

Contours of Self:

Meditations on Identity and the Act of Erasure

By

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A thesis presented for the degree of

Master of Fine Arts

The Academy of Fine Arts, The University of the Arts Helsinki

Painting department

6.9.2023

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Kuvan Kevät: 6.5 – 4.6.2023

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Acknowledgements

I want to express my deepest gratitude to those who have stood by me during my studies. The help I have received is beyond words; without it, I would not be the visual artist I am today. Therefore, my successes are shared with all of you.

I want to especially thank visual artist Tuomo Rainio and my brother Kim Haapamäki. Without their support, this thesis would not have been possible.

I would also like to extend my sincere thanks to the following people:

Sanna Tirkkonen and Jani Ruscica

Sigrid Sandström

Tarja Pitkänen-Walter

Roberto Fusco

Niklas Pöllönen

Lena Seraphin

Malla Tallgren

Laura Dahlberg and Annabel Kajetski

Robin Clifford Ellis

My family and friends

The Academy of Fine Arts, Uniarts

Summary

In this master's degree project, 'Contours of Self: Meditations on Identity and the Act of Erasure', I have created three artworks and written a thesis on my phenomenological exploration of identity. In my work, I searched for a new perspective on the notion of self, and I discovered a method best summarised as 'revealing through removal', which became a cornerstone for my thesis project.

My project started with an interactive artwork using a hand-built pen plotter to depict viewers in real time. The work drew the viewer by erasing with a chamois cloth and then overwriting the depiction with charcoal. While working, I faced numerous challenges, such as how the artwork represents the viewer and how the materials used impact the artwork. Additionally, in my written component, I continue to reflect further upon my influence as the artist on the relationship between the artwork and its audience, the interactive nature of the work, and the challenges of using technology as an artistic medium.

Complementing the interactive piece, I produced two paintings exploring ways to express our inner selves. The paintings were created with conventional materials but excluded pigments. Furthermore, the paintings juxtapositioned each other by one being hand-painted and the other machine-created. In the written component, I describe the process while simultaneously reflecting on how I came to create pigmentless paintings and the plotter's impact on my painting process.

Ultimately, this project explores ways to depict the inner selves of the viewer, and the accompanying written component examines the creative process and how I, as an artist, navigate my artistic practice that invites viewers to engage in self-exploration.

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Introduction

In this thesis, I explore our notion of self through a phenomenological approach by creating three different works: one interactive work consisting of a pen plotter and two paintings. During this process, I also reflect on my role as an artist in relation to my works and the challenges faced due to various material choices and their subsequent influence on my artistic practice.

This written component of my thesis work is organised into chapters, each addressing the main aspects of my artistic project, from the beginning of my initial ideas and inspirations to the culmination and impact of the final pieces.

The artworks

For my degree show Kuvan Kevät 2023, I have produced and exhibited three distinct artworks. The showcased works include an interactive installation titled 'Unerasable Traces of You' and two large oil paintings called 'Intangible Presence Crossing Borders' and 'Body in Morass'.



Overview of 'Unerasable Traces of You'.



Overview of 'Intangible Presence Crossing Borders' and 'Body in Morass'.

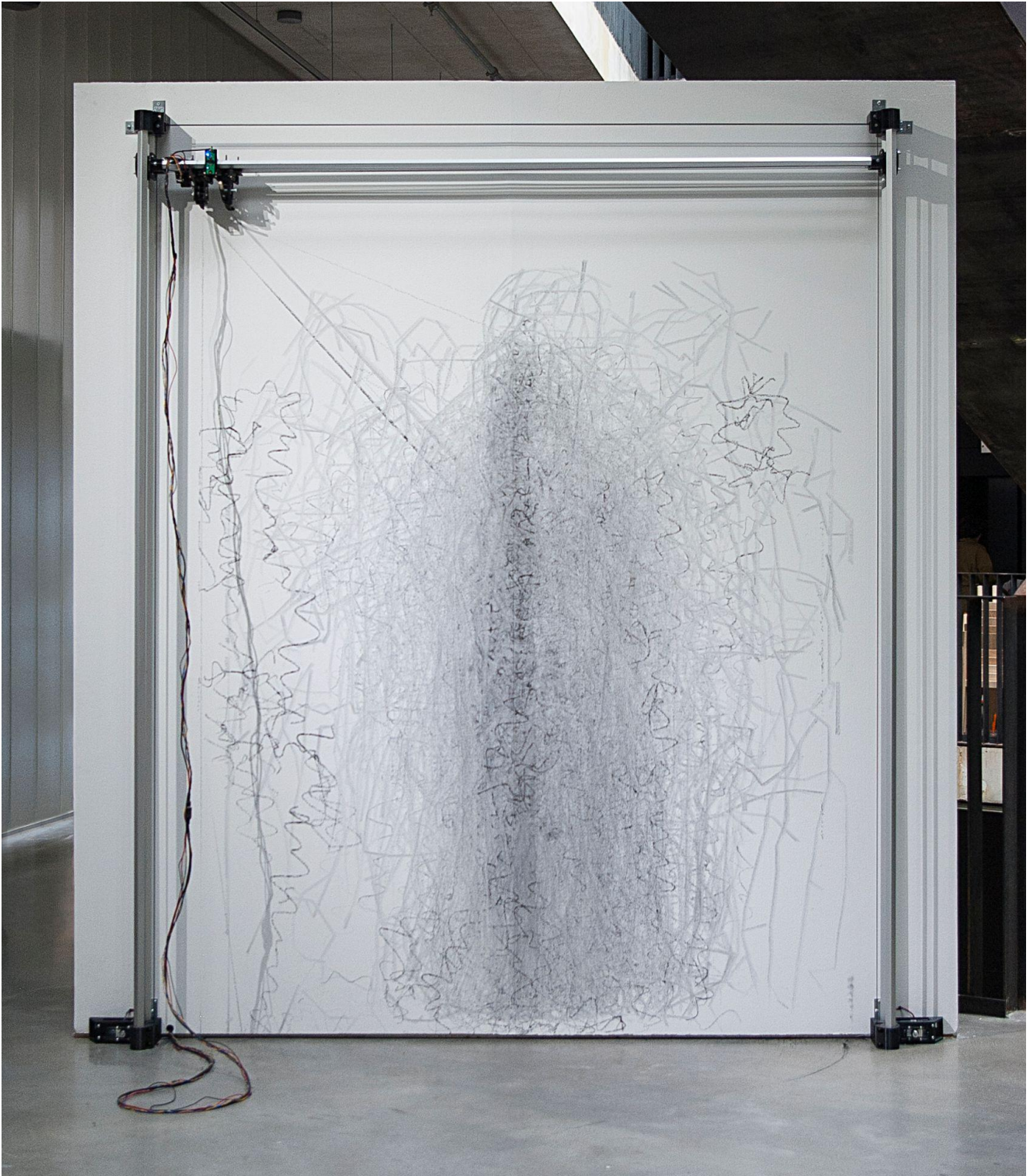
Unerasable Traces of You

'Unerasable Traces of You' is an interactive installation that challenges conventional portraiture and our perception of ourselves. The work examines our identity's presence and absence and what truly can be seen of our individual selves amidst others. The work's title suggests an enduring impression or the lasting impact individuals can have, which leaves lingering traces of their identity behind.

