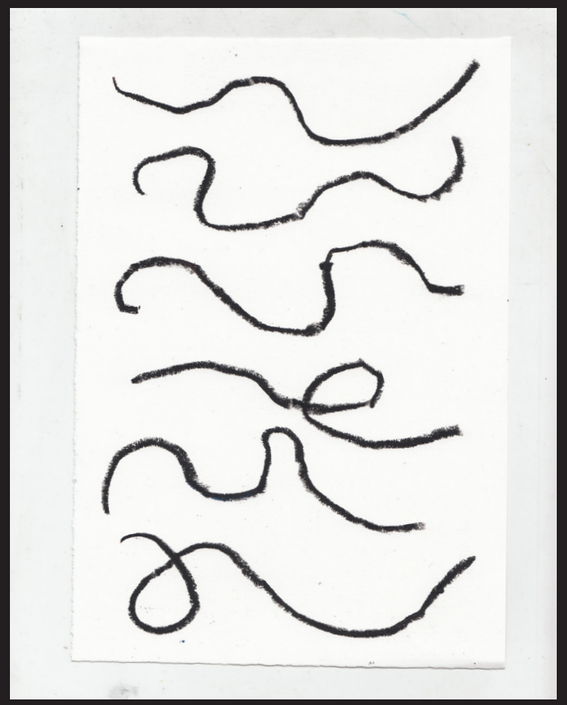


D.5 *Phase one: form;* graphite.

D.6 *Phase one: form;* china ink.

D.3 *Phase one: form;* oilbar.

D.4 *Phase one: form;* markers and pens.



D.7 *Phase one: form;* oilbar.

D.8 *Phase one: form;* graphite.

D.9 *Phase one: form;* charcoal.

D.10 *Phase one: form;* markers and pens.

D.11 *Phase one: form;* china ink.

D.12 *Phase one: form;* oilbar.

D.13 *Phase one: form;* graphite.

D.15 *Phase one: form;* charcoal.

D.14 *Phase one: form;* markers and pens.

D.16 *Phase one: form;* china ink.

D.17 *Phase one: form;* oilbar.

D.18 *Phase one: form;* graphite.

D.21 *Phase one: form;* china ink.

D.22 *Phase one: form;* oilbar.

D.19 *Phase one: form;* charcoal.

D.20 *Phase one: form;* markers and pens.

D.23 *Phase one: form;* graphite.

D.24 *Phase one: form;* charcoal.

D.25 *Phase one: form;* markers and pens.

D.26 *Phase two: material* and *Phase three: agent;* china ink with brush pen.

D.29 *Phase two: material* and *Phase three: agent;* china ink with round brush.

D.30 *Phase two: material* and *Phase three: agent;* china ink with square brush.

D.27 *Phase two: material* and *Phase three: agent;* china ink with sewing needle.

D.28 *Phase two: material* and *Phase three: agent;* china ink with finger.

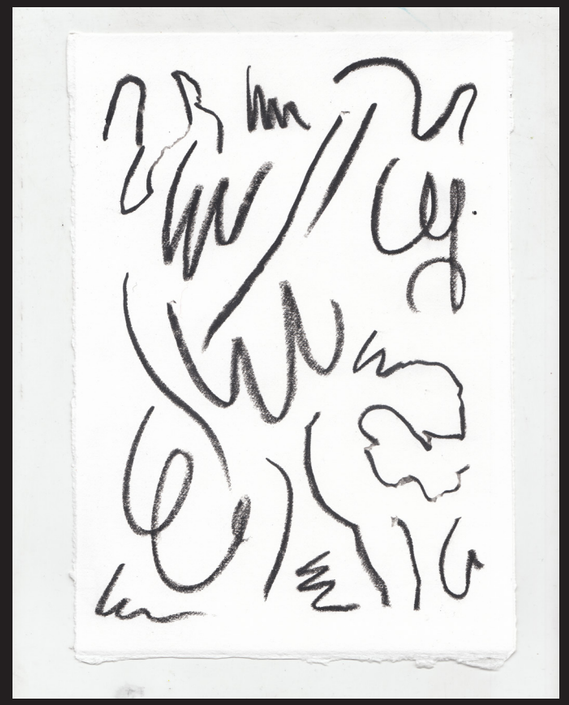
D.31 *Phase two: material* and *Phase three: agent;* china ink with spatula.

D.32 *Phase two: material* and *Phase three: agent;* china ink with toothbrush.

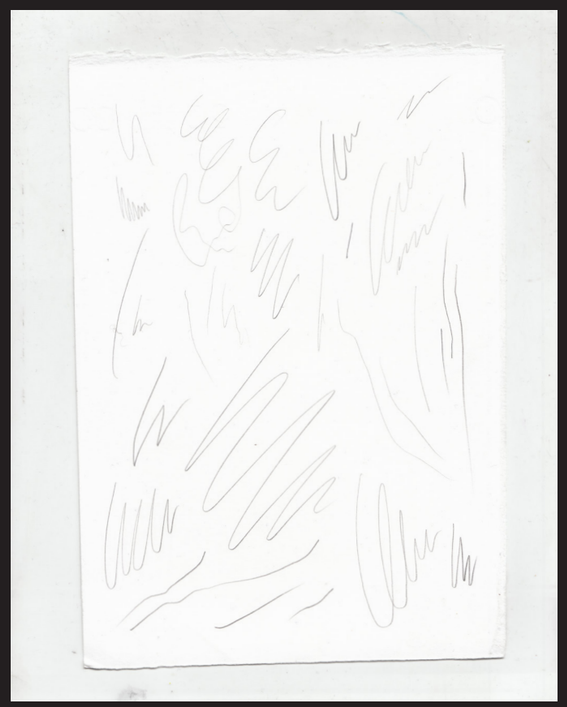
D.33 *Phase two: material* and *Phase three: agent;* graphite pencils HB, B, 1B, 2B, 3B and 4B.

D.34 *Phase two: material* and *Phase three: agent;* graphite pencils 5B, 6B, 7B, 8B, 9B.

D.37 *Phase two: material* and *Phase three: agent; Sennelier* oilbar.



D.38 *Phase two: material* and *Phase three: agent; Van Gogh* oilbar.

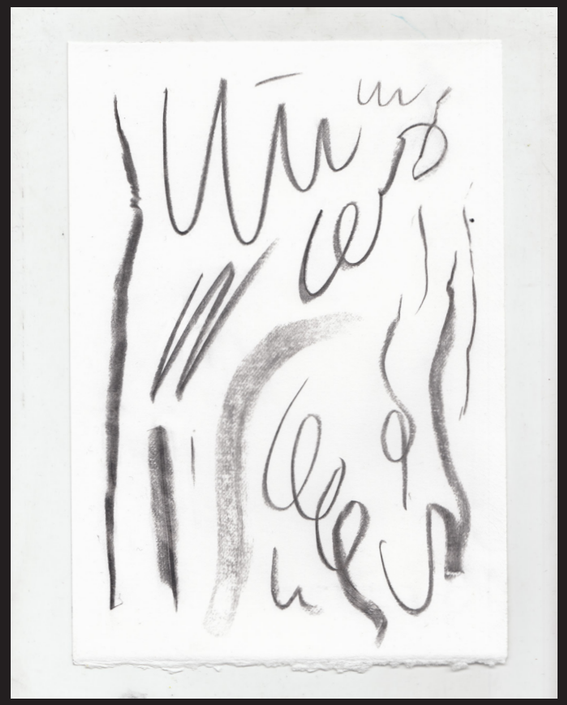


D.35 *Phase two: material* and *Phase three: agent;* mechanical graphite pencils 2H and B.

D.36 *Phase two: material* and *Phase three: agent;* square 4B and round 8B graphite bars.

D.39 *Phase two: material* and *Phase three: agent;* oilbar with spatula.

D.40 *Phase two: material* and *Phase three: agent;* oilbar with finger.



D.41 *Phase two: material* and *Phase three: agent;* 1cm vegetable charcoal bar.

D.42 *Phase two: material* and *Phase three: agent;* 3mm vegetable charcoal bar.

D.43 *Phase two: material* and *Phase three: agent;* round synthetic charcoal bar.

D.44 *Phase two: material* and *Phase three: agent;* square synthetic charcoal bar.

D.45 *Phase two: material* and *Phase three: agent;* synthetic charcoal with finger.

D.46 *Phase two: material* and *Phase three: agent;* water-based markers and pens.

D.47 *Phase two: material* and *Phase three: agent;* alcohol-based markers and pens.

D.48 *Phase two: material* and *Phase three: agent;* acrylic-based pens.

D.49 *Phase two: material* and *Phase three: agent;* gel-based markers and pens.

APPENDIX TWO:
JOURNAL

GENERAL ENTRY | G1

D	M	Y	MAIN ACTIVITY	REF
05	01	20	constructing a line in raffia (S.1) & (S.2)	F1
05	01	20	reflecting on definition of the line	D1
06	01	20	constructing line (S.3) in cylinder (extruding)	F2
06	01	20	reflecting on nature of the material	D2
14	01	20	constructing line (S.3) in cylinder (extruding)	F3
07	03	20	" " " " " "	F4
08	03	20	" " " " " "	F5
10	03	20	continuing (S.3) by embracing deformation	F6
11	03	20	constructing new (thinner) line (S.4) w/paper yarn	F7
14	03	20	constructing (S.3) by embracing deformation	F8
15	03	20	" " " " " "	F9
16	03	20	constructing new line with more elastic yarn (rag yarn) (S.5)	F10
07	04	20	comparison of (S.3) & (S.4); analysis of the variables for the line's behaviour in space	D3
06	04	20	continuing (S.5) by exploring tension & stretch	F11
17	04	20	concluding first line w/ elastic yarn (S.5)	F12
17	04	20	starting new line (S.6) based on drawing (d.0)	F13
19	04	20	line (S.6) based on drawing: curves & begin loop	F14
22	04	20	line (S.6) based on drawing: loop & twisting	F15
23	04	20	comparison between elastic lines (S.5) & (S.6), reflection on movement & shape-shifting	D4
24	04	20	reflections on the definition of a (textile) based on literature by Tim Ingold	F16
24	04	20	starting new line (S.7) exploring relation between needle and yarn thickness	F17

GENERAL ENTRY — G1

D	M	Y	MAIN ACTIVITY	REF
05	01	20	constructing a line in raffia (S.1) & (S.2)	F1
05	01	20	reflecting on definition of the line	D1
06	01	20	constructing line (S.3) in cylinder (extruding)	F2
06	01	20	reflecting on nature of the material	D2
14	01	20	constructing line (S.3) in cylinder (extruding)	F3
07	03	20	" " " " " "	F4
08	03	20	" " " " " "	F5
10	03	20	continuing (S.3) by embracing deformation	F6
11	03	20	constructing new (thinner) line (S.4) w/paper yarn	F7
14	03	20	constructing (S.3) by embracing deformation	F8
15	03	20	" " " " "	F9
16	03	20	constructing new line with more elastic yarn (rag yarn) (S.5)	F10
07	04	20	comparison of (S.3) & (S.4); analysis of the variables for the line's behaviour in space	D3
06	04	20	continuing (S.5) by exploring tension & stretch	F11
17	04	20	concluding first line w/ elastic yarn (S.5)	F12
17	04	20	starting new line (S.6) based on drawing (d.0)	F13
19	04	20	line (S.6) based on drawing: curves & begin loop	F14
22	04	20	line (S.6) based on drawing: loop & finishing	F15
23	04	20	comparison between elastic lines (S.5) & (S.6), reflection on movement & shape-shifting	D4
24	04	20	reflections on the definition of a (textile) based on literature by Tim Ingold	F16
24	04	20	starting new line (S.7) exploring relation between needle and yarn thickness	F17

GENERAL ENTRY — G2

D	M	Y	MAIN ACTIVITY	REF
27	04	20	exploring straight & curved lines on paper with different materials (D.1); (D.2); (D.3); (D.4); (D.5) & (D.6)	F18
08	05	20	starting a new line (S.8) with the same principle as (S.7) but increasing elasticity	F19
08	05	20	reflection on process so far and on structure of the research (types of lines)	DE5
11	05	20	reflection on shift of research (focus on lines) and structure/plan	F20
11	05	20	making a new straight and elastic line in rag yarn (S.9) and another in paper (S.10)	F21
13	05	20	starting a new curved line w/paper yarn (S.11) using different needle sizes	F22
17	05	20	reflection on essence and appearance of the crocheted line	F23
18	05	20	starting my first zigzag line (S.11)	F24
18	05	20	curved and zigzag lines (D.7); (D.8); (D.9); (D.10); (D.11); (D.12); (D.13); (D.14); (D.15); (D.16); (D.17); (D.18); (D.19); (D.20); (D.21); (D.22); (D.23); (D.24) & (D.25) in charcoal, oilbar, graphite, markers & ink	F25
25	05	20	starting a zigzag line in raffia (S.12)	F26
28	05	20	finishing (S.12) and considerations on ondulation, form & its shapeshifting properties	F27
11	06	20	reflecting on (S.1), (S.2) and (S.3) and the decision to use the extruding method	DE6
11	06	20	reflection on the lines (S.1) to (S.13) 's behaviour and movement in space	F28
24	06	20	starting phase 2 / experimenting with elastic yarn (S.16) as a parallel to oilbar and markers	F29
24	06	20	experimenting with: organza ribbon (S.17) (oilbar & china ink); elastified raffia (S.18) (oilbar); DMC's rainbow fake fur (S.19) (oilbar)	F30
25	06	20	experimenting with DMC's angora mohair blend (S.20) (charcoal bar, vegetable)	F31
26	06	20	experimenting with mohair in loose structure (S.21) (vegetable charcoal bar)	F32
26	06	20	experimenting with raffia (S.22) (vegetable charcoal bar & china ink)	F33
27	06	20	reflecting on superficial first contact with textile materials and reminding strategy	DE7

GENERAL ENTRY — G4

D	M	Y	MAIN ACTIVITY	REF
04	03	21	starting a new line in velvet using the hand as an implement/agent (5.32)	F48
05	03	21	starting a new line in raffia (5.33) and elastic (5.34) with the hand as implement	F49
05	03	21	starting a new line in elastic (5.35) using a needle (12 mm) as implement	F50
06	03	21	starting 2 new lines in elastic: using a bobby pin (5.36) and 3 mm needle (5.37)	F51
06	03	21	reflecting on (5.32), (5.33), (5.34), (5.35) & (5.36) & making with hand vs. tools	DE12
07	03	21	starting a new line in elastic using a pencil (5.38)	F52
12	03	21	starting a new line in wool using a tooth brush (5.39)	F53
13	03	21	starting a new line in plastic bags using a tree branch (5.40)	F54
14	03	21	reflecting on phase 3 of the research (entries F48 – F54)	DE13

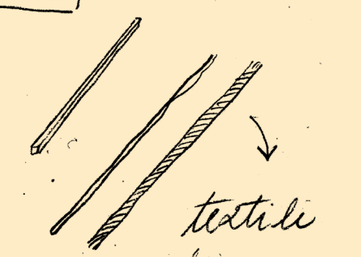
FREE ENTRY — F1.1

D	M	Y	START		END	
05	01	20	17	21	18	15

17h21

a line in 2D is very different from 3D for several reasons, one being representation (a non-physical 2D line doesn't need to have thickness

this summer in my internship I learned that every line needs to have thickness, as well as a surface, for every material does as well

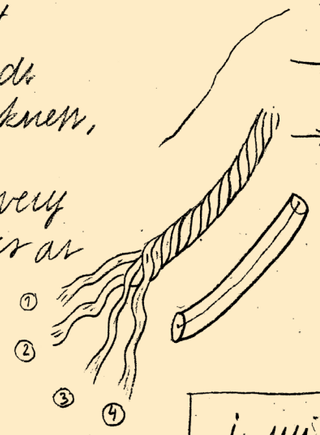


textile liners also have thickness

17h30

→ a fiber is a line

→ a thread is an agglomerate of fibers and is a line, or a cylinder?



17h45

i will explore crochet first, using →

i will start with an unspun yarn as a base → STEP 1 raffia

① using foundation single crochet stitch

FREE ENTRY

F1.2

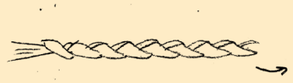
D	M	Y
05	02	20

START	
18	30

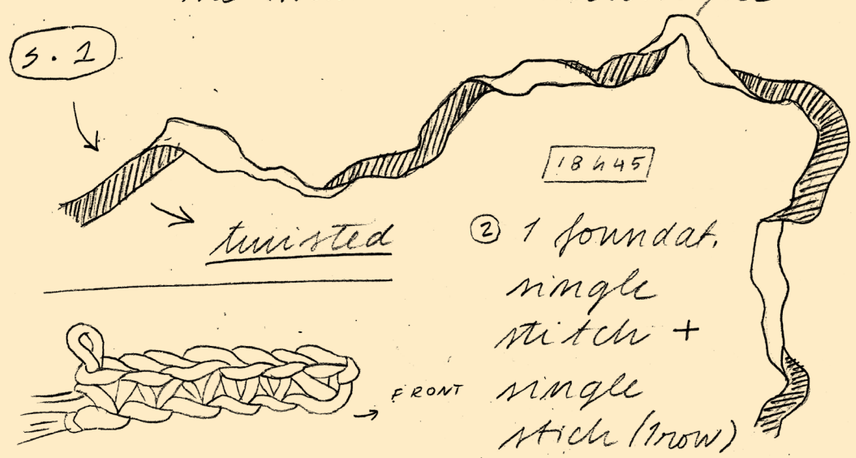
END	
19	06

18h30 ① 1 foundation single stitch

SHAPE



RESULT → shape that resulted from the structure & elasticity of the material & technique



DETAILED ENTRY

D1

D	M	Y
05	01	20

START	
19	20

END	
19	50

CONCLUSIONS

① the construction of a line in space using textile is tricky, for the base material: the thread is already a line itself, so if we are crochet-ing with it, thus accumulating and intertwining the thread (that is, the line), it might not become the construction of a line but of something else

② while the constructed foundation is a line, the material, tension completely affect, without pre-intentions, the 3D outcome

QUESTIONS FOR NEXT SESSION

① how can I purify the line construction, reducing it to its basic essence, making it as little ambiguous as possible? I avoid that it can be considered, for example, a cylinder? I
→ research definition of a line

② can any crocheted surface be a line as long as it has 1 continuous thread?