The artwork consists of a hand-built pen plotter made of aluminium rods, 3D printed parts, wires, programmable microcontroller (Arduino) components, NEMA stepper motors, belts, and screws. The plotter runs on custom software, using chamois cloth and charcoal for drawing. The plotter is 250 x 200 cm and developed between autumn 2022 and spring 2023.

The plotter identifies and creates a depiction of the visitor through a continuous two-step procedure consisting of erasing with a chamois cloth and overwriting with a charcoal stick. Once the plotter detects a viewer positioned before the artwork, the plotter repositions itself and captures an image to initiate the drawing process. With a chamois cloth, the plotter starts the drawing by gently removing charcoal from earlier procedures, revealing the interpreted depiction of the viewer. The act of revealing through erasure becomes the primary method for portraying the visitor's presence.

After finishing drawing with a chamois cloth, the plotter proceeds to overwrite the revealed figure with charcoal, adding a layer of scribbled lines on top. During the exhibition, the artwork became a living canvas by continuously accumulating layers of past visitors.



Unerasable Traces of You, 2023

Dimensions: 250 x 200 cm

Medium: Handbuilt pen plotter: Aluminium rods, 3D printed parts, Wires, Arduino, Cnc v3 shield, computer, motors, GT2 belts, screws

Intangible Presence Crossing Borders

'Intangible Presence Crossing Borders' is a painting that explores our understanding of our inner selves and the concept of emerging through the act of removal. The act of removal operates on two levels. Firstly, it confronts the history of oil painting by challenging what comes to light when one of its fundamental elements - pigments - is excluded. Secondly, the motif appears by the removal of paint itself through deeply cut brushstrokes. However, the process leaves heaps of paint residue, implying that nothing is entirely eradicated but rather displaced when required to make room for something else.

The painting's motif expresses our internal borders in a constant search for their place, questioning what the contours of our inner selves truly look like. The title suggests that our inner self is navigating boundaries, yet leaving it intentionally ambiguous whether these borders cross their own perimeters or between the internal world and the external reality.

The painting's dimensions are 160 x 200 cm, and it was created by utilising traditional oil painting materials such as linen canvas on a wooden stretcher frame and linseed oil. The artwork's paint has been developed by intentionally eliminating pigments, resulting in a painting devoid of colour. Furthermore, the piece was painted by a pen plotter rather than the artist's hand, broadening the ongoing examination of the artist's role, conventional practices and the historical significance of oil painting. The techniques and materials used were developed during the spring of 2023.

The 'Intangible Presence Crossing Borders' motif originates from my custom-written program designed for the overwriting phase of the artwork 'Unerasable Traces of You'. The curves in the motif are derived from a depiction of a human figure, with the outline transformed into S-shaped curves stretched to their maximum extent.



Intangible Presence Crossing Borders, 2023

Dimensions: 160 x 200 cm

Medium: Linen canvas, linseed oil

Body in Morass

'Body in Morass', the second painting in this series, also uses the unusual approach of traditional oil paint with no pigments. It juxtaposes itself with 'Intangible Presence Crossing Borders', wherein both paintings interpret our boundaries of the inner self through the means of the outlines of our physical bodies. However, unlike the other, 'Body in Morass' is painted by hand instead of being painted by a plotter.

The temperamental and unpredictable brushstrokes, suggesting the human form, challenge traditional portraits by investigating and expressing the invisible inner selves. Its title describes the feeling of encountering a morass - a term metaphorically used to represent an intricate and potentially unresolvable situation, implying an internal conflict. The painting communicates a sense of uncertainty and lack of definition, an echo of the struggle to understand and define oneself.

Measuring 135 x 200 cm, the painting 'Body in Morass' is made of linen canvas on a wooden stretcher frame and linseed oil. The materials for this artwork were developed in the spring of 2023.



Body in Morass, 2023

Dimensions: 135 x 200 cm

Medium: Linen canvas, linseed oil

Exhibition layout

The three artworks were installed at the temporary exhibition space in the centre of the Academy of Fine Arts building's second floor. The paintings were hung such that their centre point was 140 cm above the floor, with spotlights placed at a sharp angle from above to highlight the structured canvases.

The work, 'Unerasable Traces of You', was installed on a smaller, customised wall which measured 260 x 240 cm. It was placed approximately five meters away from the paintings, in front of the guard rails next to the north-facing stairs from the 3rd floor. The work was illuminated with two different spotlights, one facing the artwork and the other pinpointing a spot on the floor, indicating and guiding the viewer to an optimal placement for starting the drawing process. A small table was placed near the work with a stack of A4 papers containing the information regarding the installation.

The location used as a temporary exhibition space is originally the university's aula. It serves as a venue for official university events, and it was also utilised for such purposes throughout the duration of the exhibition.



The exhibition layout, Kuvan Kevät 2023.

My years at the Academy of Fine Arts

During my artistic development at the Academy of Fine Arts, I noted that my curiosity increasingly centred on humanity. As I engaged with different works and topics during my years of study, a discernible pattern emerged in my artistic practice, which consistently examined the intricacies of human beings' multifaceted nature. This observation appeared accurate regardless of what subjects I was engaging with in my studies because I always found myself returning to questioning our existence and role in the world.

An especially intriguing observation of our existence is our relationship with individuality and the notion of self, where the self-concept is often hard to define, creating many internal and external conflicts. Therefore, exploring what defines 'us', meaning our inner selves, has become a particularly fascinating question for me.

This fascination is not limited to an academic context. My interest in humans also stems from a personal desire to understand myself and my place in this world. As I contemplate my existence, I am curious how others confront similar existential questions from their unique perspectives.

In essence, my art serves as a tool for me to approach, understand and portray us and our complex world. At the same time, it invites viewers to join me in exploring the boundaries of our individual selves.

In my artistic practice, I have explored humanity from both a broad and narrow perspective. However, I have noticed a tendency to choose the narrower view, focusing on individual identity through a phenomenological lens, meaning examining the identity through personal experiences and perceptions.

This exploration has led me to question the differences between individuals and the variations within each individual. Although the term “identity”, defined by the Cambridge Dictionary as a person's name and other facts about who they are,¹ may not fully encapsulate the width of my exploration, it currently stands as the most suitable descriptive word. However, I want to add some context to the matter where I define “identity” similarly to Geach's philosophical perspective and definition of relative identity,² where I state a simplification of the view that identity is multifaceted. I am implying that a person can have different identities in different contexts - for instance, one at work and another in their private life, despite being the same person.

Additionally, I want to further contextualise this concept with a phenomenological perspective to identity. For clarity, I draw an analogy between a human and a multifaceted shape. Each facet of the shape corresponds to a version or "identity" of an individual, reflecting back at whoever observes the person, be it a stranger, a friend, or the individual themselves (throughout the rest of this thesis, when I refer to a 'facet', it is this definition - one identity of many in us - that I refer to). In this analogy, the most familiar facet is probably the version of ourselves we perceive in the mirror, our self-view. Another well-known facet is perhaps how friends and family perceive one. Additionally, one might even argue that each observer perceives a unique facet of the same individual because they are influenced by their personal experiences and perspectives, which shape their viewpoint of that person.

With this in mind, some facets will be reflected more often than others. Still, as long as we consider the multifaceted shape intact, it also means that there are numerous facets on the “other side” hidden in the shadows, assuming we are not shells with hollow interiors. Admittedly, the assumption that we are unbroken shapes may be a quick conclusion, and I

¹ "Identity," Cambridge Dictionary, accessed August 3, 2023, <https://dictionary.cambridge.org/dictionary/english/identity>.

² Peter Thomas Geach, *Logic Matters* (Berkeley and Los Angeles, California: University of California Press, 1972), 238.

acknowledge that the opposite could be true. However, my primary consideration for this thesis is that the multifaceted form is intact, and my following thoughts are grounded on that supposition. The idea of us being composed of a shell, implying a broken shape with an exposed interior, presents an intriguing avenue for future artistic explorations.

My aim

With the multifaceted analogy in mind, I am interested in investigating and unveiling these “hidden facets” - those elusive versions of ourselves that are unknown yet significant parts of one's whole being. In my artistic practice, I aim to reach obscured sides of the multifaceted shape, illuminating and revealing facets of an individual that might typically stay concealed.

In my attempts to search and reveal these facets, my approach is to maintain an open mind and be inventive in my artistic practice. I challenge myself to find new methodologies and materials because these explorations often give unexpected outcomes, which aids me in discovering new perspectives on the subject matter. By continuously trying to surprise myself, I have, through my work, learned to embrace unconventional techniques that push the boundaries of my artistic expression.

This approach to experimental methods has developed during my studies alongside the subject matter of identity. One of the first substantial works I made, ‘Copies’,³ was created for my bachelor’s thesis, which examined how we can perceive ourselves from an objective third-person perspective through a digital version of reality. Therefore, I view this master's thesis as a continuation and a deeper exploration of what I have been working on for a while now.

³ For more information about the work, see Sofia Haapamäki, “Copies,” 2021, Accessed August 15, 2023, <https://sofiahaapamaeki.com/#jp-carousel-1142>.

Throughout my studies for the thesis, numerous concepts and artworks have been explored but later abandoned when they started to deviate from the thesis's central exploration of trying to reflect the individual viewers in a new light through encountering the artwork. One such idea involved a plotter sketching the viewers on a continuous sheet of paper, visualising a queue of past visitors. The work would eventually culminate in a lengthy collection of paper bearing the traces of each guest's presence waiting in line. I also explored the idea of designing a method to generate a live, mirror-like projection of the viewer, viewed exclusively from the back. Thus, spectators could engage with this mirror-esque display without ever making eye contact with their reflection. However, due to these artworks' intrinsic nature, these ideas emphasised other facets of us that steered the pieces towards topics such as collective identity or rejection of ourselves. These subject matters, though intriguing, were not my intended area of exploration for my thesis, although they are definitely topics for exploration in the future.

Though these ideas are inspiring, as one of the final significant projects during my studies, I desired to create an artwork that would function as a neutral foundation to build upon in my artistic practice. By 'neutral', I refer to the intention for my artwork to solely engage the viewer, examining the subject of a hidden facet without any external agendas altering the perspective. Admittedly, the word 'neutral' is incredibly problematic as one can question if anything, especially an artwork, can ever be 'neutral', making it challenging for me to establish a 'neutral' foundation. However, to clarify, I use the term 'neutral' —the best alternative among bad choices— to exclusively explain the intention of creating a work that avoids imposing any possible contexts on the viewer other than what the viewer brings itself. In other words, concepts like placing viewers in an everlasting queue or encouraging introspection through the symbolic act of turning one's back on oneself were not my focus because both works shifted the attention to external factors placed on the viewer. Instead, I

aimed to represent the viewer 'as is' without added context, hoping to reveal something new within them.⁴

With this in mind, I came up with the idea of a pen plotter that would create full-body portraits of the viewer and offer them an opportunity to see themselves in a new light. Although the artwork's structure would still pose certain challenges, it was closest to my vision of depicting the viewers' so-called 'neutrally'. My aim was for the representation to be of the viewer, although not immediately recognisable. The presented depiction would allow viewers to question their self-image and decide whether to accept or reject this portrayal of them.

As an initial unchallenged thought, I also considered the pen plotter 'neutral', given that it, similar to any machine in a factory, operates independently of my direct involvement. In this approach, the viewer is the input, and the final artwork is an altered output. This concept met my intentions of impartiality by ensuring that neither the idea nor the artwork carried any additional narratives that might pressure viewers to take a particular position or force them to reflect on specific societal structures they've been placed in, like a queue.

However, it is important to note that while the plotter operates autonomously without my direct intervention, it is still governed by the algorithms I have programmed. Thus, while the plotter might seem unbiased due to its independent operation, my directives predetermine its actions. This raises questions about the machine's true 'neutrality' and invites a deeper exploration of my role in the process.

⁴ I recognise that introspection is not truly neutral either. Meaning that my criteria for defining neutrality can be rightfully questioned. However, given the width of this topic, I will instead focus on the initial thought process of creating these works and set this topic aside for future exploration.

Observations of my role

While striving to create a 'neutral' piece, I observed my growing necessity to erase my personal mark from the work. For some reason, I was inclined to minimise my presence as much as possible.

The observed need to silence me manifested in two dimensions: one, in the capacity of the artwork's creator, and second, as the artist in its entirety.

Personal impact on the work

Throughout this project, I have reflected upon what an artistic identity consists of and considered its significance for my artistic practice. While pondering this subject, I discerned that artistic identity resembles an artist's voice. Essentially, when artists create, their distinct "voices" — the unique characteristics defining their work — become evident. This can be likened to how an individual's handwriting carries its own unique style and is easily distinguishable among other handwriting samples.

Through this reflection, I have noticed that the discernible 'voice' can manifest in multiple ways. Specifically, I have pinpointed two forms: one unintentional and one deliberate. The unintentional voice is ever-present in the artworks, emerging naturally through artistic choices and forming the "red thread" throughout an artist's career. Then there's the other voice, the intentional one purposefully crafted by the artist to emphasise a particular point or instigate a specific reflection through a certain artwork.