FREE ENTRY

F2.1

D	M	Y
06	01	20

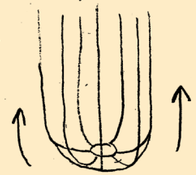
START	
15	10

END	
17	10

① I want to explore a cylindrical approach to a line

APPROACH 1 ↙

through extruding



a) start with foundation single stitch ring : ROW 1

b) ROW 2 & 3 : single stitch 2 stitches per 1 knot

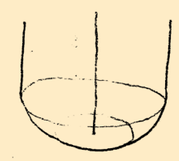
c) ROW 4 : single stitch 3 stitches per 1 knot alternating w/ 2 per 1 → WRONG

15h49 d) unmake row 4 and try to continue with 2×1 → STILL NOT GOOD (it keeps opening up too much)

16h04 e) trying to alternate 2×1 with 1×1

16h14

NOTE : raffia is very irregular, therefore, an attempt to create a geometric structure transforms instead in an irregular shape



ATTEMPT

RESULT

f) 2×1 every two 1×1½

g) 2×1 every three 1×1½

16h53 h) improvise : irregular thickness of yarn required it

FREE ENTRY

F2.2

D	M	Y
06	01	20

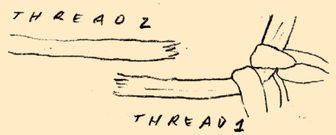
START	
17	15

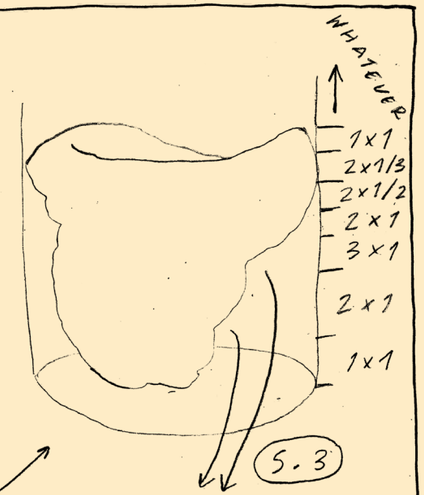
END	
17	52

- pre-desined structure doesn't work / the raffia is too irregular in thickness and forces me to improvise and adapt the number of stitches to the material
- the rows in which I tried to maintain a logical structure are becoming very evident in the piece

17h41

- when I join 2 threads together to transition between them, the stitch becomes thicker, thus forming a little bump in that area





17h26

thinner thread

NOTE : Twisting the raffia makes it easier to handle (less shedding)

17h51

IT'S VERY HARD & UNPREDICTABLE TO MANIPULATE RAFFIA !

DETAILED ENTRY | D2

D	M	Y
06	01	20

START	
01	12

END	
01	42

CONCLUSIONS

- raffia is very irregular and hard to manage and predict, therefore I had to improvise and it mostly be taken by the behaviour of the material, instead of trying to impose a rational and regular structure
- to make a bigger structure, it required joining several individual yarns, one after the other, in continuum, which also influences the behaviour of the material (becomes thicker in intersections)

QUESTIONS

- the material being so unpredictable... what will happen if I stop trying to manipulate it at all and just define a pattern (e.g.: every 2 single stitches, 1 double stitch) and let the material dictate completely the formal outcome?
- if I join several threads each at the end of the other, can it still be considered a continuous, single line?

FREE ENTRY | F3

D	M	Y
14	01	20

START	
12	30

END	
17	55

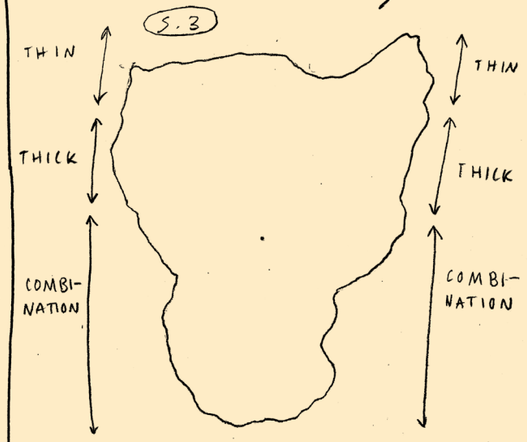
① RULE: no undoing! that would limit the learning process

12h45

- thicker raffia is easier to manipulate

13h03

- time is getting thinner again → more irregular



- hard to understand whether it is still irregular or if the irregularity is just a consequence of irregular rows that are underneath

14h04 → 15h40

- lunch break

15h47

- form keeps opening up, I don't know how to keep it growing at the same diameter (at this point, again on 1x1).

16h35

- shrinking too much again, never thought it would be so hard to build a straight tube in crochet

17h37

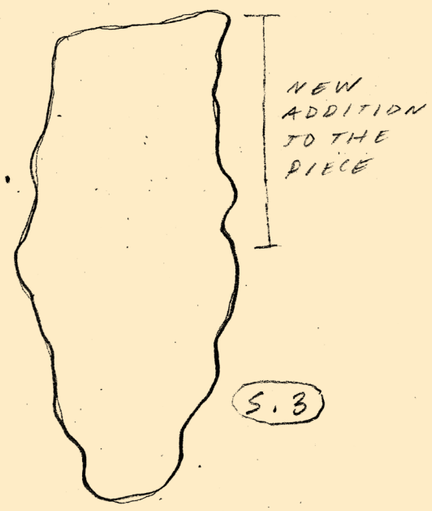
- gave up once again on trying to keep a structure: improvising

FREE ENTRY — F4

D	M	Y
07	03	20

START	
12	13

END	
17	55



up the line further I will start to notice some slight variations in orientation.

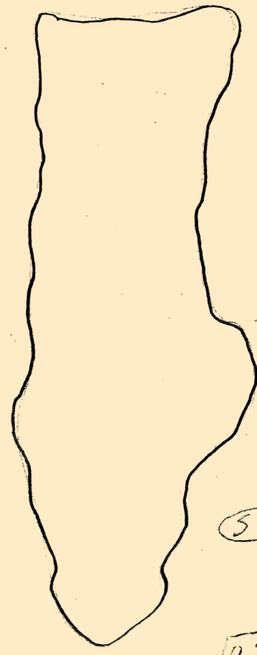
17:35 so far, the "line" seems to have only variations in thickness, and not in orientation. for the future maybe I could experiment with more elastic yarns to see how the structure of the line is affected. maybe by building

FREE ENTRY — F5

D	M	Y
08	03	20

START	
18	29

END	
13	23



19:17
so far the line kept going in a relatively straight manner → structure for now has been improvised but essencially based on single stitches, with an occasional double stitch when structure starts to collapse inward

08:23


the orientation of the line continues going straight; the thickness maintains a much more consistent width since I started to improvise with the number of stitches based on the thickness of the yarn in that moment

FREE ENTRY

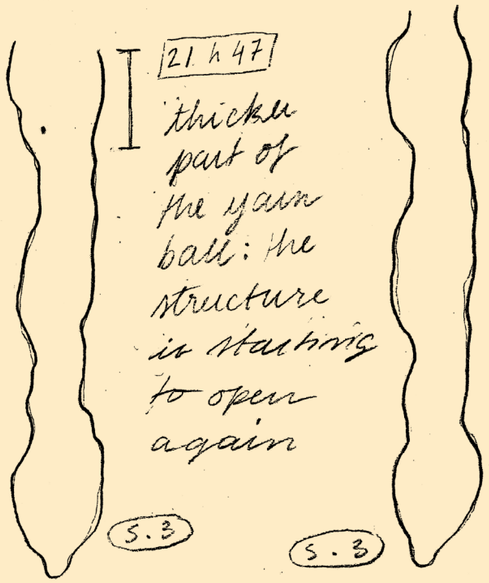
F6

D	M	Y
10	03	20

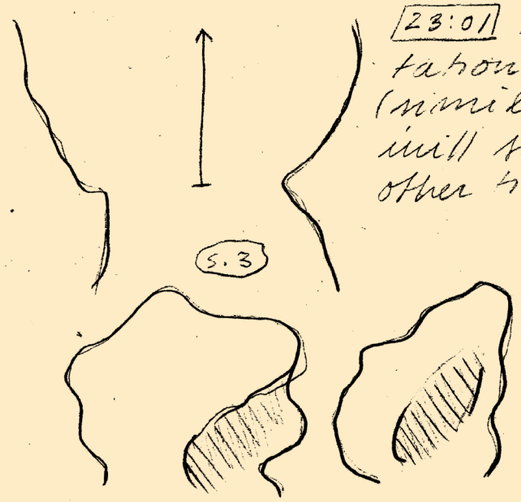
START	
20	32

END	
00	33

21 h 47
thicker part of the yarn ball: the structure is starting to open again



I 22:15
much thinner yarn, structure collapsing, started to use double yarn to try to keep the shape as stable in perimeter as possible
next on: will use thicker yarn and double on the thinner ones



23:01 very drastic augmentation of perimeter again (similar to free entry # 3), will skip one hole every other time to keep it stable

00:35 skipping some holes made the structure start to collapse only in some areas: will keep doing it to see what happens

FREE ENTRY

F.7.1

D	M	Y
11	03	20

START	
12	05

END	
15	04

12 h 05 (5.4)
travelling today
the piece (5.3) is starting to be too big to work comfortably on a plane or airport. will start a new smaller piece in parallel with 1,5/2 cm diameter with paper yarn

13h00
the paper yarn is much easier to work with because:
① it is continuous
② the width is always constant
overall, it has similar aesthetics and tactile qualities of raffia with much more consistent results

15 h 00
thickness so far is relatively consistant with some brief moments of widening or collapsing; sometimes I felt the structure slowly collapsing and I added 1 extra stitch (which in the end was too much and unnecessary) - will try to ignore my impulses to add stitches and just keep with single stitches for longer to see if the structure is actually collapsing or if it's just my perception

FREE ENTRY

F.7.2

D	M	Y
11	08	20

START	
17	16

END	
21	42

17h16 the line is going straighter again since I kept on with the single stitches: will keep on with them

19h34 I kept going with the single stitch and the structure kept funnelling more and more but very subtelly (in about 10/12 cm), to the point that it is almost impossible to keep stitching (because of how tight the stitches are); I believe that it is unavoidable to give the occasional double stitch, but I shall try to recall to it with less frequency (maybe start with every 5 cm or so, and see how it goes)

(5.4)

21h37 my fingers are wounded by the very intensive crochet I've been doing in the past week: the skin of my thumbs is peeling of and very sensible to touch; I believe my stich is too tight because the needle I'm using is too small (3 mm); this causes me discomfort and provides less stable results; for the next pieces I must try a bigger needle

FREE ENTRY

F.8.1

D	M	Y
14	03	20

START	
11	37

END	
20	19

11h37 back to the first piece

(5.3)

17h54 I forgot I was going to skip a couple of holes to embrace and explore further distortion, and just kept going with single stitches. The result is fairly uniform. I will try to skip that occasional hole to see what happens.

(5.3)

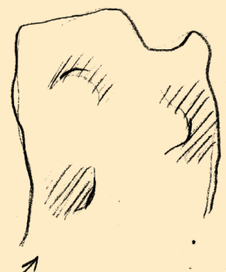
19h25 starting to deform again / skipping / hole per line

(5.3)

19h29 started to skip a hole every time: twice

19h55 the deformations are in different parts of the circumference, making it look lumpy. I will try from now on to keep the skipped stitches always in the same part of the row to obtain a more evident deformation

20h04 the structure is starting to shrink because of skipping so many stitches. I will start doing one double stitch per each skipped stitch



FREE ENTRY

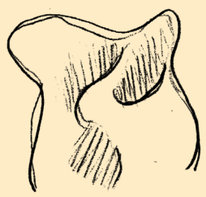
F8.2

D	M	Y
14	03	20

START	
20	27

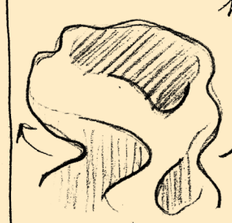
END	
23	47

20h27
form is starting to deform with more visibility



21h16
structure is starting to flatten, I will try to not align the skipped stitches so much, maybe try now to align the first 3, and then do it 2 rows later next

20h40
structure is starting to enlarge; hard to tell if by the different thickness of the yarn, or if by the new organisation of stitches; will continue with the same plan and see how it goes



FREE ENTRY

F9

D	M	Y
15	03	20

START	
20	00

END	
01	24

20h28
structure is collapsing again; I will give double stitches when I see this starts to happen again

23h23
again with a strategy based on improvisation / skipping some stitching, double stitching others without structure to enhance deformation

23h38
at this point I am giving around 3/4 double stitches per each skipped stitch in order to keep the structure's width relatively stable whilst deforming

01h17
structure keeps collapsing and expanding again; I realized there is a delay in expansion: it takes about 2/3 rows for the double stitches to be noticable in the width of the working line; the deformation hasn't been much visible, I will try to take this delay under consideration from now on

FREE ENTRY

F10

D	M	Y
16	03	20

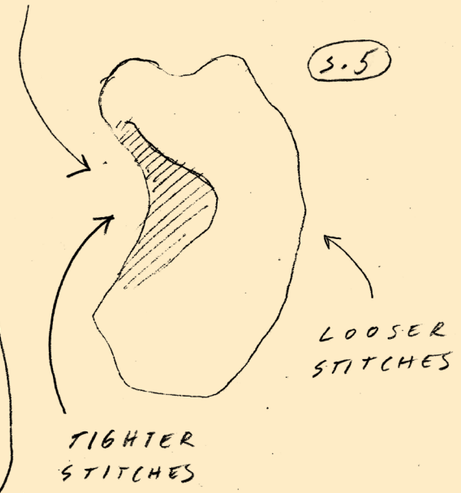
START	
12	50

END	
14	41

13h10
trying with a more elastic yarn (nagy) to test deformation that is less present in width but more in the direction of the line; will use only single stitches to truely test the elasticity of the material

14h18
wasn't seeing very interesting results (very regular) so I decided to play more with the tension of the yarn and stitch, making tighter and looser stitches and stretching and loosening the yarn to enhance the stretchyness of the material

14h39
structure keeps collapsing, that occasional double stitch is unavoidable; however the deformation from the elasticity is already visible after just a few centimeters



S.5

DETAILED ENTRY

D3

D	M	Y
17	03	20

START	
11	49

END	
12	20

CONCLUSIONS

By analysing individually and comparing the samples (S.3) and (S.4), as well as the observational notes taken on the process, one can conclude that the factors discovered so far that affect most the structural aspects in the construction of the forms, these are:

① the regularity in width of the yarn (more regular yarn = more regular shape);
② the elasticity of the yarn (rigid yarn = straight shape / elastic yarn = bending shape);
③ the tension of the stitches (bending where it's tight);
④ number of stitches per hole (+ stitches = wider shape).

QUESTIONS FOR NEXT SESSION

- I feel like trying with an even more stretchy material (maybe one that belongs to more than one of these parameters, so for example a super stretchy and irregular yarn) to see how far can the form distort
- try to find out what other variables can be implemented, what other aspects can change the behaviour of the shape in space, either during the construction process, or after

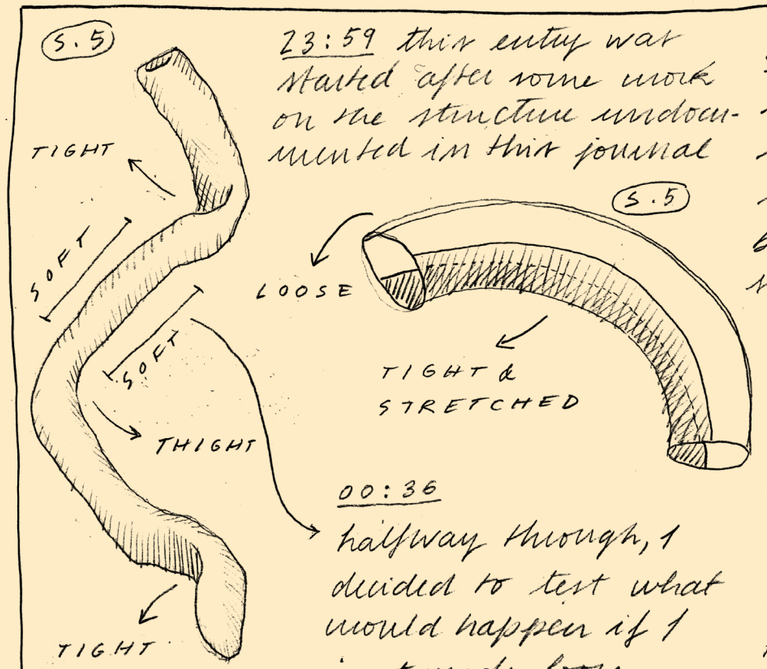
FREE ENTRY

F11

D	M	Y
06	04	20

START	
23	44

END	
00	57



23:59 this entry was started after some work on the structure undocumented in this journal

00:04
in order to make the structure bend there should be a combination of 1/2 of the structure using loose stitches with stretched out yarn, and the other 1/2 using loose stitches with loose yarn

00:36
halfway through, I decided to test what would happen if I just made loose loose stitches for a while, what happened was that this part of the structure became soft; whilst the curved structure in the rest of the piece is rigid and if I squish it, snaps back to its original shape, the loose section doesn't hold shape, showing itself flaccid and without structure; however if I wave the piece around, it is the part with biggest movement

→ therefore, loose stitches show less potential for variations in shape when still, but show more than tight stitches when moving

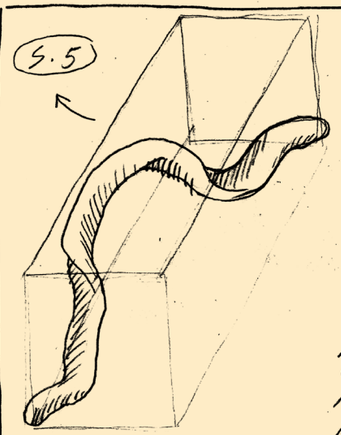
FREE ENTRY

F12

D	M	Y
17	04	20

START	
16	22

END	
17	00



16h22
after finishing sample S.5, I decided to try to explore further the elasticity and stitch tension of rag yarn, with an even more elastic yarn. ideally, I would like to use even more flexible yarns (perhaps actual elastic threads), but back at home, during this crisis, all shops that are not essential services must be closed, so I can only use materials that I already have at home. With this in mind I will keep exploring with these materials, focusing more on the practice and technique until I can have access to a fuller range of materials. Further on, I want to explore with thin more elastic rag, and afterwards with thicker needles and these 3 materials (meaning more open stitches).

FREE ENTRY

F13

D	M	Y
17	04	20

START	
17	02

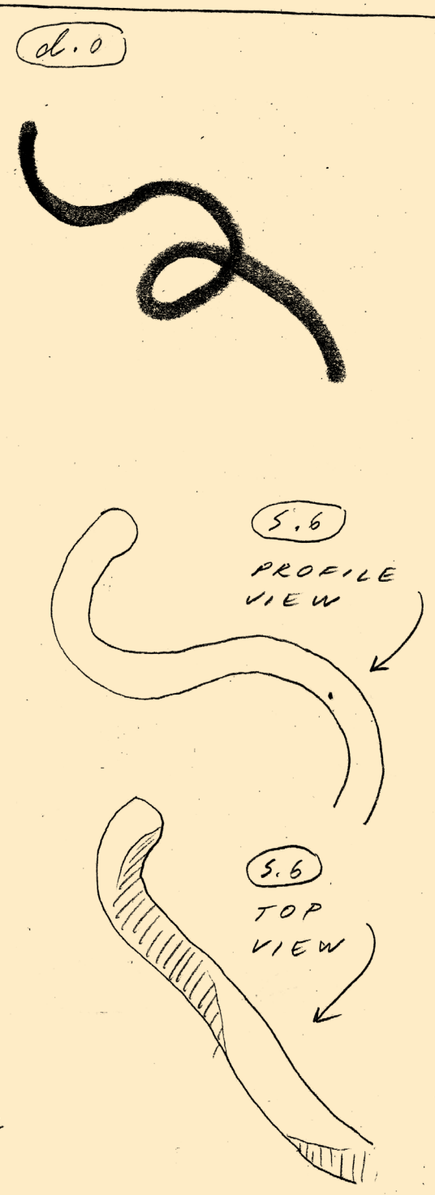
END	
22	13

17h02

I am starting a new sample (5.6) with the more classic yarn. Now that I have become familiar with the materials & techniques, I will try in this new sample to reproduce a drawn that I previously drew on paper with a pencil, so that I can really compare in the end how the 2 mediums change the sketching process.