These reflections on an artist's different intentional or unintentional voices have led me to contemplate the influence I apply to my artworks. While these voices are a natural aspect of the artistic process, they are also an inevitable bias from the artists' perspectives. Whether

done consciously or unconsciously, it often forces a narrative onto the viewer. As I have grown aware of this in my work, I sometimes find them too overpowering.

Therefore, I am always mindful of all the potential messages I project through my work, careful to only make statements through my artistic decisions after first trying to understand the subject matter thoroughly. However, I find this incredibly difficult due to artworks and my thoughts maturing over time and sometimes revealing their meaning much later, making it challenging to control the narrative of what the works ultimately present and, by extension, what I am saying or questioning as the artist. This is further complicated by the continuous efforts to consider the ever-changing context of current events surrounding my artworks.

This delayed understanding is particularly problematic when creating participatory works that allow viewers to examine themselves. In these cases, I think it is critical to minimise my own or any predetermined context to the interaction between the viewer and the artwork to avoid unwanted biases. Frankly, I am incredibly cautious about inserting myself into the context of any artwork, considering that my role in its creation is already substantial, perhaps even excessive. Because I am very aware that the artwork will inevitably bear the marks of me as an artist purely because of my artistic decisions, therefore indirectly shaping the viewers' actions and results in the work.

In an ideal scenario, I would remove myself entirely from this process, as I am not particularly interested in how my artistic choices might shape the viewer's self-perception. Instead, I wish for the artwork to be as autonomous as possible, reflecting solely the dynamic interaction between the viewer and the piece itself. Because I believe that if the artwork is activated by the viewer, it is through this relationship that the work truly comes to life.

Yet, I know that my influence can never be entirely erased. The artwork's existence depends on my decisions, which inevitably guide the viewer's experience. But I hope the unintentional and any intentional influence is subtle enough to remain unnoticed, allowing the viewer to concentrate on their unique interaction with the artwork.

My role as an artist

While trying to minimise the influence my artistic voice has between the artwork and the viewer, I noticed that I am sometimes also eroding my role as an artist, especially when working with plotters and machines.

Initially, my machines were so rudimentary that I never considered them a threat to replacing my hands to produce qualitative work. However, as my engineering skills progressed and I completed the 5th iteration of the plotter, a realisation dawned on me - the machine had the potential to replicate and develop my craft with a precision that I could no longer match. If I programmed it with suitable instructions, it could, in theory, produce a piece of art indistinguishable from one made by me but with fewer errors in the form of accuracy or technical skill. Suddenly, the realisation that a machine could paint or draw, surpassing my skills, put my perceived purpose as an artist up for question.

Of course, the plotter is not yet, at this point, independent enough to switch brushes or operate without my initial setup. However, it made me question my role, considering whether I was an assistant to a machine of my creation. Theoretically, I could instruct it to paint and draw motifs, either randomly generated, scraped from the internet, or of my own choosing. After setting the process in motion, I could leave it unattended. My presence as the painter, defined as someone educated in the technical skills of painting and physically executing the brushstrokes, becomes redundant.

However, my machines still somewhat depend on their 'assistant' to accomplish any work. Therefore, I remain the dominant force in this relationship because the ideas expressed through the materials are still mine, even if I do not physically use my body to produce the work. This usage of technology is a familiar relationship in the art world, considering the role of computers, cameras and other technology in an artist's toolkit.

Yet, the future causes me to consider the implications of an entity that can make its own decisions and express its ideas. I used to be confident about the longevity of an artist's role in the future, but I am not so sure anymore. Visual art is, as I perceive it, an invention of humans, created by people for people. Yet, the rapid development of technology leads me to speculate the possibility of a situation where a person develops an AI⁵ as a self-sufficient artist.

It is not a new concept for AI to generate visual art. However, the scenario I am considering is of an AI recognised and considered as a visual artist in its own right, not as a creation of another artist or as a tool for the artist's work. This AI would produce its 'own' art and be appreciated on a par with a human artist.

Provided with the proper training and dataset, an AI could potentially generate what we interpret as 'legitimate' artwork, similar to generated texts produced today as news or literature. Such an AI would require a manager to be active in the art world. However, many human artists also utilise managers to organise their artistic careers, so there would be no comparable difference. Instead, this may even be the dream scenario for many managers in visual arts, considering the challenges that may arise from managing people.

⁵ For the purpose of this thesis, I define an AI (Artificial intelligence) as a program capable of performing tasks associated with intelligent beings. Technically speaking, AI is an umbrella term for a range of technologies, see "Artificial Intelligence (AI)," IBM, accessed September 1, 2023, <https://www.ibm.com/topics/artificial-intelligence>. Whilst I recognise that my definition is an extreme simplification of the technology, I have chosen this approach and do so throughout the whole thesis to maintain the focus on my reflections rather than engaging with the technical variations of different artificial intelligences.

This possibility indicates that the future of visual arts might lie in competition with artificial intelligence as independent creators.

The viewer's perspective

The attempt to distance myself from artworks feels essential, not just because I want to avoid inserting my presence between the viewer and the artwork in question but also because I wish to transfer control to the viewer.

By giving the viewer the power to direct an artwork, the artwork can naturally evolve into something more than I could have crafted single-handedly. That way, the viewers can enrich the artwork with context and purpose, which I am delighted to observe from the sidelines while the process unfolds.

The relationship between the viewer and artwork is the most vital connection, one that, as an artist, I strive to nurture and uphold. Therefore, the aspect of interactivity in my artworks developed naturally and became one of the focal points in my creative process.

Interactivity

Interactive pieces can take form in various ways, but similarly to the artists 'voice', I have decided to focus on two types: passive and active. Passive interactive works engage the viewer without undergoing physical changes, while active ones transform with each participant, leaving their imprint. An example of a passive interactive work is the notable artwork 'Driftglass',⁶ 2001-2004, by Camille Norment. The piece, consisting of a mirror with an optical filter and sonic audio, gives auditory feedback based on the viewer's proximity to

⁶ For more information about the work, see Camille Norment, "Driftglass (2001-2004)," accessed July 24, 2023, <https://www.norment.net/work/objects-installations-ind/driftglass/>.

the mirror. The work seems to be, at first glance, a standard mirror. However, as you approach it, your reflection becomes increasingly blurry, making it impossible to see yourself, accompanied by a rising sonic feedback that emits a high-pitched, piercing tone.

Ever since encountering the piece 'Driftglass' at the National Museum in Oslo, the work has lingered in my thoughts due to its elegant yet powerful way of engaging with people. I can only imagine the different experiences people have, depending on their self-perception, which the work intentionally obscures.

However, while Norment's work has greatly inspired me, I have become increasingly drawn to interactive art that calls for active participation from the viewer. Active interactive works transform and evolve alongside the viewer, inviting participation to mould the piece to their unique interactions or continue to take form through the event of non-participation.

Considering this, I perceive interactive artworks as possessing a life of their own. One could argue that all artworks, to some extent, have a life of their own. While I agree with this, I further state that active interactive works have a more dynamic life due to their physical metamorphosis brought on by participation. In a way, they are like living entities with evolving memories on display. Any traces the viewer leaves become evidence of the artwork's timeline and establish the piece as undeniably time-specific. In contrast, other forms of artwork appear more static, continuing to live through their exhibition locations and contexts but without undergoing any physical alterations once they are finalised.

Moreover, active interactive works become site-specific as the participating viewers and their diverse behaviours are often influenced by the exhibition's location. Allowing the viewers to take control over how the work forms, the piece's evolution is out of my control as an artist.

The inherent unpredictability of an active interactive work intrigues my curiosity, and it is thrilling to step into the unknown by letting the participants mould the piece. Therefore, it was important for me to create an artwork that allows viewer engagement within its parameters. In doing so, I transferred control to the viewer, reducing my influence and thereby diminishing the natural power dynamic artworks often possess between the artist and the viewer.

Depictions of us

Humans have been represented through art for a long time, and the tradition of portraiture can be traced back to ancient cultures such as Egypt and ancient Greece.⁷ I find this phenomenon fascinating, as it seems to me that we, as humans, have an intrinsic desire to depict ourselves as a kind of statement or as a way to seek recognition of our existence. Whilst the word portrait is defined as a painting, photograph, drawing, etc., of a person,⁸ I think this behaviour of recognising our individual self predates even the earliest formal portraits. Take, for instance, the Cueva de las Manos, where one can find handprints sprayed onto the cave walls, dating back to around 10,000 BCE.⁹ While these may not be 'portraits' in the conventional sense, I think they could be seen as a conscious effort of the person to mark one's presence as an affirmation of individuality and a testament to their existence at that moment. Continuing on this thought, I have reflected that this need to state our unique existence in a crowded world seems to persist even today. This is particularly evident when considering the contemporary selfie culture, where studies have shown that those taking selfies want to present themselves as unique and distinct persons.¹⁰

I find these subjects interesting as I have reflected that my artwork 'Unerasable Traces of You' capitalises on this inherent interest of ourselves. However, while I acknowledge the depth of this topic, for the purposes of this thesis, I will set it aside for future exploration. Instead, I will focus on my exploration of self-recognition through a presented depiction in the process of creating 'Unerasable Traces of You'.

⁷ Cynthia Freeland. "Portraits in Painting and Photography." *Philosophical Studies: An International Journal for Philosophy in the Analytic Tradition* 135, no. 1 (2007): 95–109.

⁸ "Portrait," Cambridge Dictionary, accessed August 16, 2023, <https://dictionary.cambridge.org/dictionary/english/portrait>.

⁹ Stephen Farthing, *Det här är konst, Hela historien från grottmålningar till graffiti* (Stockholm: Nordstedts, 2011), 10.

¹⁰ Claus-Christian Carbon, "Universal Principles of Depicting Oneself across the Centuries: From Renaissance Self-Portraits to Selfie-Photographs," *Frontiers in Psychology* 8 (2017): <https://doi.org/10.3389/fpsyg.2017.00245>.

My approach

When working with people and their representations, I strive for the utmost sensitivity. The perception people hold of themselves is something I respect deeply and would never treat lightly. The topic of self-recognition is complex due to the concept of self-image being deeply embedded in our identities, and the interest in our self-image has long been discussed. These subjects have even led to theories like Jacques Lacan's 'mirror stage', suggesting that infants recognising themselves in a mirror marks the subjective and objective awareness of oneself from there on.¹¹

Therefore, I wanted to find a suitable way to represent a figure of the viewer. Using the analogy of identity as a facet in a multifaceted shape, I aimed to reveal an unseen facet of the viewer. In other words, I strived to present a new perspective of the viewer in hopes of challenging their current self-perception.

However, I acknowledge that any pre-existing ideas I had about these facets, or how I interpret them, could inevitably affect the representation of the figure and, in extension, the viewer's self-perception. Therefore, I did my best to create a work that would address the viewer's identity as free from prejudice or judgement as possible and provide a space to highlight the facet of the viewer without imposing any expectations or demands on how or what it should be.

I explored various methods to reflect an unseen part of ourselves that would emerge in front of us in whatever way, shape, or form. Yet, the more I explored this, the more I encountered difficulties. I noticed a delicate balance that I needed to address.

¹¹ Jacques Lacan, "The mirror stage as formative of the function of the I as revealed in psychoanalytic experience," in *Écrits: A Selection*, trans. Bruce Fink (New York: W.W. Norton & Company, 2002)

As I examined different ways of depicting the viewers, I found myself in a balance between creating an identifiable representation that was either too realistic or too abstract. While a highly realistic portrayal does not cause a significant issue in identifying oneself, I had no intention of building a 'selfie machine' that would merely recreate the most familiar reflection of ourselves — our mirror image. Therefore, producing a realistic drawing of the viewer seemed trivial and unnecessary. Instead, I desired to introduce tension and significance in the portrayal and divert from the mirror image we all are familiar with.

Avoiding realistic portrayals led me to experiment with abstracting the depictions, letting the plotter draw with fewer lines. However, I encountered the problem that the degree of abstraction might be so high that people may fail to recognise themselves in the representation. Consequently, the acceptance or rejection of the depiction as a reflection of themselves could become debatable and even be dismissed as nonsense. This insight led me to question where the limits of identifying with an abstract form end.

I argue that one can identify with any object or abstract form under the right circumstances. But that phenomenon is out of anyone's control, and I believe it is pure coincidence whether the suitable representation aligns with the viewer's mood at the time and if the viewer is open to identifying with it. Therefore, relying on coincidence seems problematic as I do not want my artwork to only 'occasionally' work as intended. To prevent this, I could provide a detailed explanation that assures the viewer that the abstract representation is indeed a version of them. However, I felt hesitant because I do not wish to create art requiring an extensive guide to understand the work.

I also reflected on the fact that my goal to discover an unseen facet with the help of the plotter was a tough challenge because the only material I had to depict the viewer was a digital image taken by the webcam installed on the plotter. In other words, I was trying to uncover an unseen facet through an already established visual version, the viewer's digital

image. For that reason, using the digital image as source material for the artwork seemed at times like a superficial approach to what I was genuinely searching for. Therefore, this reflection is a critique that I plan to consider for future works.

As I reflected further, I also questioned the true representation of the lines when one identifies with them. As I see it, they could either represent a reflection of one's inner self or mark the boundary of one's physical being. Essentially, the lines could be seen as an abstract expression of emotions and thoughts, or they might aim to depict the physical boundaries that confine an individual. If we consider the lines as the borders of a physical being, they could be seen as contour lines often used in typical contour drawings.