22h07

the progress so far seem quite similar from the profile to the drawing, while from the top, it represents a completely different 2D line



FREE ENTRY

F14.1

D	M	Y
19	04	20

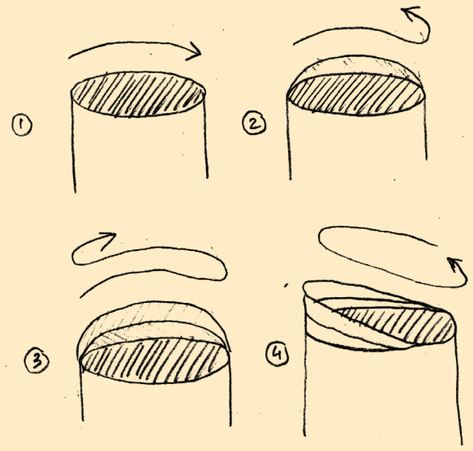
START	
13	30

END	
15	53

13h50

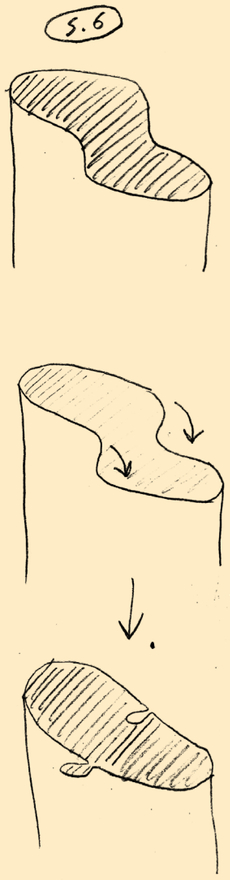
I reached the loop part

my strategy for this part is to make extra rows on half of the structure so that it collapses inward



15h04

structure started to gain a strange, square shape so I decided to skip a whole in the edger, to collape the corner and create a smooth line at the edge of the structure



FREE ENTRY

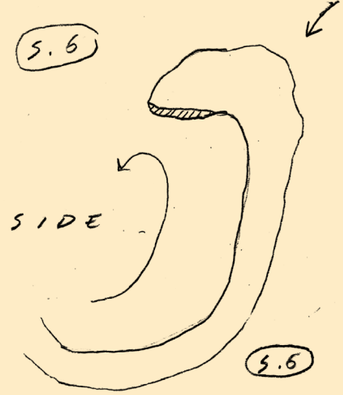
F14.2

D	M	Y
19	04	20

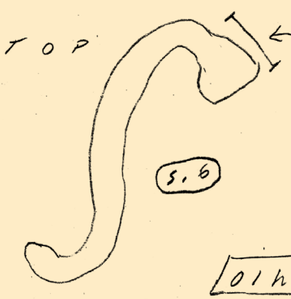
START	
20	17

END	
02	33

23h30

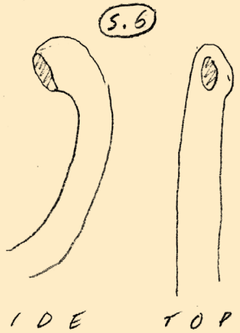


after testing out with some time, I finally managed to bend the structure; however, it has enlarged a lot in this part with the extra rows given. so the line is no longer of a regular width as was the one firstly drawn on paper, so I have decided to undo this part



and try again by still joining those extra rows, but skipping more wholes to compensate

01h18 after undoing and redoing I have managed to finally bend the structure while keeping more or less a regular width; however, I am not completely satisfied yet; I hope I can keep it under control



FREE ENTRY

F.15.1

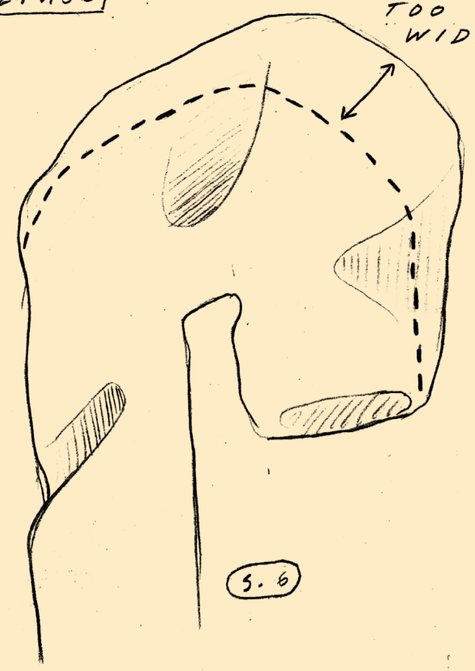
D	M	Y
22	04	20

START	
19	18

END	
22	38

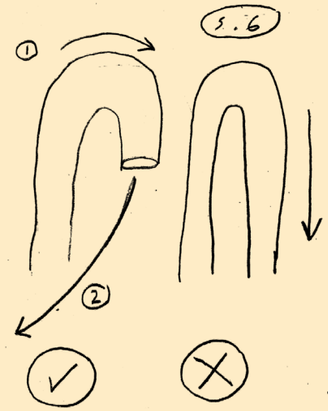
20h00 I have re-done the bent part of the structure 3 times and I still haven't figured out a way to do it so that the width of the structure can stay uniform with the rest of the line, so I decided to just assume the obstacle and keep trying to keep it as much under control as possible, though admitting the bent part of the structure to be wider as a possibility.

21h56



22h30

now that I have made the first bent part of the loop ①, I have to



bend it a 2nd time ②, in order to finish the loop, thus avoiding turning it into a curve. For this I will go back to stretching 1/2 of the time & leave the rest loose.

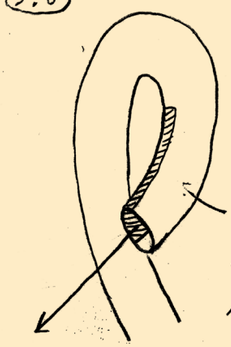
FREE ENTRY

F15.2

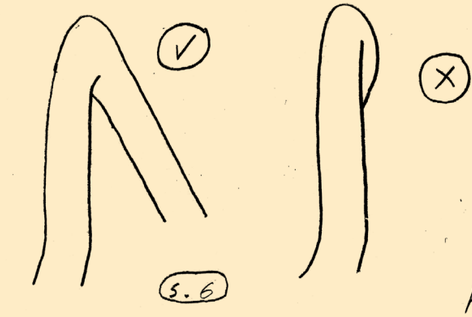
DMY	START	END
22 04 20	23 00	03 14

00:15

after finishing the curve of the loop, I decided to finish with a straight direction; I will only keep giving tight stitches on the inside of the structure in order to prevent the line from clashing against itself



5.6

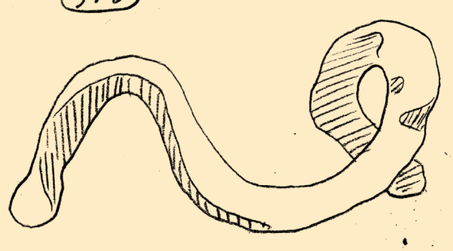


✓ 5.6 ✗

03h10

the thread I was using finished and I don't have more of it, so the line ended up with a shorter line than the one in the drawing

5.6



something interesting to reflect upon: is how the limitations of textile materials affect the drawing process. Whilst a pencil can last for a thousand drawings, yarns run scarce faster, and it is much harder to predict how much is possible to do with them.

DETAILED ENTRY

D4

DMY	START	END
23 04 20	16 45	17 20

CONCLUSIONS

Although visually the first elastic sample (5.5) and the second might seem similar in terms of material behaviour, when holding them both in my hand, I can notice some structural differences:

1. although the sample (5.5) can somewhat keep the bent structure in some parts, the hold is undoubtedly less strong than (5.6) which regardless of being squeezed, stuched, twisted or thrown around, always comes back to it original shape.
2. in terms of stretchyness, except for the loop part, (5.6) seems more elastic than (5.5)
3. in terms of movement, (5.5) has a more placid movement and (5.6) is more bouncy

QUESTIONS FOR NEXT SESSION

- Go back to questioning the identity of a drawn line: if what I'm making has volume, can it be a line? reflect on this based on all the samples and their different qualities
- Explore another variable: needle vs. yarn size. How can this affect the construction of the line?

FREE ENTRY

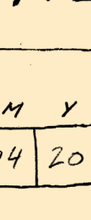
FIG.1

D	M	Y
24	04	20

START	
14	38

END	
15	17

14h38 today I started reading "Traces, threads and surfaces" chapter from the book "Lines: a Brief History" by Tim Ingold. We know that geometry defines the line as a collective of points, and that a collective of lines form a surface. In abstract, this is very clear, but once we convert this into textile objects, the definition of a textile line is, as I see it, much more ambiguous. I explored this same topic on my first entry: on a first thought, a textile line would be considered for most the thread. But then again, a thread is a collective of fibers twisted together. With this in mind,



a more-well known person in the textile world would maybe say a textile line corresponds to the fiber. But if fibers are either collected from nature or (in the case of synthetics) fabricated in a lab, how can an artist or designer draw or sketch a textile line?

15h07 as a tool For these reasons I would rather set the identity of a drawn line on the action. Another geometrical take on the definition of the line (or the segment of a line, since the line is infinite) is that it is the connection between two points. So if I crochet from point A to B using a continuous thread, can it be that I'm drawing a textile line?

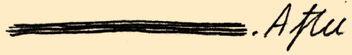
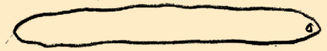
FREE ENTRY

FIG.2

D	M	Y
24	04	20

START	
16	06

END	
16	28

16h08 Something else I would like to reflect upon is thickness of lines and points. If a point and line both have no width, how can a drawn line be, in fact a line? Even when using the thinnest pencils, the line still has a width: ——— → in this case, for example, 0,5 mm, or:  → in this case, 2mm. However, anyone who is not a geometer would say, I believe, that these are two examples of drawn lines and not surfaces, even though both examples are actually collections of lines. This can be easily illustrated using the second example, showcasing it as a collection of four 0,5 mm lines:  . After reflecting upon these matters, I realized that the identity of the line can change depending on the medium that it is being used to represent it. So if this:  and this ——— can be drawn lines and not surfaces, can a crocheted structure such as this:  be a textile line and not a cylinder or a tube?

FREE ENTRY | F16.3

D M Y: 24 04 20 | START: 19 30 | END: 20 55

20h02 In this chapter, Tim Ingold three concepts I have mentioned. First, he starts by questioning "what is a line?". Ingold presents us both with the poem "Line" by Matt Donovan and a list of seventeen different meanings by Dr Samuel Johnson for the word "line", both proposing answers to the question "equally jumbled and heterogeneous." (Ingold, p.41). Between many meanings, Donovan proposes that the line can be "a path imagined between two strokes", "of singular thickness", "any one edge of a shape and its contour in entirety", "things resembling drawn marks", "a conduit, a boundary, an exacting course of thought". On the other hand, some of the meanings insinuated by Johnson are: "longitudinal extension" (which makes me wonder... what about curved or bent lines?), "a slender string" (how slender, can "slender" be? 0,5 m? 5 m? 5 cm? where is the limit of slenderness?), "a thread extended to direct any operations", "delineation, sketch", "contour, outline". Despite all these interpretations of the line, Ingold stresses that although in the history of the line, these are usually thought of as inscribed on paper or parchment, analysing the surface the line is in is of equal importance, for "there can be no history of the line that is not also about the changing relations between lines and surfaces" (Ingold, p. 39), thus confirming my idea that the identity of the line changes depending on the medium (therefore, the surface).

FREE ENTRY | F16.4

D M Y: 24 04 20 | START: 21 06 | END: 21 34

21h06 Ingold continues to examine the definition of "line" by classifying it into two essencial categories: "threads" and "traces". When speaking of threads, he addresses a lot of the questions I have been exploring: "A thread is a filament of some kind, which may be entangled with other threads or suspended between points in three-dimensional space. At a relatively microscopic level threads have surfaces; however they are not drawn on surfaces." (Ingold, p.41). Based on this description, I believe that the lines that I am constructing in crochet do perfectly fit within this description, therefore proving to be, indeed, lines. Still on the matter of "threads", Ingold also speaks of their relation with the human hand: "For the most part the 'making' of threads is a human speciality, depending as it does on dextrous movements of the hands [...]" adding that "in most of its uses too, the thread depends on the human hand's distinctive precision grip, which allows it to be held and manipulated between the thumb and forefinger" (Ingold, p.42) → the crochet technique allows the construction of lines that are meant to be handeled during the making process.

FREE ENTRY

F16.5

D	M	Y
24	04	20

START	
21	40

END	
22	20

21:48 Further on, Ingold explains the other category: the "trace". He uses the examples of art historian and architect Gottfried Sempa and art historian Aloir Reigl's opinions on which form, historically, did the line first appear: the thread or the trace? And so, which is more intrinsic to the human's practice of 'making'? Ingold states that Sempa defended that "the treading, twisting and knotting of fibers were among the most ancient of human arts" (Ingold, P. 42) (the two latter being the basic structure of crochet); so if "for Sempa the prototypical line was a thread, for Reigl it was a trace, 'the basic component of all two-dimensional drawing and surface decoration" (Ingold, P. 42). He proceeds to describe trace as "any enduring mark left in or on a solid surface by a continuous movement" (Ingold, P. 43), hence supporting once again the idea that a line stems from the action of connecting two points. Ingold points out that traces can be additive (e.g. drawn, adding charcoal to the paper) or subtractive (e.g. engraved, carving with a knife on wood. He adds that "additive traces can be produced by means of a range of manual implements that deliver a material pigment to the surface, including pens and brushes" (Ingold, P. 43).

FREE ENTRY

F16.6

D	M	Y
24	04	20

START	
22	20

END	
23	15

22422 However, this definition, as I see it, doesn't necessarily have to solely refer to the making of traces, for when creating a thread, one can also use a tool. When crocheting for example (considering that one is making a thread, or a line from A to B by twisting and knotting a yarn - a collection of fibers), the "manual implement that delivers material" is the needle. All in all, threads and traces (or the line represented in the form of textile objects and two-dimensional drawings) aren't that different after all. As said Ingold, "Just as humans are 'par excellence', makers and users of threads, so have they also come into their own as makers of traces with the hands. It is revealing that we use the same verb, to 'draw', to refer to the activity of the hand both in the manipulation of threads and in the inscription of traces. As we shall see, the two are more intimately linked than we might have supposed." In conclusion, my goal isn't to find the differences between "traces" and "threads" but to understand how, by creating a dialog between them, one can generate expanded knowledge on the potentiality of drawing as a creative tool.

FREE ENTRY

F17

D	M	Y
25	04	20

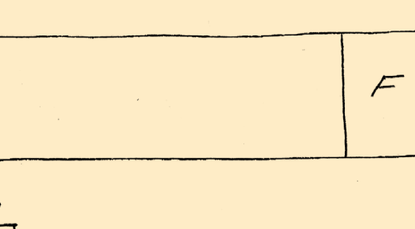
START	
14	05

END	
16	55

14h05 I haven't explored yet how the relation between line and needle width affect the character of the crocheted line. I am using a needle of size 7 and I split the raffia yarn in 2 in order to accentuate the size difference from needle to yarn. I chose raffia because it was the first material I experimented with and also the most rigid (so I suppose it will hold the loose stitch the best), and also because it is the yarn that I believe is easier to split in two.

16h52 Additionally, I can note that it is a much faster process to build in length using a thicker needle

14h47 so far, it has been working: the stitches are much looser and the rigid qualities of raffia are holding the shape rather well (it is not collapsing)



5.7

16h42 Interestingly enough, even though raffia is a quite rigid material, this loose structure allows the overall line to be quite stretchy (so far, this 40 cm structure can stretch up to 70 cm)

FREE ENTRY

F18.1

D	M	Y
27	04	20

START	
23	07

END	
00	42

23h19 for my first line experiments I will start by trying out with various materials and several ways of applying the matter on paper. for now I have done 6 lines with china ink by using a sakura brush pen as the "manual implement", in order to explore different qualities in the line, I experimented with applying different pressure and using different amounts of ink, additionally I also rotated softly the direction of the brush pen → D.1

23h40 for my second set of line experiments I used a vegetable charcoal bar of 5 mm; for these 10 lines I explored also variations in pressure but also velocity and rythm (continuity / fluidity) → D.2

23h59 for these 8 line experiments I used a sennelier oil bar (colour black), I explored pressure, velocity, rythm and rotation → D.3

00h15 for these 12 lines I used different kinds of black markers (some old with little ink, some new; these were: a: unipaint marker (old) 1,2 mm; a pilot pintor F 1 mm; a molotow 2 mm chisel tip (old); a uni posckey size medium and a uniball micro. the explored values were the same → D.4

FREE ENTRY

F18.2

D	M	Y
28	04	20

START	
00	42

END	
01	35

00h55 for the last of my first straight line experiments I used a graphite pencil 7B; I explored pressure, velocity, rythm, & rotation → (5.5)

01h14 next on, I tried with curved liners; I used china ink with a sakura brush pen, making 6 liners in which I explored essencially rotation and rythm / fluidity → (5.6)

01h32 after a few straight line explorations (there mostly reflecting to my first two experiments in extended crochet (5.3) and (5.4) and the most recent one (5.7); I will start to explore a few curved liner using the sakura brush pen with china ink, in accordance with the shape of (5.5)

FREE [redacted] ENTRY

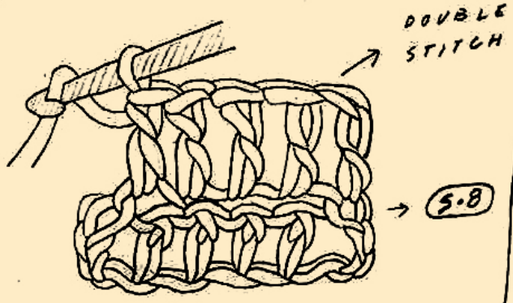
F19

D	M	Y
08	05	20

START	
13	49

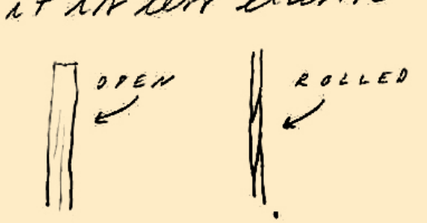
END	
17	11

13h50 After trying to enhance the stretchability of the structure by augmenting the difference of the line and needle width (1/2 of the raffia line with a n° 7 needle), I wanted to try with another factor that I haven't explored yet, which is double stitches, making the structure loose and therefore more elastic.