However, while contour lines depict one's physical form, the depiction might not necessarily lead to an accurate self-identification. Therefore, accepting or rejecting the suggested portrayal depends on how well these lines represent us.

For these reasons, finding a balance in this many-layered dilemma was incredibly challenging. On the one hand, I strive to reveal an unseen facet of identity, which is not necessarily tied to our physical appearance. On the other hand, I can only use the physical features of the viewer as a medium to 'unveil' the facet due to the tools at my disposal, such as the web camera. Meaning that the resulting depiction is either a realistic portrayal of the individual that only expresses the contours of our bodies (which tends to be overly superficial for my intention) or an abstract form which might be a version of our inner self but is interpreted as random lines and therefore lacking any significant relevance for the viewer.

Therefore, creating a moment where the viewers identify with an abstract version of themselves through my work is a complex task, and the possibility of it working as I intended is minimal. Yet, I did not want to make realistic portraits, so I tried to find a middle ground. While the question of whether a viewer recognises themselves is up for debate, I strongly believe in

not enforcing anything, understanding that the viewer's response to the work is out of my control. Thus, rather than anticipating a specific response, I chose to step back and observe with curiosity what reactions would emerge when the work was up and running.

Material

In my artistic practice, I wholeheartedly embrace a conceptual approach, strongly emphasising the foundation of ideas. This has been true even when working on my thesis project. This means that when choosing materials for my works, I selected them carefully, ensuring they align, amplify and enrich the concepts I explore.

This approach allows me to engage with and assess materials conceptually, often leading me to explore them from a different perspective in an effort to gain a deeper understanding. Consequently, the material choices for the three artworks I displayed varied and given that each artwork posed its unique challenges, I will address the topics individually.

Technology as a tool

When integrating machines into my art, I have reflected on their role, origin, and materials. However, for this thesis, I will narrow my focus only to the machine's functionality in art, saving the broader topics for future exploration.

In my art, I use machines primarily as tools. Meaning their existence is justified only to facilitate the artistic process without ulterior motives. Essentially, they are dead objects, devoid of emotions, existing to fulfil their designated function. However, this viewpoint becomes more complex within the context of art.

In the artistic context, I have observed that the discourse of an artwork often gravitates towards the machine's role, which inadvertently overshadows the overall artistic concept. The machine unexpectedly becomes the central element, capturing the observer's attention, and the discussions often result in focusing on the machine's successes or failures in performing its task, as opposed to the original exploration of the artwork it was created for.

This phenomenon may be attributed to our tendency to anthropomorphise objects, especially electronic devices. The unique way they move and operate due to their mechanical constraints is usually interpreted as the machines 'personality', which often leads to this personification,¹² and I have personally observed this tendency frequently, as one of the most recurring questions I encounter is, "Does your machine have a name?".

Undoubtedly, this perspective has been effectively used in artworks, and some of them have become incredibly popular, such as 'The Senster' by Edward Ihnatowicz¹³ and 'I Can't Help Myself' by Sun Yuan & Peng Yu.¹⁴

But for me, who use technology as a tool to explore subject matters other than the machine's workings or societal role, this focus on the machine can be challenging. Often, the discourse gets 'stuck' in the mechanics, distracting from the overall artwork. To me, it feels similar to observers who focus on the television rather than the movie being shown.

Considering this, I question if the same scrutiny applies to other artistic mediums. For instance, throughout my involvement in arts, from childhood to now, never has anyone questioned the role of a particular paintbrush in the final work. While the discussion of brushstrokes, palette knife markings, or imprints from rags has highlighted the significance of these tools in paintings, I believe this focus is distinct from emphasising the machine itself. To draw a parallel, concentrating on a painting's brushstrokes would be similar to focusing on the plotter's markings, which is entirely different from viewing the machine as the sole artwork. However, I admit this comparison might be unfair as the brush is not usually anywhere near the painting in the final exhibition if it is not part of the work itself, and surely,

¹² In robotics, there are several instances of machines being named. In visual arts, a prime example is AARON, a drawing machine developed over decades by Harold Cohen. For more reading on this project, see Harold Cohen, "The Further Exploits of Aaron, Painter," *Stanford Hum. Rev.* 4, no. 2 (July 1995): 141–158.

¹³ For more information about the work, see Jana, "The Senster," Compart, accessed July 27, 2023, <http://dada.compart-bremen.de/item/artwork/713>.

¹⁴ For more information about the work, see Xiaoyu Weng, "Sun Yuan and Peng Yu, I Can't Help Myself," Solomon R. Guggenheim Museum, accessed July 27, 2023, <https://www.guggenheim.org/artwork/34812>.

the exhibited screens and projectors have been examined when incorporated into media art. However, I argue that these tools' roles are not nearly as intensely scrutinised as when a machine mediates the artwork. Yet, I recognise that this could be a contemporary issue. Perhaps projectors and TVs underwent a similar period of dissection that I am unaware of, suggesting that this challenge might naturally diminish over time.

However, Robin Clifford Ellis, a colleague and academy alumnus who also utilises plotters in his artistic practice, echoes these thoughts. Whilst Ellis approaches and formulates the issue differently in his Master's thesis, we have both independently reflected upon the challenges of using the plotters as a tool in art.

Advised to display his plotter at Kuvan Kevät 2022 exhibition simply because few are familiar with the technology, he writes:

More broadly, I also started to question the reason for showing the plotter. This seemed to relate clearly to its novelty factor. If this were not the case, then should not the printmaker also exhibit the printing press, the video artist the camera or the painter their paints and brushes? Perhaps they could, but it is not deemed necessary for the work to be appreciated. The argument was put forward that my process is less familiar, but I suspect that people know next to nothing about, for instance, lithography either and that it is simply the term "lithography" which seems familiar, and, therefore, demands no further explanation.¹⁵

These reflections are even more prominent considering Ellis uses the plotter to create felt tip drawings, compared to me, who displayed the plotter at Kuvan Kevät 2023 for the interactive work. Ellis later decides not to exhibit the plotter and continues writing:

¹⁵Robin Clifford Ellis, "Shiftwork," (Master's in Fine Arts thesis, University of the Arts, 2023), 26.

There was also my fear that the novelty factor of the plotter would not only distract from the artwork but would also posit the machine at the centre of the process, effectively side-lining the other elements. At the risk of sounding in denial (having spent already some time discussing the ins and outs of the plotter,) I need to stress that this project is not about the plotter but about the plotting process and, therefore, the materials that it is very good at working with: ink and paper.¹⁶



¹⁶ Ellis, "Shiftwork", 26

Ellis's perspective intrigues me. Although we collaborated together on plotter development, we never discussed these specific issues. It's only now, a year after his *Kuvan Kevät*, that I have come across his similar reflections. This reassured me that I was not the only one noticing these challenges.

Therefore, navigating this issue presents two potential paths: concealing the tools from the exhibition or continuing in the hopes that viewers will become accustomed to machines as tools, allowing the discourse to accept diverse perspectives instead of focusing solely on the machines.