→ (5.8)

14h59 So far, I can conclude that double stitches make indeed the structure more elastic. However, in the process I noticed that what really makes a big difference when working with raffia is how open the thread is: when it is stretched out, the structure becomes more elastic, when it's rolled up, it is less elastic



15h09 For this reason I decided to undo the whole line and open up the threads in order to try and enhance the elasticity to its maximum

16h59 It seems clear that the structure improved in elasticity. I decided to not measure the difference yet because from (5.7) I can see it doesn't easily snap back

DETAILED ENTRY — DE5

D	M	Y
08	05	20

START	
21	07

END	
21	50

CONCLUSIONS

Until this moment, I have explored both the construction of straight and curved lines in different materials and (consequently) structures varying in regularity and elasticity. On a talk with Professor Nikhil Rao Nimkulkar, after examining the process so far, we realized my work so far concerned an initial phase of testing out the possibilities of the crochet technique. In order to really examine how I can construct lines by using this technique, I tried to break down into categories what kinds of lines I can construct, concluding that there are three core types of line in drawing: straight, curved and zigzag. In order to complete this phase, I must still examine the latter.

QUESTIONS FOR NEXT SESSION

- how to construct a zigzag line in crochet (by playing with technique and elasticity of the yarn)?
- reflect on 3 types of lines, read process so far and draw some conclusions on this 1st phase)

FREE ENTRY — F20.1

D	M	Y
11	05	20

START	
14	30

END	
15	02

14h30 I was reflecting a bit more about why I transferred the whole research to the single exploration of the line. Aside from the fact that since day 1 in these master studies, I have been encouraged to make the research topic as specific as possible for this would add value to it, the decision was also very intuitive in regard to what made sense to me personally as a researcher and for the project itself. I started the study by exploring the line because I identified it as the most basic element of drawing, and soon realized its potential for studying how drawing translates to space through the means of textile. As I see it, the line is the core and most structural element of drawing. In Portuguese, when someone wants do compliment another person's expression or aesthetics in their drawing practice, they refer to their "traço" - for example, as having "um traço interessante" - which literally translates to "trace", thus complimenting their "interesting trace" or, in other words, their line. This reflects the line as being the archetype of drawing, as people are metaphorically referring to the line in order to address someone's drawing qualities.

FREE ENTRY

F20.2

D	M	Y
11	05	20

START	
15	03

END	
15	47

15h03 With this in mind, the research seeks to mark the beginning or first step towards the attribution of a new function to textile as a drawing tool and, therefore, representing a new way of exploring form for the creative process of the artist or designer. The study will be divided in 3 phases:

PHASE 1: dedicated to understanding the medium and its possibilities by testing how to construct liner within the 3 categories: ① straight; ② curved; ③ zigzag. (FORM)

PHASE 2: dedicated to understanding the relations between different drawing and textile materials (e.g.: charcoal v.s. raffia; oil bar v.s. nylon) (MEDIA)

PHASE 3: dedicated to understanding how I draw and manipulate the material (by means of rotating the hand and applying variations in pressure, velocity, continuity / fluidity, etc) (HAND)

FREE ENTRY

F20.3

D	M	Y
11	05	20

START	
16	02

END	
16	51

16h02 Taking into account that I am right now in PHASE 1, I decided to write down all the types of liner in accordance to the established categories to see what has been done and what is left to do:

material	STRAIGHT	CURVED	ZIGZAG
RAFFIA	✓ S.3; ELASTIC ✓ S.7, ✓ S.8	✓ S.1, ✓ S.2	MISSING!
PAPER	✓ S.4; ELASTIC MISSING!	MISSING!	MISSING!
RAG	ELASTIC MISSING!	✓ S.5, ✓ S.6	MISSING! MISSING!
INK	✓ D.1	✓ D.6, MISSING!	MISSING! MISSING!
OILBAR	✓ D.3	MISSING! MISSING!	MISSING! MISSING!
PENCIL	✓ D.5	MISSING! MISSING!	MISSING! MISSING!
CHARCOAL	✓ D.2	MISSING! MISSING!	MISSING! MISSING!
MARKER	✓ D.4	MISSING! MISSING!	MISSING! MISSING!

FREE ENTRY

F21

D	M	Y
11	05	20

START	
18	00

END	
22	06

18h01 In order to fill in the table made in the previous entry, I will proceed to make a straight line with rag yarn that is stitchy. In order to achieve that I will make double stitches with the yarn very loose and split the standard yarn (1,5 cm) in three, using a n= 10 needle. → (5.9)

21h58 The constructing process was now quite fast and easy. The finished structure stretches to almost twice its size.

22h00 I will now try to do the same type of line (straight and elastic) with the paper yarn. I will still use a n=10 needle but since the yarn is regular and 3cm wide, I will divide it in four parts instead.

↳ (5.10)

FREE ENTRY

F22

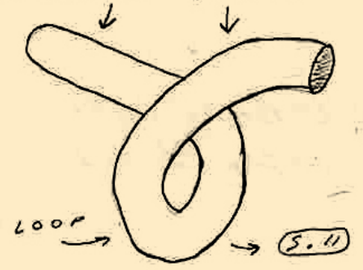
D	M	Y
13	05	20

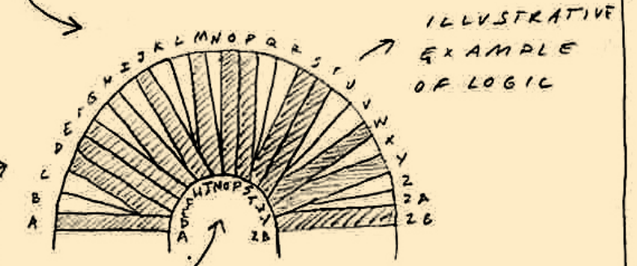
START	
14	40

END	
23	51

14h40 Starting a curved line using paper yarn. So far, I have only made curved lines in rag yarn, essencially by playing with its elasticity (making tense and loose stitches). If I am using a non-elastic material, I have to recur to only the properties of the technique and not the material to bend the shape: needle size and n= of rows.

20h41 So far, I have made a loop ending on a curve. For the loop, I used the same technique as in (5.6) of giving extra rows in the outside part of the loop.





Additionally, I used a n= 6 needle on the outside and n= 3 on the inside.

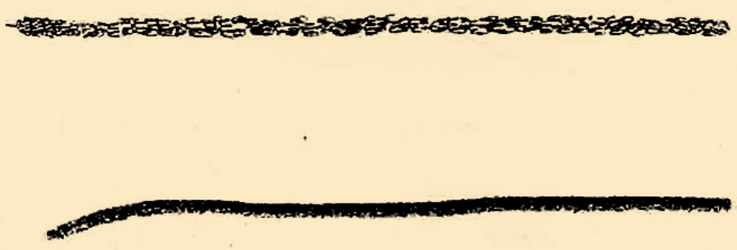
The rest of the structure was made using a n=4 needle and for the curve I just gave much less frequent and only single extra rows.

FREE ENTRY

F23

D	M	Y	START		END	
17	05	20	19	56	20	26

19h56 After reading the chapter "Drawing the line" from Tim Ingold's "Making", I started to reflect upon, in a crocheted object, which is the line that I am drawing: the yarn that forms the structure of the object - the <u>essence</u> - or the one that can be seen from afar - the <u>appearance</u>. The one concerning the essence could be compared to the liner that Ingold denigrates as "meshwork", that is, liner that "loop or twist around another, or weave in and out." As for the appearance, it concerns a line that is graphic/visual, it <u>looks</u> like a line, therefore it <u>is</u> a line



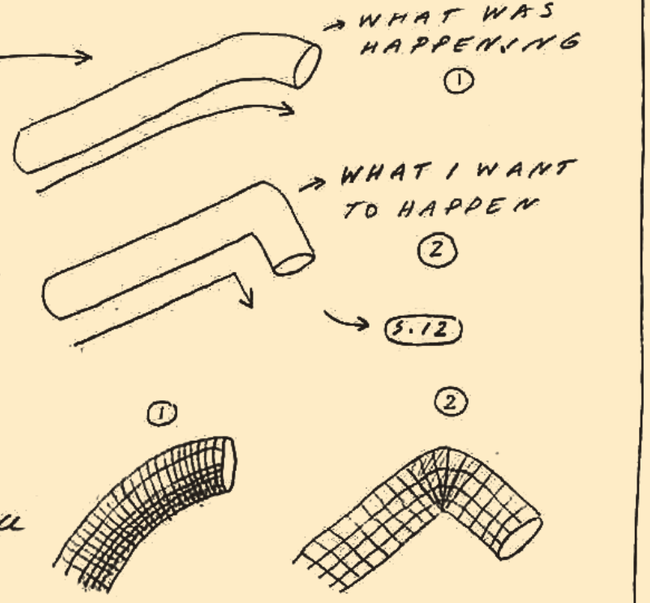
FREE ENTRY

F24

D	M	Y	START		END	
18	05	20	13	08	14	51

13h08 today I am constructing the first zigzag line. I am using the rag yarn first because I feel like it will be easier to bend it due to its elasticity which will be good for a first contact with this type of line. I tried first to bend the structure with the same technique I used for the curve (pulling the thread on tight knots on the inside and leaving it on loose knots on the outside). Additionally, I used a n: 4 needle on the inside and a n: 10 on the outside to enhance the denied effect + (the rest of the structure - straight - was made using a n: 7 needle).

14h39 it wasn't bending tightly (starting to resemble more a curve than an angle), so I undid the bending part and used the technique of building on only half of the structure instead.



FREE ENTRY

F25.1

D	M	Y
18	05	20

START	
16	42

END	
22	14

16h42 After figuring out the structure of a basic zigzag line, I thought it would be good to understand better this type of line before keeping on constructing them with textile. With this in mind I decided to fill in the table made in the free entry n° F20.3 by making the drawings (D.7) to (D.25).

21h31 These are some of the conclusions:

1) the drawing velocity, pressure and mindfulness tend to vary on:
- the type of line (generally speaking, straight lines tend to be drawn slower, more controlled and stronger, while zigzag lines tend to be the fastest and more impulsive and light ones, and curves seem to be the type of line that requires a more mindful attitude, being that I thought more about the direction of the line usually);
- the tightness of the line (in both zigzags and curves, the tighter the line, the faster, looser, and more impulsive the line was);
- the material (graphite and markers tend to result in fastest lines, charcoal and oil bar on a medium level, being the china ink the slowest (requiring frequent dipping of the brush in ink - also less continuous).

FREE ENTRY

F25.2

D	M	Y
18	05	20

START	
22	14

END	
22	45

22h15 2) the hand gesture (rotation and movement) vary depending on:
- the type of line (zigzag lines have little rotation but wide movements, curved lines have high rotation and wide movements, straight lines have small rotation and small movements);
- the material (charcoal and oil bar set for very wide movements and decent rotation; china ink for small movements and very high rotation, graphite and markers for big movements and small rotation).

FREE ENTRY

F26

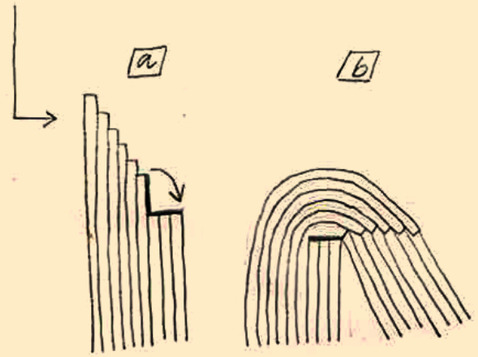
D	M	Y
25	05	20

START	
16	33

END	
21	41

16h33 Upon exploring the many different variations of drawn liner on paper (0.16) to (0.25) and the first zigzag line using crochet (5.12) I realized that there are two ways one can make a zigzag: ① in a more loose manner and ② in a more sharp manner → ① ② ; with this in mind, I will make a new sample (5.13) of a tight zigzag in raffia tieing method ① (also used in (5.11) and method ②.

17h01 In order to achieve a very tight looped corner, I used the same method as (5.12) but only closing down the extra stitches at the end of the corner



17h33 Further on, after doing 3 corners with this technique, I tried to do a sharp corner. To achieve this, I built the extra rows in a pyramid before collapsing them gradually

FREE ENTRY

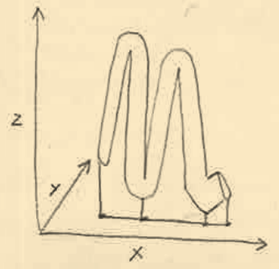
F27.1

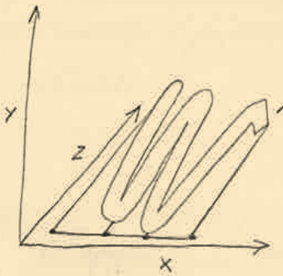
D	M	Y
28	05	20

START	
11	53

END	
18	58

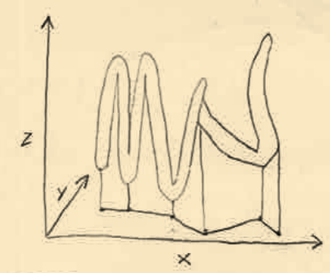
11h53 Most of the liners built so far seem to be of a rather bidirectional nature (eg. x and z and not considering y), except for (5.6). For this reason, I will try to variate more the direction of the line in this sample (5.12)





I will start to twist this part of the shape in the direction of y

16h37



18h47 because of the soft nature of the textile, it seems quite hard to make the zigzag in a way that holds it shape. when holding the line by the tip (letting its body drop freely) it becomes an open zigzag (A) with loose corners

check entry F27.2

FREE ENTRY

F27.2

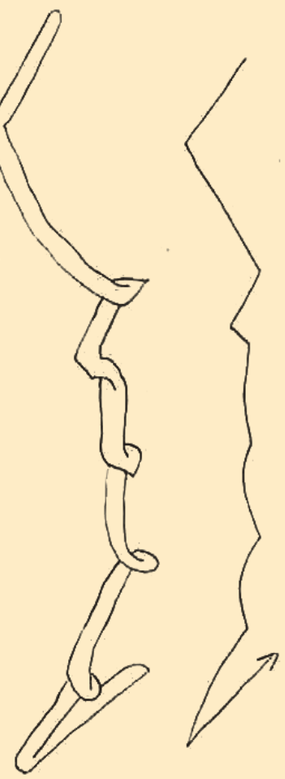
D	M	Y
28	05	20

START	
19	02

END	
19	29

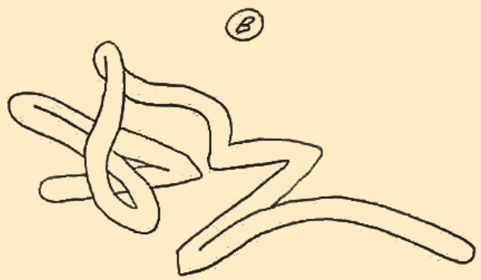
19h02

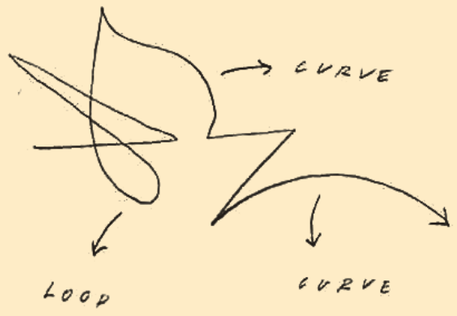
(A)



however, when the line is for example thrown on the table, it forms loops in the corners that are round (B) and even some curves on the parts between corner (straight)

(B)





this second aspect also happens with straight lines, and especially the elastic ones (S.7) (S.8) (S.9) (S.10)

↳ To be explored further

DETAILED ENTRY

DE6

D	M	Y
11	06	20

START	
16	00

END	
16	41

CONCLUSIONS

Today I was reflecting upon why I started working only the extruding method for this research. After reading my first entries (F.1), I realized that this stemmed very intuitively from how this method allowed a wider exploration of form. The methods used in (S.1), (S.2) and (S.2.1) with the raffia (first material I experimented with) had a strength of their own, imposing a non-intentional form to the straight line. For this reason, I naturally inclined to using the extruding method first used in (S.3) for the rest of the research because it allowed a more free and precise exploration of form.

QUESTIONS FOR NEXT SESSION

- no further questions on this topic for now

FREE ENTRY

F.28.1

D	M	Y
11	06	20

START	
18	10

END	
19	22

18h10 Following the reflection in entry F27.2, I will examine the shape-shifting and moving properties of the rest of the samples: (5.1) it has a curved structure in its natural form (in loop) ; when I let it fall, hanging from one tip, it keeps this same shape, but is very bouncy. When I stretch it, it becomes straight, and when I throw it around, it makes bigger loops ; (5.2) has the same behaviour but even more bouncy, furthermore, it stretches also to a line, and when thrown, coils also in loops but more tight; (5.2.1) this shape is less looped or curved but twisted instead which means that although it is not completely straight, it is more straight than the samples before, however when stretched it keeps relatively the same shape (also because due to the tight and strong shape) ; when it is thrown around, the shapes are also round and looped, or just curved

FREE ENTRY

F.28.2

D	M	Y
11	06	20

START	
19	26

END	
00	13

19h26 analysing the straight, non-stretchy lines (5.3) and (5.4), they both have a straight appearance (when flat on a surface and hanging), but they are not bouncy, and they maintain the same shape when stretched, however, interestingly enough, when thrown around (5.3) falls in zigzag or straight shapes, while (5.4) falls in curved or straight shapes, I believe this is due to the fact that (5.4) is thin with a uniform thickness, stretch and hardness and (5.3), because of the raffia material is soft and fragile in the parts where the yarn is thinner, so the structure bends in that area

20h10 upon this reflection, I realized I didn't make a straight, non-stretchy line with rag, so I will make one so that I can bring it in to comparison regarding movement with (5.3) and (5.4); to achieve this, I will use a 4 mm needle, to make the knots tight and the structure firm - (5.14)

21h47 I started by making a line (5.14) with elastic rag, but because I run out of material, so it had to be finished with just 50 cm of length; being much shorter than the rest of the other samples, I decided to do another sample (5.15) with 80cm for uniformity and more faithful comparison; both (5.14) and (5.15) are always straight and slightly curved straight when thrown

(5.14) (5.15)

FREE ENTRY

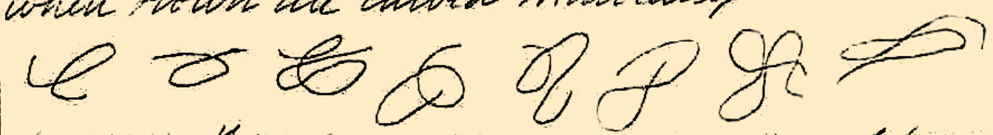
28.3

D	M	Y
11	06	20

START	
00	15

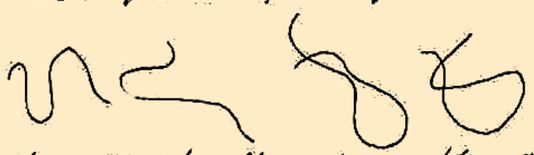
END	
00	58

00h15 now examining (5.7), (5.8), (5.9) and (5.10), I realized they all have similar behaviour in space: they are all straight, very bouncy, stretchy and when thrown are curved similarly



however, they have different levels of bouyancy and stretchyness; the most stretchy is (5.9) as the material itself is stretchy, followed by (5.8), then (5.7) because the material is softer and then (5.10) because the material it harder and not more lanky; however (5.10) is the most bouncy, then (5.8), then (5.7), then (5.9), a characteristic which I have come to realize is related to the weight

00h31 next on, the curved lines (5.5), (5.6) and (5.11) are to be examined: starting by their natural shape, (5.5) is only slightly curved ⌒ and for this reason when stretched it is straight, though when hanging it is still curved, not very bouncy and it falls equally in curved shape



↓ (5.6) on the other hand, is curved with loops and its shape doesn't change at all when thrown or hanging, or not when stretched, the curve straightens but the loop only becomes a normal curve

FREE ENTRY

28.4

D	M	Y
11	06	20

START	
01	00

END	
01	13

01h00 at last, I'm examining (5.11), which is all looped, when hanging, the loops just tighten and the overall line extends, it is very bouncy, but it doesn't stretch so much (similar behaviour to when it's hanging), and when it's thrown, it just keeps exactly the same shape as originally is for the zigzag (5.12), it is very soft, so it opens almost to a straight line when hanging ⟶ and it's relatively bouncy and the behaviour when stretched is similar to hanging, when thrown, we can see curved and zigzagged shapes →

FREE ENTRY

F29

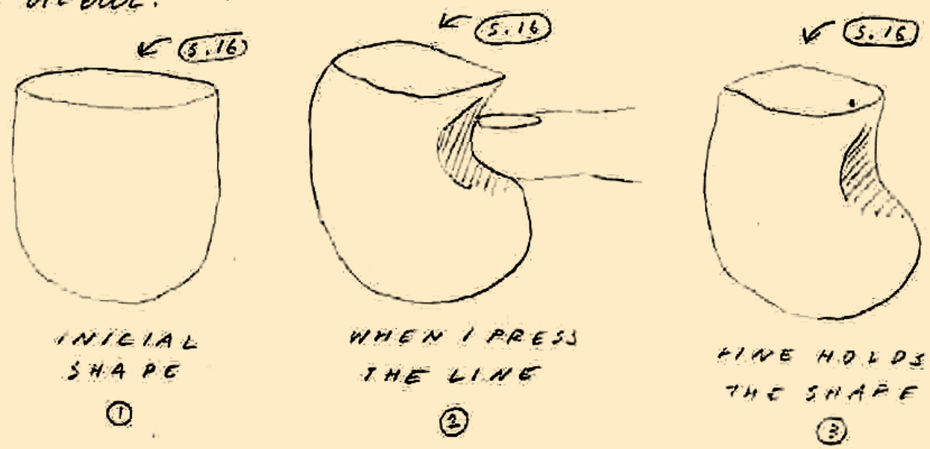
D	M	Y
24	06	20

START	
16	49

END	
17	53

16h49 I will start now the phase 2 of the research, studying materials: both their visual qualities and their tactile qualities as well as their behaviour in space, in relation with the crochet technique. I will start with a elastic yarn, seeking similar qualities to oil bar: shiny appearance and irregularity in shape. I will use a 3mm needle as the yarn is very thin (about 2mm diameter)

17h25 so far I can see that the hard and stretchy material provides a very straight shape that is very malleable and holds the shape that I would quite well. I will try to give random tights and loose stitches to provide deformation like the oil bar.



17h41 I only bought 10 m of yarn to test the material out, so for now I just made about 10 cm of line. The result is very malleable and holds shape (like the oil bar) yet at the same time, it has a very sharp appearance (like cracking).

FREE ENTRY

F30.1

D	M	Y
24	06	20

START	
20	40

END	
22	46

20h40 Next one I am trying an organza ribbon of 0,5 cm width also as a comparison to the oil bar. This ribbon is of a shiny appearance, and I am using a 10mm needle in order to try to achieve a more irregular look (as the oil bar is very lumpy). The result is quite malleable as well (though still not as much as the elastic) and has indeed a lumpy appearance. The material is not easy to manipulate due to its flat nature (ribbon), thus also showing similarities with the china ink.

5.17 10 m yarn = 17 cm line

21h02 Next on, I am experimenting with plastified raffia, using a 6mm needle. the appearance is also shiny. The shape is more regular with this material than the organza ribbon, and less than the elastic. As I crochet, the shape is adopting a natural twisted structure.

FREE ENTRY

F30.2

D	M	Y
25	06	20

START	
10	45

END	
15	49

11h29 The line continued twisting (perhaps of her something to do with the yarn's absence of elasticity, combined with irregular tension when crocheting). With a skein of yarn of 30m, I could make a line of 28cm. It is very workable but doesn't hold shape.

11h37 I will try now with OMC's samara fake fur yarn, also as a parallel to the oil bar, for its shiny, dougny and uneven appearance → 5.19

12h15 This material is very hard to manipulate, as the fur makes it very hard to find the holes. Therefore, the precision of the structure is unreliable as I might be skipping some holes without knowing (the procedure of finding the holes is purely tactile, as I have to palpate my way around the structure, thus making the building of the line quite slow and uneven).

15h45 Upon finishing this structure, I can realize that even though the overall appearance of the line is not sharp (but puny), and the building process not precise, the overall line still is straight w/ even width.

FREE ENTRY

F31

D	M	Y
25	06	20

START	
15	51

END	
23	02

15h53 Next on, I am experimenting with the DMC ankara mohair blend. I am starting with a 4mm needle. The material is also not very easy to work with and also requires a more active tactile process, yet it is a little easier to work with than 5.17. → 5.20

21h31 The outcome is very soft and with blurry edges, due to the small puny fibers of the yarn. It resembles in aesthetics the lines made with charcoal (soft and blurry).

22h00 The small needle makes the line very compact, I will experiment with another line using a bigger needle next, to see if the extra space enhances the blurryness of the material.

FREE ENTRY

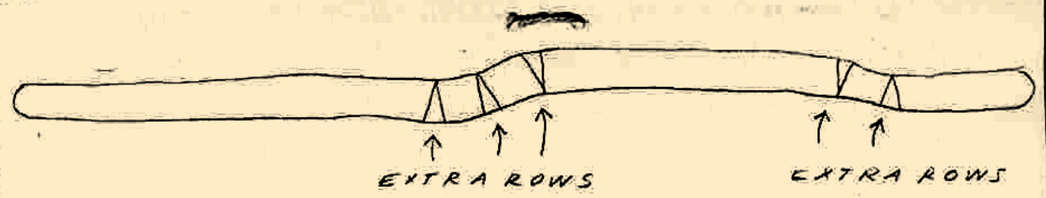
F32

D	M	Y
26	06	20

START	
09	11

END	
11	17

11h01 Finnished the second line with mohair blend I made it extra long to have variation in lengthes (120 cm). I also tried to make extra rows here and there to try and achieve a curved line. I obtained some very slight curves, but it is not important now as I am just doing a superficial experimentation of the materials to see which ones work and which don't when brought to comparison with the other materials in use. → (5.21)



11h12 As for the loose structure, I used a 10 mm needle. At first I tried using double stitches, but the structure was looking too open, so I undid what I had first built and re-did it using single stitches. The big needle made the building process faster. But although visually a softer and more blended appearance and structure is noticeable, it is not that evident (it is very subtle).

FREE ENTRY

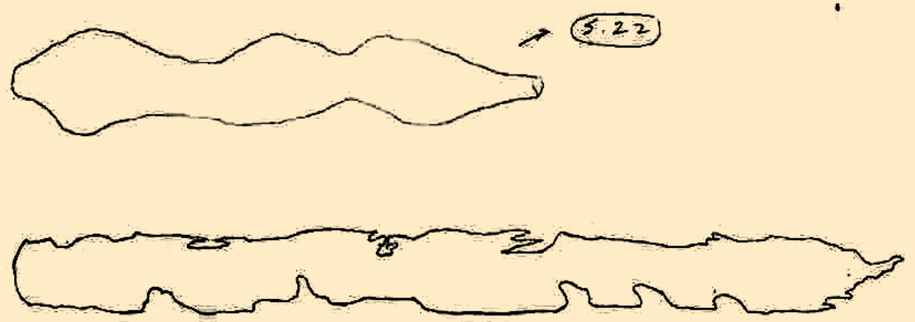
F33

D	M	Y
26	06	20

START	
13	01

END	
22	20

14h43 Using raffia for the next time (5.22) with a 4mm needle. At first, I thought of this material as a parallel to charcoal. However, upon realizing that charcoal is of an extremely soft nature, thus comparing more faithfully to a soft and brown material such as wool. After analyzing the material used in previous samples (specifically (5.3), in which I realized how unpredictable and difficult to control this material was due to its irregular thickness) as well as experimenting with [redacted] but more in a new sample ((5.22)), I realized that in fact it relates more to the china ink. Not only are both very hard to control if from a practitioner's point of view, but they are also very uneven in appearance.



→ OUTLINE OF A LINE MADE WITH CHINA INK ON PAPER IN (0.1)

DETAILED ENTRY

DE7

D M Y: 27 06 20

START: 13 38

END: 14 06

CONCLUSIONS

[13h38] These past entries (F29, F30, F31, F32 & F33) were dedicated to experimenting with some textile materials on a more superficial level and comparing them with what I have learned about charcoal, china ink, oilbar, marker and graphite drawings on the previous phase (phase 1). So far, I have the impression that mohair has similar properties to charcoal, raffia to china ink and elastic to marker. Plastified raffia is similar to oilbar and organza and fake fur as well. I still need a parallel to graphite. I believe that I need a sharp but soft and slightly shiny material. I will experiment with cotton and velvet yarns next. I will also try with nylon to seek similar properties to oilbar.

QUESTIONS FOR NEXT SESSION

- which materials can be used in parallel to oilbar and graphite?
- I should experiment again with the graphic materials while focusing less on form and more on material qualities before I continue with the textile materials

FREE ENTRY

F34.1

D M Y: 27 06 20

START: 19 15

END: 20 32

[19h15] I am experimenting again with graphic media, starting with china ink.

[19h22] I made a first drawing (D.26) trying out different textures and actions using a sakura brush pen. I tested the following variations: more vs. less ink, faster vs. slower movements, variations in the amount and rythm of pressure and different types of lines (as previously explored in phase one)

[19h31] next on, I will try different "manual implements" for applying the china ink on the surface.

[19h41] I then used a large big eye sewing needle to apply the ink. I experimented with variations in the ammount of ink, inclination of the needle, orientation of the needle and type of line → (D.27)

[19h55] then I used my fingers as implements, exploring variations in: part of the finger, which finger was used, direction of finger, inclination of finger, amount of ink, velocity, pressure, type of line and rythm → (D.28)

[19h59] next, I will use normal painting brushes (without reservoirs), experimenting with size form round brush)

[20h23] with this brush I made experiments exploring: rotation, pressure, type of line and velocity → (D.29)

FREE ENTRY

F34.2

D	M	Y
27	06	20

START	
20	53

END	
21	19

20h58 Then I experimented with a brush n÷4, square tip → (D.30) experimenting variation in: rotation, amount of ink, inclination and orientation of the brush, type of line, fluidity, velocity and pressure

21h00 Next on, I am experimenting with the spatula of round tip → (D.31)

21h11 I tested variation in: part of the spatula used, inclination and orientation, pressure, velocity and amount of ink

21h13 Lastly, I will use a toothbrush to implement the ink → (D.32)

21h17 I experimented with variation in: velocity, pressure, part of the toothbrush used, inclination, orientation and type of line

DETAILED ENTRY

DE8

D	M	Y
28	06	20

START	
11	10

END	
11	32

CONCLUSIONS

From my experiments using different manual implements with the china ink, I gathered the following conclusions from the material's behaviour: ① the round and square tip brushes offer the most controlled & precise results, followed by the finger, then the brush pen, toothbrush, needle and lastly the spatula; ② the spatula and toothbrush offer the most variety in width and texture; ③ china ink can have very different textures, from a very sharp, more uniform line to a very irregular, textured and stringy line (which although uses only one manual implement with a single movement, sometimes has the appearance of several liners (e.g.: when using the toothbrush, in (D.32)); ④ the biggest the amount of ink and smaller the pressure, the most uniform the line; ⑤ china ink liners often have a gradient effect (as the ink ends towards the end of the line (D.28), (D.29) & (D.30), overlaps with itself in zigzags (D.25) or is uneven in thickness in width (D.26))

QUESTIONS FOR NEXT SESSION

- I tested different manual implements and how they affect the behaviour of the china ink; how can I test different variables as well with other manual implements in which the implement is the material itself (e.g.: charcoal bar, or oil bar)?

FREE ENTRY

F35

D	M	Y
22	07	20

START	
11	04

END	
17	01

11h04 For the past week I have been trying to decide which materials to pair up in order to order bigger quantities before I leave to Estonia. I am certain that I want to explore further mohair blend in parallel to charcoal, raffia alongside cluma ink and elastic yarn along with markers. I have purchased already 4 skeins of mohair blend yarn and I am dyeing my own raffia (as black raffia is very hard to come by and expensive as well), among dylon aniline dye on natural raffia. The elastic yarn, I have ordered from a local factory 500m and will pick it up tomorrow. From the experiments made so far, I was mostly pleased with the plastified raffia as an alternative for the wire (even though not fully convinced). However, I realized that was extremely expensive and hard to find (5€ for 30m). For that reason, I decided to try cutting and twisting black trash bags to try to achieve a similar result → (5.23) & (5.24)

16h47 To my surprise, these samples ((5.23) using strips of 1cm width and (5.24) of 4cm width, both using a 3mm needle) ended up with properties resembling graphite instead: they are shiny and easily looping (more to a grey shade) and, being quite stretchy, are also easy to manipulate, proposing sharp lines. But the width is not very regular, so I must try to cut the strips more uniformely in the future.

FREE ENTRY

F36

D	M	Y
03	07	20

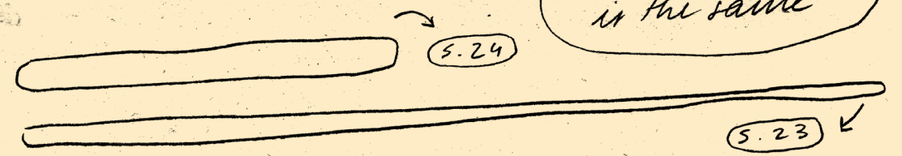
START	
13	32

END	
02	42

13h32 A bit more about samples (5.23) and (5.24). I will continue working on them to try and achieve a longer line. First, (5.24), which I decided to keep rather short (about 40 cm), in order to explore different lengths.

16h08 Then, I started to work on the sample (5.23).

02h36 Because the structure was considerably thinner, the construction process was much faster, so I decided to make this one longer, achieving a final length of 80cm.



FREE ENTRY

F37

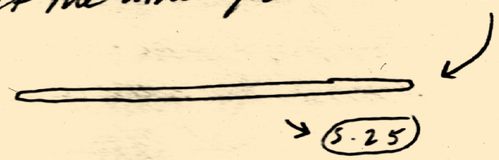
D	M	Y
12	07	20

START	
09	01

END	
23	12

09h01 After finishing samples (5.23) and (5.24), I wanted to test if this material has the same behaviour as the graphite drawn line, which permits very sharp and thin lines. With this in mind, I made a third line with the trash bags using a 1mm needle and 1mm stripes.

23h00 The process with this small needle is very slow but the result is very satisfactory: a sharp, compact and uniform-looking line that resembles the line produced by a mechanical pencil. As this process is very time-consuming, I also left the line quite short (35 cm).



In the future I will try with even thinner liners (in comparison with, for example, a 0,35 mm mechanical pencil).

FREE ENTRY

F38

D	M	Y
26	07	20

START	
15	10

END	
22	00

15h10 I am still seeking for a material that represents a good parallel to the oil bar. The closest one I have experimented with so far is the fake fur. However, I felt that even though the visual quality was similar (both shiny), the texture was very different, since the oil bar has a flakey quality, and the fake fur (5.19) has a softer, fuzzy appearance (like a hybrid between charcoal and oil bar. For this reason I decided to try with a velvety yarn (bamin from the brand Katia), which is also shiny (thus conveying an oily appearance to the drawing) but more compact than the fake fur (whilst still soft) - 7 mm needle (5.26)

21h42 Upon finishing this sample, I am very impressed by the final outcome. The similarities with oil bar are evident in visual appearance (semi-shiny, deep black and irregular) and also in texture (soft, doughey and crumbly). I shall explore further this material after I make the exercise with the oil bar related with this phase.

FREE ENTRY

F39.1

D	M	Y
01	08	20

START	
11	26

END	
13	20

11h26 Starting now with the graphite experiments. First on, I will explore the pencils HB - 4B (sharp and soft tips). I will use the tip and the side of the pencil (playing with the inclination to draw the lines). I also will use different velocities and pressures. I can see that even when the line is soft (because of pencil inclination or round tip), the line is still very uniform. The biggest variation in this case is the density in pigment and width of the line → D.33

11h39 Next on, I shall experiment with pencils 5B - 9B using the same variations. → D.34

12h05 The result is similar in form and texture but the tones are darker. Surprisingly, the sharpness of the line is similar (seems to be connected more with the inclination and sharpness of the pencil).

12h09 Now I will be using mechanical pencils 0,5 mm and 0,35 mm → D.35

12:21 As expected, the result are very thin and sharp lines.

13:09 At last, I will explore graphite bars (square :4B and round : 8B) → D.36

13:18 The round bar offers similar results to pencils, but the square has extremely soft and non-sharp liners (almost like shading) when inclined (not using the tip)

FREE ENTRY

F39.2

D	M	Y
01	08	20

START	
13	31

END	
17	33

13h31 Next on, I shall explore further the oil bar. I will start by using normally the bar, using first a sennelier black bar (high quality, very soft) → D.37

13h43 I experimented a lot with twisting the hand and movement (rotation) and also pressure.

16h59 Now I will experiment with the van gogh bar → D.38 testing also rotation & pressure

17h06 Comparing this drawing with D.37, I can see that the line is sharper (more controlled) but less saturated and compact (more patchy), because it is less soft and doughey).

17h14 Next on, I will experiment with different ways to implement the media (manual implements).

17h18 First on, I will try to apply it with a spatula.

17h23 I tried with both the sennelier and the van gogh bars and clearly this was easier with the sennelier, not only because it gripped to the spatula better but it also had a better flow through the paper. In general the liners all very patchy and not very consistent. Curved liners and zigzags were almost impossible to make. → D.39

FREE ENTRY

F39.3

D	M	Y
01	08	20

START	
17	37

END	
18	14

17h37 At last I will use the fingers as a manual implement, with both hands → D.40

17h49 once again, the sommelier bar was easier to work with. I tried making sharp liners with the fingernail, but the result wasn't very successful. Overall these liners were not very sharp or saturated, but they were easier to manipulate than the spatula ones.