As for selecting technical tools and putting myself in this position in the first place, I have no better argument than their potential for further experimentation inspired me. Although I could have approached my original concept differently to avoid using machines, my curiosity guided me down this path, and I chose not to shy away despite my earlier reflections.

Simultaneously, I recognise that my views on machines being merely tools are more complex than I initially admitted. During my reflections on my role as an artist working alongside these machines, I found myself placing the machines as autonomous beings that I assist instead of simply controlling them as said tools. This perspective challenges my initial belief that machines are, in fact, just simple tools and should not be contested when used as a medium in artworks. Additionally, I observed that Ellis was also reflecting upon his relationship with the plotter as a tool,¹⁷ which indicates an ongoing, uncharted relationship between plotters and artists.

This paradoxical relationship needs further introspection, pushing me to question my true relationship with these machines.

¹⁷ Ellis, "*Shiftwork*," 28

Technical details from Unearasble Traces of You

Developing the plotter was a lengthy process due to having no background in engineering. This meant I had to face and learn from numerous trials and errors, as the designs and properties of different low-cost, accessible materials impacted the outcomes variably. My main challenge arose from the material wear not meeting the mechanical demands and breaking down with use. However, by iteratively redesigning with different materials and creating more robust parts, I could build a durable and functioning machine that impressively lasted through the entire exhibition only with minor faults.

Therefore, the selection of the materials for the final design prioritised mechanical robustness, using aluminium for the frame for its strength-to-weight ratio and 3D-printed PLA plastic for the assembly pieces. While the materials gave the plotter a raw look, they harmonised well with the aesthetics of the depictions.

The belt design

The final design evolved through several iterations, initially starting as a floor-based version. However, it became clear that the plotter needed to be upright and large-scale, as I aimed to allow viewers to encounter their life-sized figures in a more immersive viewer interaction.

Transitioning the plotter into an upright version of the desired scale brought challenges, and one significant issue was the traditional Cartesian design for plotters. This design places a single Y-axis motor perpendicular to an X-axis frame, leading to weight distribution problems on a larger scale. For this problem, I found an alternative solution, the CoreXY design,¹⁸ which strategically places two motors at the bottom of the plotter's X-axes, effectively eliminating the problem of uneven weight distribution.

¹⁸ For a detailed technical breakdown, see "CoreXY | Cartesian Motion Platform," accessed August 23, 2023, <https://corexy.com/>.

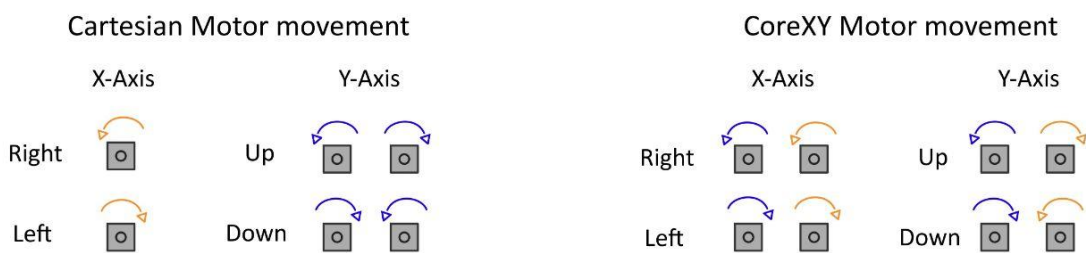
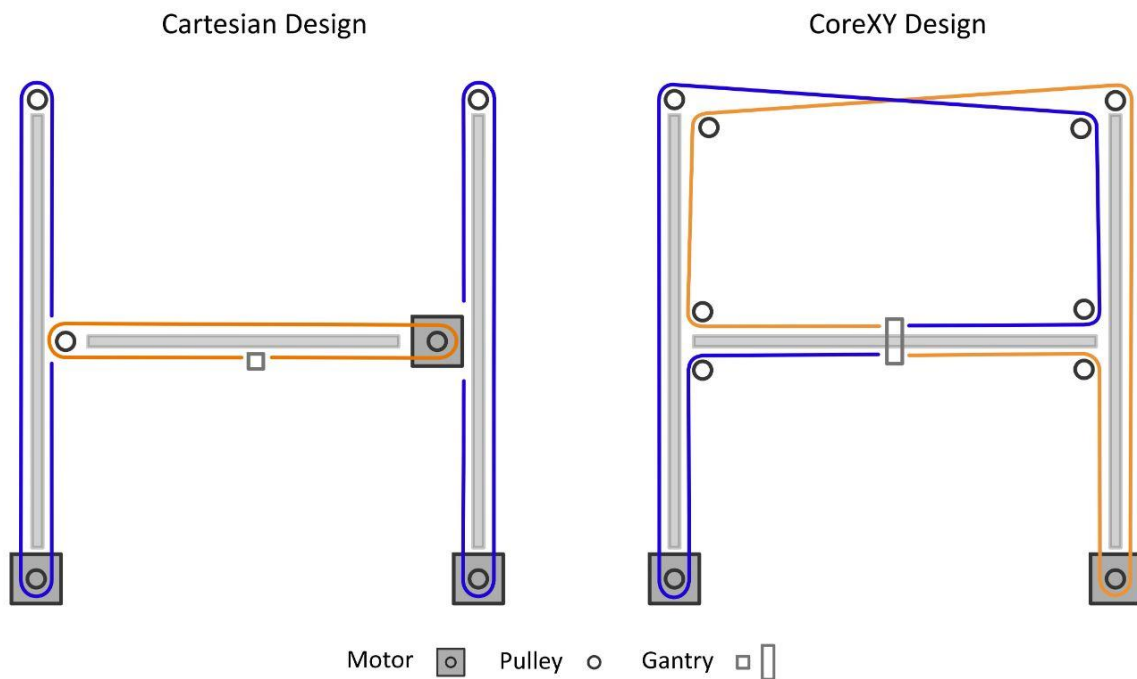


Illustration of belt designs

Using the CoreXY design with intersecting timing belts, the motors jointly control the Y-axis and the plotter's central gantry. This belt system stabilises the Y-axis, as both belts exert force from opposite directions, keeping it centred and preventing diagonal shifts. This synchronised motor and belt system ensures accurate movement while maintaining the plotter's integrity, which is vital when using more accessible but less durable materials than industrial-grade counterparts.

Charcoal feeder

Designing the plotter to draw with two different materials, charcoal and chamois cloth, presented an enjoyable challenge. The goal was to create a mechanism that could

seamlessly switch between the necessary drawing tools. Various design options were explored, including a wheel mechanism and a stationary tool holder. Ultimately, to keep the construction as simple as possible, a dual welder with a seesaw design proved to be the most effective.