FREE ENTRY

F39.4

D	M	Y
01	08	20

START	
18	24

END	
19	25

18h24 Exploring charcoal now. First, with the bar. First using the vegetable bar w/ 1cm diameter - D.41

18h28 Second, using also a vegetable bar but with 3mm diameter. - D.42

18h31 Then I used a synthetic bar with round tip (5mm). - D.43

18h33 Then I used a synthetic bar with square tip (5 mm). - D.44

18h36 Then I used the finger as a manual implement. For this I used the synthetic bar with round tip because it was the option that left the most pigment on the fingers. ↳ D.45

19h08 Lastly, I will test the markers. First off I am testing permanent markers of different thicknesses: pilot supercolor marker all surfaces (fine); uniposkey round tip medium liner; sharpie, cd/dvd pilot marker and unipoint marker 0,8 - 1,2 mm. → D.46

19h18 Next on, I am experimenting with acrylic based markers: uniposca 1.8 - 2.5 mm bullet shaped; uniposca brush pen size; pilot pintor F; molotow twin empty pump marker 1,5 + 4 mm; molotow empty pump softliner 2 mm chisel tip. → D.47

FREE ENTRY

F39.5

D M Y: 01 08 20

START: 19 37

END: 19 48

19437 Finally, I will experiment with the water-based markers: faber-castell pitt artist pen brush black 199; faber castell standard marker and flying tiger standard marker → D.48

19444 To finnish, I will use pens: muji 0,5 pen, staedtler pigment liner 0,2, artline ergoline medium 0,6 and uniball eye micro. → D.49

FREE ENTRY

F47

D M Y: 22 08 20

START: 12 52

END: 17 29

12452 Continuing the construction of the curve with raffia. I am repeating a line drawn in ink, copying the thickness and general look. I am wondering if, when I try to copy too much the visual aspects of a ink line, I loose the fluidity that is characteristic to it, and to the general drawing of the line. I will nevertheless finish this line using the same approach in order to understand better the translation portion of the line drawing to the space. I will explore further these details in the next phase focusing on the gesture.

13442 I have been reflecting about what drove me to make this theme. I believe that my interest for the tangible stems from a concern about the loss of material culture. Visual representations have been for years dominating the art and design production and I believe that the latest attempts to bring back material exploration exibit a detachment from the drawing field. With this in mind, I aim to find new solutions to add material and physical value to visual art and design which is based in drawing.

FREE ENTRY

F42

D	M	Y
29	08	20

START	
15	15

END	
21	56

15h15 Continuing the previous shape.
15h27 I am reflecting a bit about the project. It seeks to prove the pertinence of craft and material culture, using textile as an example on how to expand the drawing field and add value to it as well as to textile tools.
17h08 Also thinking about the line and why it is pertinent. Lines are traces we make in general in our life (as Tim Ingold extensively demonstrates in "Lines"). They represent time, movement, marks we leave, thoughts... They are connected to action and practice, so they are the most logical element to use to explore the action of drawing and the action of making. With this thesis I am not only exploring technical matters but also what it means to <u>make</u>. Lines have so much historical baggage when it comes to that. They are core to drawing, core to textile making, they were the first visual element to be produced and contemplated (maybe ancient decorative motives - ceramics and textiles and drawings)

FREE ENTRY

F43

D	M	Y
30	08	20

START	
15	33

END	
00	02

19h43 Thinking about the material differences when it comes to the action of drawing. Evidently, the crochet process is much slower than any graphic one. But imitating a line that was previously made on paper makes the drawing with textile even slower, for I have to think much more about the mark I am making. Perhaps this is also something I can explore in the gesture chapter (differences between a replicated line, and a impulsive one in each media). Obviously the media itself has also a big impact on this, as china ink, for example, is very difficult to control with precision in order to truthfully replicate a textile line (and vice-versa as well).

DETAILED ENTRY

DE9

D M Y: 05 09 20

START: 13 11

END: 13 51

CONCLUSIONS

Besides hours registred on the free entries F40 - F43, I worked two more days on (5.27) (roughly 16 h total). This sample allowed me to understand better the interactions between ink and raffia, rather than the behaviours of the raffia material (considering that I had already researched form with raffia in the previous phase - the reason why I chose to begin with this material). By dominating the material already, I also had the opportunity to have a practice that was less focused on the technical parts of the practice and more on its meaning, therefore reaching the conclusion that better dominance of the media and techniques allows for a deeper reflection within practice.

QUESTIONS FOR NEXT SESSION

- What kind of reflections do I have when exploring different materials: more technical or theorical/philosophical?
- How can different materials contribute to a deeper understanding of the meanings behind the textile craft and dreaming practices?

FREE ENTRY

F44

D M Y: 05 09 20

START: 13 51

END: 03 09

13h51 Starting a new raffia line, this time exploring the zigzag. I will try a comparison with a different type of material application: this time replicating a line made by a large big eye sewing needle. I will use the same raffia and needle (3 mm) → (5.28)

03h00 This sample posed already a bigger technical challenge than (5.27), because the media was applied using a new manual implement (the large big eye sewing needle). This implement allowed for new textures to be shown on the paper, which generated new challenges when it came to the crochet practices using raffia. This implement produced more irregular textures and an overall more patchy line: qualities which were propelled by the characteristics of the raffia material.

FREE ENTRY

F45.1

D	M	Y
26	09	20

START	
13	15

END	
14	03

[13h15] Touch is how we interact with the world. It is the layer between us and what is outside our skin. It is based in touch that we establish relationships with places, nature, objects, and people. A person that loses the sense of tactility becomes in a way caged inside their own body, as they loose all their ability to perceive physical interaction except through their sight. If their spouse touches their shoulder, they will not feel it. They would not feel kisses, an embrace, or a warm shower. The mere act of walking would become burdening. As they wouldn't be able to walk unless looking down. Try to imagine a life in which you can't feel the boundaries of your own body. Similarly to touch, textiles are often also referred to as our second skin, the layer between us and what is around us. We seek textiles for comfort and protection, and although touch generates a link between consciousness and physicality, textiles represent an obstacle between tact and the physical world. What truly connects -both in concept and application- touch and textile is how they symbolize in their core the relations between private v.s. public and the individual v.s. the collective. As an individual, it is personally very meaningful to deal with the dynamics implied in connecting with the public. I create, but it pains me to expose what I make. Perhaps it is because I see my work as a reflection of myself. We learn/ create "through an act of self-discovery" (Tim Ingold). For any artist, creating means inspecting oneself and

FREE ENTRY

F45.2

D	M	Y
26	09	20

START	
14	03

END	
14	43

transferring a part of us towards something tangible. It entails a way to express what cannot be materialized in another form, being it internal sensations, emotions or abstract ideas which cannot be translated through words. Ultimately, art is to materialize the immaterial. Even if unconsciously, as artists we are incessantly asking ourselves "do I see myself in this?" or "does this represent who I am as an artist?". These questions are daunting and sometimes they completely frustrate the creative process and create barriers to explore what it is that we have inside and need to expell outside. The artist's ultimate quest for self-identification and self-labeling creates a pressure on the way we interact with the public and our artwork as well. In art more than in any other field, criticism directed to an artwork implies criticism against the artist as an individual. Making art (in my case drawing or crafting is the ultimate method for interacting with what is around us. This applies to auto-biographical and conceptual art as well as to even the most minds-driven, practice-based artifacts. I take a material and enter a dialogue with it, I shape and utilize it by applying my thoughts and feelings, or even just mere intentions onto it. I take a piece of material and give back a piece of myself. The material is now different because it was me who manipulated it, and not someone else. And by creating this artifact and then placing it in a physical environment, even though

FREE ENTRY

F45.3

D	M	Y
26	09	20

START	
14	44

END	
14	51

I may not display it, as I materialize an idea, it exists in the world for someone else than just me. I enter a dialogue with the public. I make myself public. This is an unavoidable truth. Perhaps many artists don't really reflect on what this means. But for me, this is the quality in art that affects the most the way I interact with my practice. Up until now, I have been researching the interactions between object, practice and myself through touch. However I have reached a moment of deadlock, in which even though I have been developing so deeply my relations with these objects of creation, I haven't been able to embrace the second level of what it means to make, which is to dialogue with the public/collective. I now understand that in order to fully research the materialization of drawing, I must disrupt this constraint and embrace the unavoidable step of making myself visible.

FREE ENTRY

F46

D	M	Y
13	10	20

START	
11	32

END	
02	01

11h32 I started a new line (S.29) using mohair wool with a 3 mm needle. I decided to try again with this material because, as I laid down all my phase 2 samples, I realized that the previous attempt at a curved a zigzag line with mohair (S.21) didn't properly achieve the characteristics of a curved or zigzag line (from a technical and structural point of view). Therefore, for this new sample I tried, through extra stitches (using the method first introduced in the entry F.14) to exaggerate more the curve.

DETAILED ENTRY | DE10

D M Y: 14 | 10 | 20

START: 11 | 22

END: 11 | 43

CONCLUSIONS

11h22 After finishing (5.29) I realize that, even forcing the curve through extra stitches, the curves achieved aren't as strongly built as, for example, when using raffia or elastic yarn (as seen in (5.16) and (5.28)). I must still try out the curve possibilities using trash bags and velvet yarn, which are also very soft like mohair and unlike elastic and raffia

CONCLUSIONS QUESTIONS

- how strongly built can curves be when using velvet yarn and trash bags in comparison with harder and stronger materials like elastic and raffia?

FREE ENTRY | F.47

D M Y: 12 | 0 | 21

START: 10 | 31

END: 17 | 01

10h31 making a line with trash bags using a 5 mm needle. I wanted to verify if I could make sturdy curves and corners with this material (at least in comparison with the other stiffer materials (like elastic or raffia).

16h31 So far I can conclude that the result regarding the sturdiness of the bendings is pretty satisfactory. However, this sample (5.31) shows a much more irregular nature than (5.23), (5.24) and (5.25). I believe this is due to the stiffer of trash bag being thicker, making the knots more voluminous.

DETAILED ENTRY

DE11

D M Y: 18 | 0 | 20

START: 14 | 57

END: 15 | 11

CONCLUSIONS

14h57 Looking back at the whole phase two, I realised that while in drawing I started to explore naturally how different tools or implements affect liner and the behavior of the material, I didn't really reflect on this with the textile materials.

15h06 I think in a third phase it would be important to explore further with tools, as they are a crucial part of the drawing and crochet process - in both mediums it is traditionally the layer or connector between us - our hands - and what is being materialized; Therefore they must be considered, as they have a huge impact on the outcome.

QUESTIONS FOR NEXT SESSION

- Does material agency outweigh human agency in the process of drawing and crafting?
- Which tools can be used to crochet? Which is the limit?
- How does the tool influence the materialization of the maker's trace towards the paper or 3D space?

FREE ENTRY

F48.1

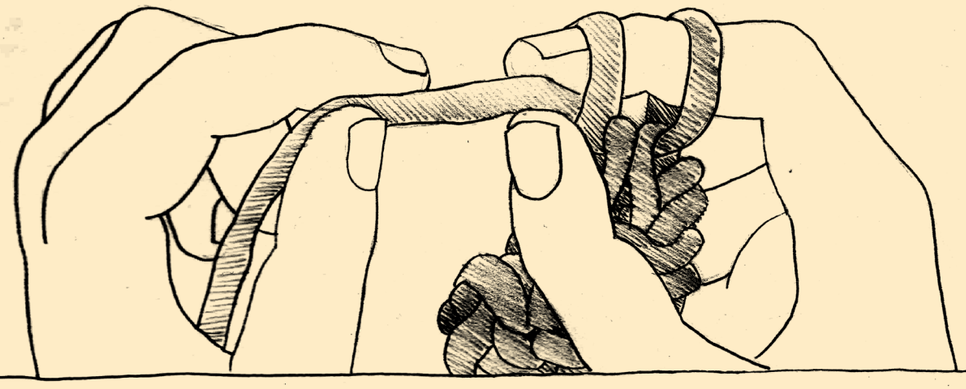
D M Y: 04 | 03 | 21

START: 13 | 41

END: 14 | 37

13h41 I will start by attempting to knit using my finger as a manual implement. I will begin with the velvet yarn because I feel that it allows very loose knots but also is quite rigorous in the way it constructs the line, and it also slides very well through the implement and itself - (5.32)

13h58 In order to use my hand as the implement, I resorted to my index finger as the needle, using my thumb and the opposite hand's index and thumb as an aid to manipulate the yarn. The size of the knot is utterly dependant on the size of my finger.



FREE ENTRY

F 48:2

D	M	Y	START		END	
04	03	21	20	01	21	08

21h08 When analyzing their process in comparison with the liners made with the crochet needle, I realize that the outcome is a lot more expressive, as it has less precision. I felt a closer relationship with the material because I was feeling it with my hands. Every part of the knot is made through this contact between hand and material. The hand is more mindful than the tool, as it requires listening to the material, paying attention to it in order to build <u>with</u> it. It requires compromise. The needle dominates the material, acquiring high precision through plays on tension and release.

FREE ENTRY

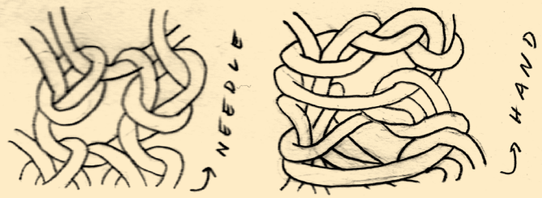
F. 49

D	M	Y	START		END	
05	03	21	10	13	19	28

10h13 I am going to use raffia to start a new sample (5.33). I want to try with a more rigid material in order to understand if this fluidity is a consequence of the material's characteristics or the tool's (in this case, the hand).

12h45 Indeed, I realize that the making process using the hand is still very organic and fluid. <u>Making with the hand is like dancing and conversing with the material</u>. I will try again with elastic yarn to see if I gather some different insight - (5.34)

19h15 I was hoping to test with the elastic to see if I could get a bit more precision with the stitches as the knots generally have been having a very horizontal look when using the hand. But the look and structure of the knots is the same as with the other materials.



FREE ENTRY

F50

D	M	Y
05	03	21

START	
21	03

END	
01	46

21h03 Starting a new line (S.35). I want to use a needle that's as thick as my finger (12 mm) in order to understand if these look and horizontal knots have these qualities because they were made with the finger or because the ratio between the yarn's thickness and the finger is too big.

01h37 Although holding a looser look, the structure of these knots still have a more regular and rounded appearance than in (S.33), similar to previous sample (S.16). This comes to show that there really is a change in the behavior of the material and technique once the hand is in direct contact with it.

FREE ENTRY

F51

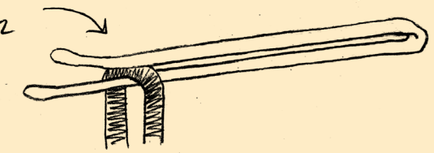
D	M	Y
06	03	21

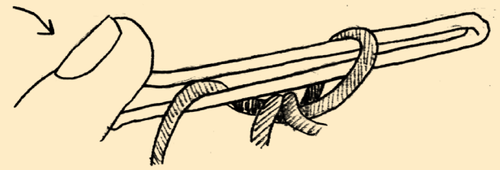
START	
09	02

END	
15	59

09h02 I also want to try and understand whether the type of tool I use also influences the making process. For this reason I will attempt to crochet with a bobby pin as the manual implement (S.36)

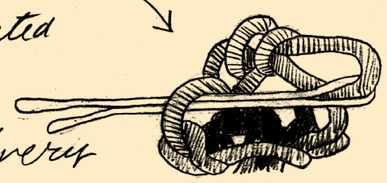
10h38 I started by holding the yarn on the tip of the pin but this required me using my finger too much to aid with the manipulation of the yarn through the holes, as the yarn kept slipping away from the pin. With this in mind, further on, I used the end of the pin to pass the yarn through the holes, putting it off and on the pin as needed





14h50 then I repeated with a similar needle (3mm) (S.37)

15h59 result was very regular



LIKE AN EMBROIDERY NEEDLE

FREE ENTRY

F 52

D	M	Y	START		END	
07	03	21	21	03	23	14

21h03 I am now experimenting to crochet with other unconventional tools in order to understand how the line's characteristics resemble or differ when using other alternative tools. Next, I'm going to try using a pencil on elastic yarn – (5.38)

21h28 The process is very similar to using a hook, but more difficult and messy because without the hook, the yarn doesn't easily pass through the hole (pencil has similar characteristics to the knitting needle, but because crochet only uses one needle, the hand must have bigger intervention to assume the role of the other needle).

23h14 Like (5.36), the sample is verry irregular in shape because the yarn slips often from the pencil and the hand must intervene in assistance. In order to manipulate the yarn, this has to be very loose, thus having very little control of its course.

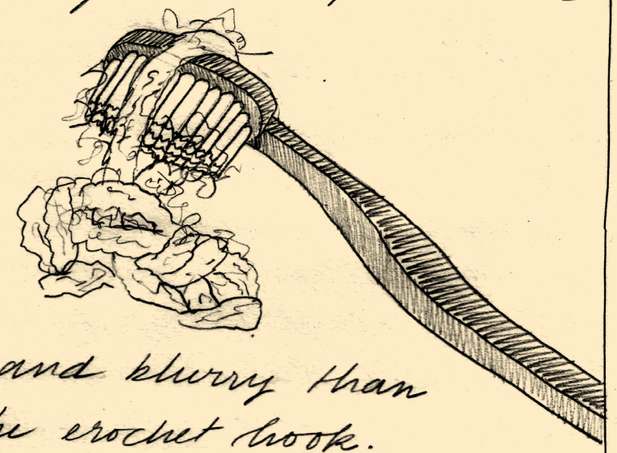
FREE ENTRY

F 53

D	M	Y	START		END	
12	03	21	17	27	19	39

17h27 Starting another sample using a tooth-brush to crochet wool – (5.39)

17h41 Right off the bat, I realized this tool offered an interesting new imput to the wool material. The brush pulls apart the fibers of the wool, → making its appearance even more soft and blurry than when using the crochet hook.



19h39 Although this line is quite straight, there are definitely some differences than when using a hook. The most evident one is that the line is all that much more blurry because of the brush's characteristics. Furthermore, the knots are still not completely uniform, making the line also a bit irregular.

DETAILED ENTRY

DE13

D M Y: 14 04 21

START: 10 48

END: 11 21

CONCLUSIONS

Upon analyzing this third phase, I can conclude a few things about the use of tools.

① the crochet hook allows the maker to have a very high control of the shape using tension, dominating the material and shape;

② the hand implements its own trace onto the shape of the material: a similar quality in the knots is transparent to all the materials;

③ the unconventional tool offers a very organic result: to make, one must dialog and compromise, the material follows its own course, but the tool also leaves something behind.

QUESTIONS FOR NEXT PHASE

- next on, I must test how I can use this knowledge, or language, to build a drawing composition
- how can the different elements of this technical research dialogue with eachother?

APPENDIX THREE: CHARTS

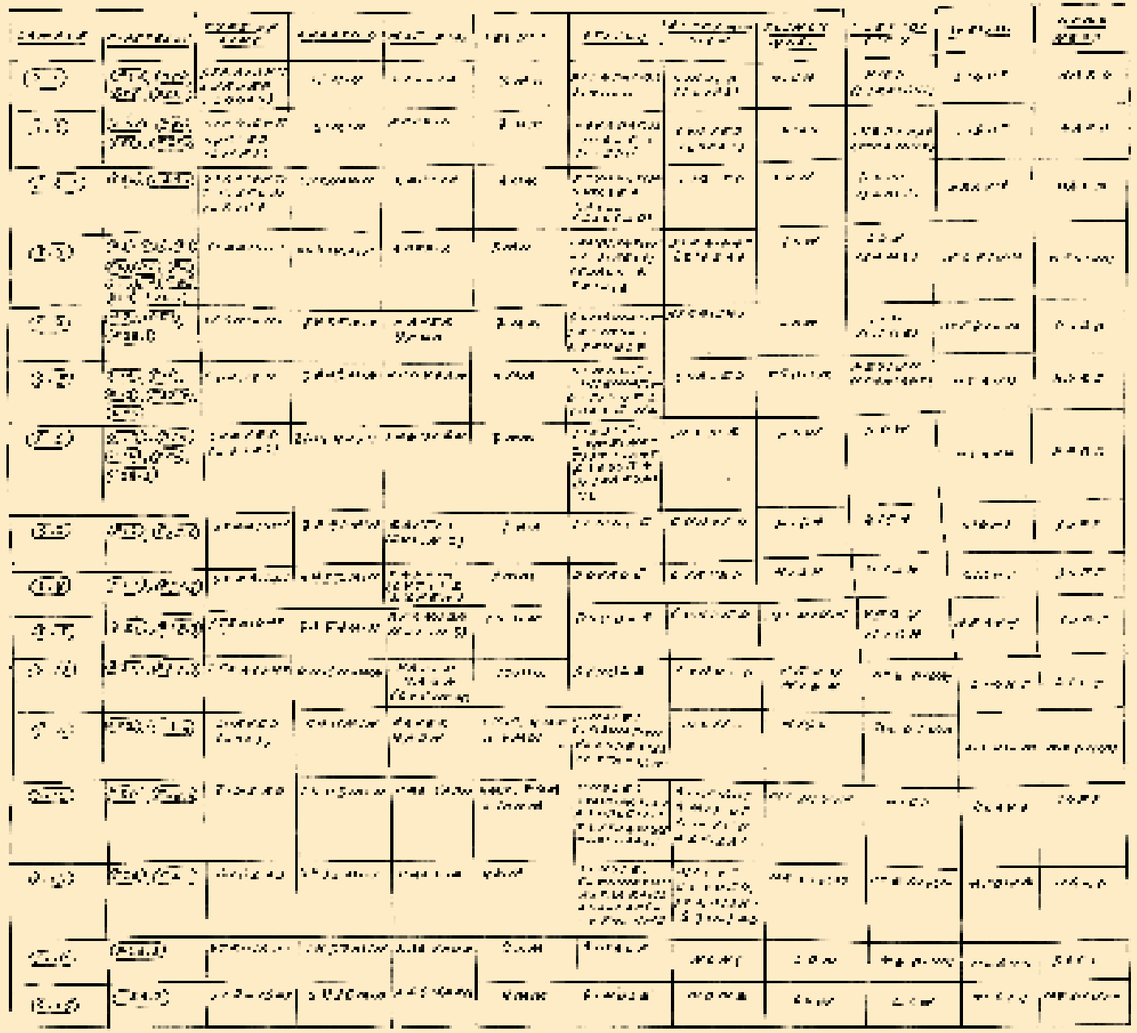


Table 1 Data regarding autoethnographic journal's notes on *threads* in *Phase one: form*.

SAMPLE	REFERENCE	MATERIAL	TYPE OF LINE	DURATION	NEEDLE	ROUGHNESS	PRECISION	PLASTICITY	STIFFNESS
S.16	F29, DE7, DE10	ELASTIC YARN (2,5 MM)	CURVED/ ZIGZAG	9H04MIN	3MM	LOW	HIGH	FLAT	HIGH
S.17	F30, DE7	ORGANZA RIBBON (0,5 CM)	STRAIGHT	22MIN	10MM	HIGH	MEDIUM	SHINY	LOW
S.18	F30, DE7	UNKNOWN (SOME SORT OF PLASTIC RAFFIA)	STRAIGHT/ TWISTED	2H36MIN	6MM	MEDIUM	MEDIUM	SHINY	LOW
S.19	F30, DE7	DMC'S SAMARA FAKEFUR	STRAIGHT	4H12MIN	10MM	VERY LOW	VERY LOW	BLURRY/ SHINY	VERY LOW
S.20	F31, DE7	DMC'S ANKARA MOHAIR BLEND	STRAIGHT	7H11MIN	4MM	VERY LOW	VERY LOW	VERY BLURRY	VERY LOW
S.21	F32, DE7	DMC'S ANKARA MOHAIR BLEND	SUBTLY CURVED/ STRAIGHT	2H06MIN	10MM	VERY LOW	VERY LOW	VERY BLURRY	VERY LOW
S.22	F33, DE7	RAFFIA	STRAIGHT	7H19MIN	4MM	HIGH	HIGH	STRINGY, DIFFERENT HUES	HIGH
S.23	F35, F36, S.47	TRASH BAGS (1CM)	STRAIGHT	UNKNOWN	3MM	MEDIUM	HIGH	METALLIC	MEDIUM
S.24	F35, F36, S.47	TRASH BAGS (4MM)	STRAIGHT	UNKNOWN	3MM	MEDIUM	VERY HIGH	METALLIC	HIGH

Table 2 Data regarding autoethnographic journal's notes on *threads* in *Phase two: material*.

SAMPLE	REFERENCE	MATERIAL	TYPE OF LINE	DURATION	NEEDLE	ROUGHNESS	PRECISION	PLASTICITY
S.25	F37, S.47	TRASH BAGS (1MM)	STRAIGHT	14H11MIN	1MM	MEDIUM	VERY HIGH	METALLIC
S.26	F38	VELVET YARN (KATIA'S BAMBI)	STRAIGHT	6H50MIN	7MM	VERY LOW	HIGH	DOUGHEY
S.27	F40, F41, F42, DE9	RAFFIA	CURVED	15H40MIN	4MM	VERY HIGH	HIGH	STRINGY, DIFFERENT HUES
S.28	F44, DE10	RAFFIA	ZIGZAG	13H18MIN	3MM	VERY HIGH	HIGH	STRINGY, DIFFERENT HUES
S.29	F46, DE10	DMC'S ANKARA MOHAIR BLEND	CURVED	14H29MIN	3MM	VERY LOW	VERY LOW	VERY BLURRY
S.30	F46	VELVET YARN (KATIA'S BAMBI)	CURVED/ ZIGZAG	14H49MIN	5MM	VERY LOW	HIGH	DOUGHEY
S.31	F47	TRASH BAGS (2CM)						

Table 3 Data regarding autoethnographic journal's notes on *threads* in *Phase two: material*.

SAMPLE	REFERENCE	MANUAL IMPLEMENT	DURATION	MATERIAL	FLUIDITY	SHARPNESS	STRUCTURE
S.32	F48	HAND	56MIN	VELVET	HIGH	VERY LOW	COLLAPSING STITCHES
S.33	F49	HAND	2H32MIN	RAFFIA	MEDIUM	VERY LOW	COLLAPSING STITCHES
S.34	F49	HAND	6H30MIN	ELASTIC	HIGH	VERY LOW	COLLAPSING STITCHES
S.35	F50	12 MM HOOK	4H43MIN	ELASTIC	VERY HIGH	HIGH	REGULAR STITCHES
S.36	F51; F54; F52	BOBBY PIN	5H48MIN	ELASTIC	VERY LOW	MEDIUM	IRREGULAR STITCHES
S.37	F51	3MM HOOK	1H09MIN	ELASTIC	VERY HIGH	VERY HIGH	REGULAR STITCHES
S.38	F52; F54	PENCIL	2H11MIN	ELASTIC	VERY LOW	VERY LOW	IRREGULAR STITCHES
S.39	F53; F54	TOOTHBRUSH	2H12MIN	MOHAIR WOOL	LOW	V. LOW	IRREGULAR & TORN STITCHES
F.40	F54	TREE BRANCH	3H13MIN	PLASTIC BAGS	LOW	VERY LOW	IRREGULAR STITCHES

Table 4 Data regarding autoethnographic journal's notes on *threads* in *Phase three: agent.*

SAMPLE	REFERENCE	TYPE OF LINE	DURATION	MATERIAL	PRESSURE	ROTATION	FLUIDITY	CONTRAST	SHARPNESS	NUMBER OF LINES
D.0	F13	CURVED	UNKNOWN	GRAPHITE PENCIL GR FABER CASTELL JUMBO	MEDIUM	LOW	HIGH	LOW	MEDIUM	1
D.1	F18.1	STRAIGHT	21MIN	CHINA INK W/SAKURA BRUSH PEN	LIGHT & MEDIUM VARIATION	HIGH	LOW	MEDIUM	LOW	6
D.2	F18.1	STRAIGHT	19MIN	VEGETABLE CHARCOAL BAR ICM	MEDIUM	HIGH	LOW	MEDIUM	LOW	10
D.3	F18.1	STRAIGHT	16MIN	SENNELIER BLACK OILBAR	MEDIUM	HIGH	LOW	HIGH	LOW	8
D.4	F18.1	STRAIGHT	27MIN	MARKERS: UNIPAINT PILOT PINTOR FIMM, MOLOTOW 2MM CHISEL, UNIPROCKEY MEDIUM, UNIBALL MICRO	MEDIUM & LIGHT VARIATION	MEDIUM	MEDIUM & HIGH VARIATION	LOW & HIGH VARIATION	LOW & HIGH VARIATION	12
D.5	F18.2	STRAIGHT	32MIN	GRAPHITE PENCIL 7B	HIGH & MEDIUM VARIATION	HIGH & LOW VARIATION	MEDIUM & LOW VARIATION	LOW & MEDIUM VARIATION	MEDIUM	10
D.6	F18.2	CURVED	18MIN	CHINA INK W/SAKURA BRUSH PEN	LIGHT	HIGH	LOW	HIGH	LOW	6
D.7	F25.1	CURVED	UNKNOWN	VANGOHG BLACK OILBAR	HIGH	HIGH	LOW	HIGH	LOW	6
D.8	F25.1	CURVED	UNKNOWN	GRAPHITE PENCILS HB, 2B, 4B, 6B & 8B	LIGHT, MEDIUM & HIGH VARIATION	HIGH	MEDIUM	MEDIUM & LOW VARIATION	MEDIUM & HISH VARIATION	9
D.9	F25.1	CURVED	UNKNOWN	VEGETABLE CHARCOAL BAR ICM	HIGH	HIGH	LOW	MEDIUM	MEDIUM & LOW VARIATION	6
D.10	F25.1	CURVED	UNKNOWN	MARKERS: UNIPAINT, UNIPROCKEY MEDIUM, PILOT FIMM, MOLOTOW 1MM CHISEL, FABER CASTELL BRUSH B, UNIBALL MICRO, STAEDTLER PIGMENT LINER 2.0	MEDIUM	MEDIUM	MEDIUM	LOW, MEDIUM & HIGH VARIATION	LOW, MEDIVM & HIGH VARIATION	9
D.11	F25.1	CURVED (LOOPED)	UNKNOWN	CHINA INK WITH SAKURA BRUSH PEN	LOW	HIGH	MEDIUM	MEDIUM	LOW	5
D.12	F25.1	CURVED (LOOPED)	UNKNOWN	VANGOHG BLACK OILBAR	HIGH	HIGH	MEDIUM	HIGH	LOW	5
D.13	F25.1	CURVED (LOOPED)	UNKNOWN	GRAPHITE PENCILS HB, 2B, 4B		HIGH				

Table 5 Data regarding autoethnographic journal's notes on *traces* in *Phase one: form.*

SAMPLE	REFERENCE	TYPE OF LINE	DURATION	MATERIAL	PRESSURE	ROTATION	FLUIDITY	CONTRAST	HARD-NESS	NUMBER OF LINES
				PILOT PINTOR F 1MM, MOLOTOW 2MM CHISEL, FABER CASTELL BRUSH B, UNIBALL MICRO, STAEDLER PIGMENT 0.2					
D.16	F25.1	ZIGZAG (LOOSE)	UNKNOWN	CHINA INK WITH SAKURA BRUSH PEN	LOW	HIGH	HIGH	LOW & HIGH VARIATION	LOW	7
D.17	F25.1	ZIGZAG (LOOSE)	UNKNOWN	VAN GOHG BLACK OILBAR	HIGH	HIGH	LOW	HIGH	LOW	7
D.18	F25.1	ZIGZAG (LOOSE)	UNKNOWN	GRAPHITE PENCILS HB, 2B, 4B, 6B & 8B	HIGH	HIGH	MEDIUM & HIGH VARIATION	MEDIUM & LOW VARIATION	HIGH	8
D.19	F25.1	ZIGZAG (LOOSE)	UNKNOWN	VEGETABLE CHARCOAL BAR 1CM	HIGH	HIGH	MEDIUM	MEDIUM	LOW	7
D.20	F25.1	ZIGZAG (LOOSE)	UNKNOWN	MARKERS: UNIPAINT, UNIPROCKEY MEDIUM, PILOT PINTOR F 1MM, MOLOTOW 2MM CHISELL, UNIBALL MICRO, FABER CASTELL BRUSH B, STAEDLER PIGMENT LINER 0.2	HIGH	MEDIUM	LOW	HIGH & LOW VARIATION	HIGH & LOW VARIATION	8
D.21	F25.1	ZIGZAG (TIGHT)	UNKNOWN	CHINA INK WITH SAKURA BRUSH PEN	LOW	HIGH	HIGH	LOW, MEDIUM & HIGH VARIATION	LOW	5
D.22	F25.1	ZIGZAG (TIGHT)	UNKNOWN	VANGOHG BLACK OILBAR	HIGH	HIGH	HIGH	HIGH	LOW	4
D.23	F25.1	ZIGZAG (TIGHT)	UNKNOWN	GRAPHITE PENCILS HB, 2B, 4B, 6B & 8B	LOW & MEDIUM VARIATION	HIGH	HIGH	LOW	LOW	8
D.24	F25.1	ZIGZAG (TIGHT)	UNKNOWN	VEGETABLE CHARCOAL BAR	HIGH	HIGH	HIGH	HIGH	LOW	4
D.25	F25.1	ZIGZAG (TIGHT)	UNKNOWN	MARKERS: UNIBALL, UNIPROCKEY MEDIUM, PILOT PINTOR F 1MM, MOLOTOW 2MM CHISEL, UNIBALL MICRO, FABER CASTELL BRUSH B, STAEDLER PIGMENT LINER 0.2	LOW, MEDIUM & HIGH VARIATION	HIGH	MEDIUM & HIGH VARIATION	LOW, MEDIUM & HIGH VARIATION	LOW, MEDIUM & HIGH VARIATION	7

Table 5 Data regarding autoethnographic journal's notes on *traces* in *Phase one: form.*

SAMPLE	REFERENCE	MATERIAL	IMPLEMENT	DURATION	DIVERSITY	TRANSPAR-ENCY	PRECISION	PLASTICITY	FLUIDITY
D.26	F34, DEB	CHINA INK	SAKURA BRUSH PEN	7 MIN	MEDIUM	MEDIUM	MEDIUM	STRINGY, DIFFERENT HUES	LOW
D.27	F34, DEB	CHINA INK	BIG EYE SEWING NEEDLE	10 MIN	VERY HIGH	LOW	VERY LOW	DRAGGED, STAMPED, UNCON-TROLLED	VERY LOW
D.28	F34, DEB	CHINA INK	FINGER	14MIN	LOW	LOW	VERY LOW	THICK, FADING	VERY LOW
D.29	F34, DEB	CHINA INK	BRUSH N°4 W/ ROUND TIP	24MIN	MEDIUM	MEDIUM	MEDIUM	STRINGY, DIFFERENT HUES	MEDIUM
D.30	F34, DEB	CHINA INK	BRUSH N°4 W/ SQUARE TIP	2MIN	MEDIUM	MEDIUM	MEDIUM	STRINGY, DIFFERENT HUES	MEDIUM
D.31	F34, DEB	CHINA INK	SMALL SPATULA W/ ROUND TIP	11 MIN	VERY HIGH	MEDIUM	VERY HIGH & VERY LOW	SHARP, DRAGGED, DIFFERENT HUES	VERY LOW
D.32	F34, DEB	CHINA INK	TOOTH-BRUSH	4 MIN	VERY HIGH	LOW	VERY LOW	STRINGY, SPLASHY	VERY LOW
D.33	F39,	GRAPHITE	PENCILS HB - 4B	13 MIN	LOW	HIGH	VERY HIGH	FLAT, METALLIC	VERY HIGH
D.34	F39,	GRAPHITE	PENCILS 5B - 9B	34 MIN	LOW	HIGH	VERY HIGH	FLAT, METALLIC	VERY HIGH
D.35	F39,	GRAPHITE	MECHANICAL PENCIL 0,5 & 0,35	10 MIN	VERY LOW	HIGH	VERY HIGH	SHARP, FLAT, METALLIC	VERY HIGH
D.36	F39,	GRAPHITE	ROUND 8B & SQUARE 4B BAR	9 MIN	HIGH	HIGH	MEDIUM	METALLIC, FLAT	HIGH

Table 6 Data regarding autoethnographic journal's notes on *traces* in *Phase two:* material.

Table 6 Data regarding autoethnographic journal's notes on *traces* in *Phase two:* material.

SAMPLE	REFERENCE	MATERIAL	IMPLEMENT	DURATION	DIVERSITY	TRANSPARENCY	PRECISION	PLASTICITY	FLUIDITY
D.37	F39	OILBAR	SENNELIER BAR	12 MIN	LOW	LOW	MEDIUM	DOUGHEY, SOFT	HIGH
D.38	F39	OILBAR	VANGOGH BAR	7 MIN	LOW	LOW	MEDIUM	DOUGHEY, SOFT	VERY HIGH
D.39	F39	OILBAR	SENNELIER & VANGOGH BAR WITH SPATULA	5 MIN	HIGH	MEDIUM	VERY LOW	DOUGHEY, CRUMBLING, IRREGULAR	VERY LOW
D.40	F39	OILBAR	SENNELIER & VANGOGH BAR WITH FINGER	12 MIN	VERY LOW	VERY HIGH	VERY LOW	DRAGGED, FADING, DIFFERENT HUES	VERY LOW
D.41	F39	CHARCOAL	VEGETABLE ROUND BAR (1CM)	4MIN	HIGH	HIGH	LOW	FADED, SOFT, BLURRY, DIFFERENT HUES	VERY HIGH
D.42	F39	CHARCOAL	VEGETABLE ROUND BAR (3MM)	3 MIN	MEDIUM	HIGH	MEDIUM	SOFT, BLURRY	VERY HIGH
D.43	F39	CHARCOAL	SYNTHETIC ROUND BAR (5MM)	2 MIN	LOW	LOW	HIGH	SOFT	HIGH
D.44	F39	CHARCOAL	SYNTHETIC SQUARE BAR (5MM)	3 MIN	MEDIUM	MEDIUM	HIGH	SOFT, PATCHY	HIGH
D.45	F39	CHARCOAL	SYNTHETIC BAR WITH FINGER	12 MIN	VERY LOW	VERY HIGH	VERY LOW	SOFT, BLURRY, DRAGGED, FADING	LOW
D.46	F39	PERMANENT INK	MARKER	10 MIN	HIGH	VERY LOW	VERY HIGH	FLAT	VERY HIGH
D.47	F39	ACRYLIC BASED INK	MARKER	19 MIN	HIGH	VERY LOW	VERY HIGH	FLAT	VERY HIGH
D.48	F39	WATER BASED INK	MARKER	7 MIN	HIGH	VERY LOW	VERY HIGH	FLAT	VERY HIGH
D.49	F39	INK	PEN	4 MIN	HIGH	VERY LOW	VERY HIGH	FLAT	VERY HIGH

Table 7 Data regarding autoethnographic journal's notes on *traces* in *Phase two: material* and *Phase three: agent.*

DATE	ENTRY	ARTIFACT	IMPORTANT HIGHLIGHTS & CONCLUSIONS
17/04/2020	F13	D.0, S.6	• WHEN REPRODUCING A GRAPHIC LINE WITH TEXTILE, IT MAY LOOK SIMILAR FROM ONE PERSPECTIVE AND COMPLETELY DIFFERENT FROM THE OTHER
19/04/2020	F14	S.6	NONE
22/04/2020	F15	S.6	• OBSTACLES RELATED TO DEPTH APPEARED THAT DON'T HAPPEN WITH GRAPHIC DRAWINGS: WHEN MAKING A LOOP, I HAD TO TWIST THE FORM (SO FAR GOING IN THE DIRECTION OF X AND Z) TOWARDS A NEW DIRECTION Y, SO THAT IT DIDN'T CLASH AGAINST ITSELF
23/04/2020	DE4	NONE	• THE MORE CURVED IS A STRUCTURE, THE HARDER AND STRONGER IT IS (AS IT REQUIRES TIGHT STITCHES TO BEND) • STRAIGHTER STRUCTURES CAN BE MORE ELASTIC AND DYNAMIC IF THE STITCH IS LOOSE
24/04/2020	F16	NONE	• IF THE PUREST FORM OF THE TEXTILE LINE IS THE FIBRE, AND THIS IS EITHER COLLECTED FROM NATURE OR INDUSTRIALLY PRODUCED, IT IS VERY HARD FOR ARTISTS TO USE FIBRE-MAKING AS A TOOL FOR DRAWING LINES • IN THIS CONTEXT, I RATHER INTERPRET THE IDENTITY OF THE DRAWN LINE AS BEING SET ON THE ACTION: A CONNECTION FROM POINT A TO B, SO IF I CROCHET FROM POINT A TO B WITH A CONTINUOUS THREAD, THE PRODUCED ARTIFACT CAN BE A LINE AS WELL • IF A LINE IS A COLLECTION OF POINTS WITH NO THICKNESS, A GRAPHIC LINE DRAWN WITH A PENCIL DOESN'T FIT THIS DESCRIPTION, FOR THE TRACE LEFT BY THE PENCIL MUST HAVE A THICKNESS, SO IF A PENCIL-DRAWN LINE CAN BE CONSIDERED A LINE AND NOT A PLANE, A TEXTILE LINE CAN ALSO BE IT AND NOT A SOLID • TIM INGOLD PROPOSES DIFFERENT INTERPRETATIONS ON THE DEFINITION OF "LINE" (E.G. "OF SINGLE THICKNESS" OR "LONGITUDINAL EXTENSION") • THE IDENTITY OF THE LINE CAN CHANGE DEPENDING ON THE MEDIUM OR SURFACE • INGOLD ALSO ADMITS DIFFERENT KINDS OF LINES (THREADS, TRACES, ABSTRACT LINES...) AND DIFFERENT FORMS (SUCH AS TWISTING & KNOTTING) • INGOLD ADDS THAT THREADS (CROCHET LINE) AND TRACES (GRAPHIC LINE) ARE MORE LINKED THAN ONE MIGHT THINK • BY CREATING A DIALOG BETWEEN THEM, THERE IS A POSSIBILITY TO POTENTIATE THE ACT OF DRAWING AND GENERATE EXPANDED KNOWLEDGE

Table 8 Data regarding autoethnographic journal's overall conclusions and highlights.

Table 8 Data regarding autoethnographic journal's overall conclusions and highlights.

DATE	ENTRY	ARTIFACT	IMPORTANT HIGHLIGHTS & CONCLUSIONS
25/04/2020	F17	S.7	• PROPORTION OF NEEDLE VS. YARN SIZE AFFECTS MOVEMENT AND ELASTICITY (BIG NEEDLE + THIN THREAD = MORE ELASTIC & BOUNCY)
27/04/2020	F18	D.1, D.2, D.3, D.4, D.5, D.6	NONE
08/05/2020	F19	S.8	• DOUBLE STITCHES MAKE STRUCTURE MORE ELASTIC • WITH RAFFIA, OPENING UP (UNTWISTING) THE YARN ENHANCES ELASTICITY DRASTICALLY
09/05/2020	DE5	NONE	• THERE ARE THRE TYPES OF LINE: STRAIGHT, CURVED, ZIGZAGGED
11/05/2020	F20	NONE	• THE LINE IS THE MOST BASIC ELEMENT OF DRAWING • IN PORTUGUESE THE TERM "TRACE" IS USED TO ADDRESS THE EXPRESSIVE AND AESTHETIC QUALITIES OF A DRAWING, REFLECTING IT'S ROLE IN THE ESSENCE OF A DRAWING • ORGANIZATION OF RESEARCH BY FOCUSING ON THE SOLE EXPLORATION OF THE LINE IN THREE PHASES: ① FORM; ② MATERIAL; ③ HAND
11/05/2020	F21	S.9, S.10	NONE
13/06/2020	F22	S.11	• WHEN MAKING LOOPS WITH PAPER YARN (INSTEAD OF RAG) I MUST USE ONLY THE PROPERTIES OF THE TECHNIQUE AND GESTURE AND NOT THE MATERIAL BECAUSE IT IS NOT ELASTIC
17/05/2020	F23	NONE	• I AM CONSTRUCTING LINES IN TWO WAYS: ① THE ESSENCE, OR THE STRUCTURE OF THE OBJECT (WHAT INGOLD CALLS "MESH WORK"); ② THE APPEARANCE, OR WHAT CAN BE SEEN FROM A FAR (GRAPHIC / VISUAL)
18/05/2020	F24	S.12	NONE
18/05/2020	F25	D.7, D.8, D.9, D.10, D.11, D.12, D.13, D.14, D.15, D.16, D.17, D.18, D.19, D.20, D.21, D.22, D.23, D.24, D.25	• VELOCITY, PRESSURE AND MINDFULNESS WHEN DRAWING GRAPHIC LINES TEND TO VARY ON: ① TYPE OF LINE (STRAIGHT = SLOW, CONTROLLED, STRONGER / ZIGZAG = FAST, IMPULSIVE, LIGHT / CURVED = MOST MINDFUL); ② TIGHTNESS (IN ZIGZAGS & CURVES - TIGHTER = FAST, LOOSE, IMPULSIVE); ③ MATERIAL (GRAPHITE & MARKERS = FASTEST / CHARCOAL & OILBAR = MEDIUM / CHINA INK = SLOW); • HAND GESTURE (ROTATION & AMPLITUDE) TEND TO VARY ON: ① TYPE OF LINE (ZIGZAG = SMALL ROTATION, LARGE MOVEMENT / CURVED = HIGH ROTATION, LARGE MOVEMENTS / STRAIGHT = SMALL ROTATION, SMALL MOVEMENTS); ② MATERIAL (CHARCOAL & OILBAR = WIDE MOVEMENTS, HIGH ROTATION / CHINA INK = SMALL MOVEMENTS, HIGH ROTATION / GRAPHITE & MARKERS = BIG MOVEMENTS, SMALL ROTATION
25/05/2020	F26	S.12	• THERE ARE TWO TYPES OF ZIGZAGS: ① LOOSE, WITH A MORE ROUNDED APPEARANCE; ② TIGHT, WITH A MORE SHARP APPEARANCE
28/05/2020	F27	S.13	NONE
11/06/2020	DE6	NONE	• METHODS USED IN S.1, S.2 & S.2.1 DON'T ALLOW AN EASY MANIPULATION OF FORM, THEY IMPOSE A NON-INTENTIONAL FORM ON THE STRAIGHT LINE: THE CHOICE FOR THE EXTRUDING / CYLINDER METHOD WAS BECAUSE IT ALLOWS A FREE AND PRECISE EXPLORATION OF FORM

Table 9 Data regarding autoethnographic journal's overall conclusions and highlights.

DATE	ENTRY	SAMPLE	HIGHLIGHTS & CONCLUSIONS
24/06/2020	F29	S.16	• ELASTIC IS HARD AND STRETCHY, PROVIDING A VERY UNIFORM AND MALLEABLE LINE HOLDING THE SHAPES IN WHICH I MANIPULATE IT • BECAUSE OF ITS SHARP APPEARANCE AND PRECISION, ELASTIC RESEMBLES MARKERS
24/06/2020	F30	S.17, S.18, S.19	• ORGANZA RIBBON IS SHINY AND FLAT, MAKING A LUMPY-LOOKING LINE WHICH IS HARD TO CROCHET • IT RESEMBLES A LITTLE CHINA INK BECAUSE OF ITS TRANSPARENCY OR GRAPHITE BECAUSE IT'S SHINY, BUT NOT ENOUGH ANY OF THEM TO DAW A PARALLEL • PLASTIFIED RAFFIA RESEMBLES A LOT OILBAR DUE TO ITS LUMPY AND OILY AESTHETIC, BUT IT ENFORCES A TWISTED NATURE TO THE LINE, NOT ALLOWING A FLUID MANIPULATION OF THE LINE • FAKE FUR IS VERY SIMILAR ALSO TO OILBAR FOR LOOKING OILY AND UNEVEN, HOWEVER BECAUSE OF ITS FURRYNESS, IT'S VERY HARD TO FIND THE KNOTS, SO THE PROCESS IS NOT VERY FLUID OR PRELISE
25/06/2020	F31	S.19, S.20	• MOHAIR WOOL IS HARD TO MANIPULATE, ALTHOUGH NOT AS MUCH AS FAKE FUR • THE RESULT IS VERY SOFT AND BLURRY, SIMILAR TO CHARCOAL
26/06/2020	F33	S.22, D.1	• RAFFIA IS REALLY HARD TO CONTROLL DUE TO THE YARN'S IRREGULAR THICKNESS, AND IT HAS A VERY FIBROUS NATURE, RESEMBLING A LINE MADE WITH INK AND A BRUSH ON PAPER
28/06/2020	DE8	D.32, D.28, D.29, D.30, D.26	• WHEN USING CHINA INK WITH DIFFERENT IMPLEMENTS, ROUND AND SQUARE BRUSHES OFFER THE MOST CONTROLLED RESULTS, FOLLOWED BY THE FINGER, THEN THE BRUSH PEN, THE TOOTHBRUSH, NEEDLE AND LASTLY THE SPATULA • THE SPATULA AND TOOTHBRUSH OFFER THE BIGGEST VARIETY IN WIDTH AND TEXTURE • CHINA INK CAN HAVE VERY DIFFERENT TEXTURES, FROM A VERY SHARP, COMPACT LINE TO A VERY IRREGULAR, TEXTURED AND STRINGY • SOME MANUAL IMPLEMENTS CAN PRODUCE MORE THAN ONE LINE IN A SINGLE STROKE (E.G. TOOTHBRUSH) • THE BIGGEST THE AMOUNT OF INK AND LOWER THE PRESSURE, THE MOST UNIFORM THE LINE • LINES IN CHINA INK HAVE A GRADIENT EFFECT OR PATCHY (DEPENDING ON MOVEMENT)
02/07/2020	F35	S.23, S.24	• PLASTIC TRASH BAGS CUT INTO STRIPES MAKES A SHINY AND ASHY LINE THAT IS VERY PRECISE (WITH MORE OF A GREYISH TONE), RESEMBLING GRAPHITE LINES

Table 10 Data regarding autoethnographic journal's overall conclusions and highlights.

DATE	ENTRY	SAMPLE	HIGHLIGHTS & CONCLUSIONS
02/07/2020	F35	S.23, S.24	• PLASTIC TRASH BAGS CUT INTO STRIPES MAKES A SHINY AND ASHY LINE THAT IS VERY PRECISE (WITH MORE OF A GREYISH TONE), RESEMBLING GRAPHITE LINES
12/07/2020	F37	S.25	• THE THICKNESS OF THE STRIPES IMPACTS THE LINE AS MUCH AS THE IMPLEMENT • VERY THIN LINES WITH A SMALL NEEDLE MAKE A LINE SIMILAR TO THE MECHANICAL PENCIL
26/07/2020	F38	S.26	• VELVET YARN HAS AN OILY AND DOUGHEY APPEARANCE (SEMI-SHINY AND WITH A DEEP BLACK TONE) AND TEXTURE (SOFT, DOUGHEY AND CRUMBLY), BEING VERY SIMILAR TO THE OILBAR
01/08/2020	F39	0.33, 0.34, 0.35, 0.36, 0.37, 0.38, 0.39, 0.40, 0.41, 0.42, 0.43, 0.44, 0.45, 0.46	• SHARPNES AND INCLINATION OF THE IMPLEMENT INFLUENCE THE SOFTNESS OF THE GRAPHITE LINE • DIVERSITY WHEN USING GRAPHITE PENCILS IS ACHIEVED WITH VARIATIONS IN PIGMENT DENSITY AND LINE WIDTH • SOFTER PENCILS MAKE DARKER LINES AND HARD LIGHTER • ROUND GRAPHITE BAR MAKES SIMILAR LINES TO THE PENCIL BUT SQUARE BARS OFFER GREAT DIVERSITY (SOFT, SHARP, THIN AND THICK DEPENDING ON THE PART THAT IS USED) • OILBAR LINES ARE VERY SATURATED, DOUGHEY AND LUMPY • OILBAR LINES MADE WITH SPATULA ARE NOT FLUID AND COMPACT, AND CURVED LINES AND ZIGZAGS ARE ALMOST IMPOSSIBLE TO DO OR COMPACT • OILBAR LINES MADE WITH THE FINGER ARE NOT FLUID, SHARP
21/08/2020	F40	S.27	• RAFFIA DYED IN BLACK HAS DIFFERENT HUES LIKE THE CHINA INK (BASED ON LEVEL OF PIGMENTATION)
22/08/2020	F41	S.27	• WHEN COPYING AN EXACT INK LINE WITH CROCHET, THE PROCESS IS MORE PENSIVE AND SLOW, SO THE FLUIDITY OF DRAWING AN INK LINE ON PAPER IS LOST • WITH THIS THESIS I AIM TO FIND NEW SOLUTIONS TO ADD MATERIAL AND PHYSICAL VALUE TO DRAWING
29/08/2020	F41	S.27	• LINE REPRESENTS TIME, MOVEMENTS, PRESENCE AND THOUGHT, THEY ARE PRESENT IN EVERY ACTION AND THAT'S WHY IT MAKES SENSE TO USE THEM TO EXPLORE ACTS OF DRAWING & MAKING
30/08/2020	F43	NONE	• ACT OF CROCHETING IS MUCH SLOWER THAN DRAWING
05/09/2020	DE9	S.27	• HAVING ALREADY DOMINATED TECHNICALLY THE MATERIAL, THE MAKING PROCESS PROPELLED REFLECTION ON MAKING WITH DIFFERENT MEDIA (TELHNICAL SKILL ALLOWS DEEPER REFLECTION WITHIN PRACTICE)
05/09/2020	F44	S.28	• TRYING TO REPLICATE LINES THAT ARE NOT COMPACT IN CROCHET PRODUCES A BIGGER CHALLENGE THAN COMPACT LINES

Table 11 Data regarding autoethnographic journal's overall conclusions and highlights.

DATE	ENTRY	SAMPLE	HIGHLIGHTS & CONCLUSIONS
26/09/2020	F45	NONE	• TOUCH IS AN INTERMEDIATE DIMENSION BETWEEN US AND THE WORLD LIKE TEXTILE, SO WHEN INTERACTING WITH SOMETHING USING TOUCH WE HAVE A BETTER UNDERSTANDING OF US AND THE WORLD
14/10/2020	DE10	S.29, S.16, S.28	• ELASTIC YARN ALLOWS MORE CONTROL OVER THE LINE (MAKING STURDY CURVES) THAN WOOL
11/12/2021	F46	S.30	• VELVET MAKES MORE STURDY CURVES THAN WOOL BUT LESS THAN RAFFIA AND ELASTIC
12/02/2021	F47	S.31, S.23, S.24, S.25	• PLASTIC BAGS MAKE VERY STURDY CURVES AND CREATE A BIG VARIETY IN THE IRREGULARITY OF THE STITCHES, THEY ARE ALSO QUITE MALLEABLE
18/02/2021	DE11	NONE	• WHEN EXPLORING DRAWING I NATURALLY EXPERIMENTED WITH DIFFERENT IMPLEMENTS • THE TOOLS USED HAD AN ENORMOUS IMPACT ON THE NATURE OF THE DRAWN LINES, SO I DECIDED TO FOCUS ON A THIRD PHASE IN THE AGENTS IN MAKING
04/03/2021	F48	S.32	• WHEN USING THE HAND AS A TOOL, THE SIZE OF THE STITCHES CAN NOT BE CONTROLLED, IT DEPENDS ON THE CHARACTERISTICS OF THE PERSON'S FINGER • THE OUTCOME IS LESS PRECISE BUT MORE EXPRESSIVE IN COMPARISON TO WHEN USING THE CROCHET HOOK • THE HAND IS MORE MINDFUL THAN THE TOOL BECAUSE IT NEEDS TO LISTEN TO THE MATERIAL TO GET ITS WAY
05/03/2021	F49	S.33, S.34	• WITH RAFFIA, MAKING WITH THE HAND IS STILL VERY ORGANIC AND FLUID, LIKE DANCING WITH THE MATERIAL • ELASTIC WITH HAND IS NOT MORE PRECISE • THE THREE MATERIALS OFFER THE SAME RESULT, WITH A COLLAPSING STRUCTURE ON THE STITCHES
05/03/2021	F50	S.35, S.33	• USING A NEEDLE WITH THE SAME THICKNESS OF MY FINGER SHOWS THAT THE IMPLEMENT IS WHAT IS DICTATING THE STRUCTURE OF THE STITCHES
06/03/2021	F51	S.36, S.37	• CROCHETING WITH A BOBBY PIN PRODUCES AN EXTREMELY IRREGULAR LINE, IN CONTRAST WITH A HOOK OF THE SAME THICKNESS WHICH MAKES REGULAR LINES
07/03/2021	F52	S.38, S.37	• USING A PENCIL OFFERS A VERY IRREGULAR RESULT AS WELL
12/03/2021	F53	S.39	• TOOTHBRUSH MAKES UNEVEN LINES THAT ARE VERY BLURRY BECAUSE IT PULLS APART THE YARN'S FIBERS
13/03/2021	F54	S.40	• TREE BRANCH MAKES UNEVEN LINES: BECAUSE IT'S VERY IRREGULAR IN SHAPE, WIDTH AND TEXTURE
14/03/2021	DE13	NONE	• CROCHET HOOK ALLOWS HIGH PRECISION AND CONTROL • HAND IMPLEMENTS ITS OWN TRACE ON THE STRUCTURE AND MATERIAL • UNCONVENTIONAL TOOLS HAVE VERY UNEVEN RESULTS

Table 12 Data regarding autoethnographic journal's overall conclusions and highlights.