The design of the seesaw mechanism allowed one tool to rise while the other descended, enabling a seamless tool exchange. Though initial designs worked perfectly, wear and tear shifted the seesaw's balance over time. This required material upgrades and fine-tuning the Z-axis motor strength for more consistent performance of the dual-welding gantry.

Another challenge that emerged from using charcoal as the drawing medium was its rapid consumption. To address this, I designed a charcoal feeder with a mini DC motor and rubber bands, forming a rotating slot similar to two opposing belt sanders. This setup allowed the rubber to gently grasp the charcoal, pulling it through with sufficient force. The drawback of this design was the need to insert new charcoal sticks into the feeder as the plotter consumed the charcoal.

However, my tests showed one charcoal stick lasted for approximately nine drawings. Given that the drawing process took about seven minutes during the testing phase, I estimated that it would need to be refilled roughly once an hour.

G-code

Implementing motor movement for the plotter was a relatively simple process. Having already incorporated the Core XY design, I was familiar with motor control alternatives and chose G-code¹⁹ as the programming language for manoeuvring the plotter. G-code is a universal programming language widely used in high-end machinery and do-it-yourself projects for computer numerical control (CNC), 3D printing and plotting.

¹⁹ For a detailed technical breakdown, see "G-code," RepRap, Accessed August 23, 2023. <https://reprap.org/mediawiki/index.php?title=G-code&oldid=190185>.

The G-code commands dictate machine operations such as speed and positioning. To send the commands from the motor controller to the plotter, I chose GRBL,²⁰ a high-performance, open-source parser compatible with Arduino boards. GRBL efficiently interprets G-code, supporting its commands and through this integration, the plotter acquired precise motor control, enabling it to execute intricate drawings smoothly.

Drawing process

Despite my best efforts to design an efficient plotter, the machine's drawing process encountered some physical issues. The motor's limited power hindered the drawing speed. This was a problem because the drawing duration varied greatly, ranging from seconds for simple lines to hours for detailed sketches. I faced a dilemma: either let the machine draw fewer lines to increase its speed at the expense of detail or allow it to produce a detailed image but at a much slower pace.

A swifter drawing process might reduce the time to wait for a completed drawing, but it brought its own complications. The straight lines, while efficient, resulted in an impersonal, mechanical touch, contrasting with the sensitive feel I aimed for. Meanwhile, high realism and a much slower drawing pace inadvertently transformed the machine into a selfie creator, deviating from my intended objective. Therefore, I chose to aim for a balance somewhere in between while simultaneously reflecting on how the level of detail influences our capacity for self-recognition.

Data input and programming

The plotter's functionality was crafted using custom Python programming and segmented into specific functions before parsing the final G-code instructions to the motor controller.

²⁰ For a detailed technical breakdown of GRBL, see "grbl," GitHub, Accessed August 23, 2023, <https://github.com/grbl/grbl>.

The program utilised the webcam to capture data from the viewer. It began by detecting movement and then positioning the plotter to capture an image of the viewer. To ensure the presence of a human before the image capturing, Mediapipe's²¹ multiperson pose detection²² was integrated. This feature utilised Mediapipe's trained algorithm to verify a person's presence with an accuracy threshold set to 70% before taking a photo. This system allows participation, whether seated or standing, including those with mobility challenges.

Once an image was captured, the program initiated the Rembg²³ deep neural network to isolate the central figure by removing the background. This resulted in a clear portrait, eliminating any background noise.

The captured image was also mirrored to enhance recognition, presenting the resulting depiction in the same orientation people typically see themselves.

Following these steps, the image was processed into a drawable format and translated into G-code paths for the plotter's execution.

Selecting the drawing style for the plotter was a significant step in the process, as the aesthetic possibilities in programming are virtually limitless. The plotter, by design, simply needs coordinates to draw, meaning it can execute any design I desire without question. The only limitation is my programming skills, as it demands time and effort to learn skills I may not initially possess.

²¹ For a detailed technical breakdown of Mediapipe, see Google, "Mediapipe Studio," Accessed July 28, 2023, <https://mediapipe-studio.webapps.google.com/home>.

²² For a detailed technical breakdown of Multiperson pose detection, see Ajay Pyatha, "Multi person pose detection with yolov5 and mediapipe," Accessed July 28, 2023, https://github.com/ajaym416/multi_person_pose_detection_with_yolov5_and_mediapipe/blob/main/copy_of_multi_person_pose_detection_with_yolov5_and_mediapipe.py.

²³ For a detailed technical breakdown of Rembg, see Daniel Gatis, "Remove.bg." GitHub. Accessed July 28, 2023. <https://github.com/danielgatis/rembg>.

Therefore, I utilised an existing algorithm, Linedraw,²⁴ which converts images into contour lines based on detected coloured regions. Within the algorithm, specific parameters enable the adjustment of image details, deciding the overall look of the drawing. However, while working, I noticed that despite its sophistication, the algorithm often connected some outlines in a way a human artist might not, giving the drawing an uncanny valley effect. This feeling was heightened when using materials such as crayons or charcoal, making the drawing appear hand-drawn. Fortunately, this was only a minor inconvenience, as I never intended to conceal the plotter's role in producing the drawings in the first place.

Upon further reflection, I also noticed the Linedraw algorithm's precision often lacked creativity, which resulted in very realistic but stiff outcomes. This led me to consider an AI-driven model for a more dynamic artistic interpretation.

However, training an AI is a complex task. The reliability of its outputs heavily relies on the dataset's size – the more extensive, the more accurate. For an AI to interpret and draw images of humans, I would ideally need thousands of photos and my drawings for comparison. While this was an unrealistic project to do considering my time limits, I wanted to explore this possibility with a smaller dataset and reflect on the conceptual changes an AI would introduce.



Tests with custom programmed AI.

²⁴ For a detailed technical breakdown of Linedraw, see Dong, L., "Linedraw," GitHub, accessed July 28, 2023, <https://github.com/LingDong-/linedraw>.

I reflected that an AI, being the primary determinant of the depiction outcomes, essentially becomes the machine's perceived 'brain'. This raised concerns as the artwork intended for viewers to see themselves, but with AI in play, the discourse might shift to questions such as whether the machine truly grasps the human appearance. Additionally, training the AI with my drawings on how to draw humans would heavily influence the AI's interpretation. This implies that the artwork would end up with a machine attempting to replicate humans based predominantly on my perspective.

Given these considerations, I decided against incorporating a drawing AI. Yet, it is worth noting that the machine already utilises two distinct functional AIs, which does put my decision into question.

The roles of these AIs, Mediapipe's human pose detector and Rembg, however, can be compared to filters that aid in attaining the necessary results for drawing but do not directly interfere with the aesthetics of the drawings. Therefore, I do not perceive them as integral to the machine's drawing process. That being said, I did observe that the Rembg AI, in particular, had intriguing interpretations of the image at times, where it opted to remove the subject's head or incorporate additional details from the background of the image as it deemed them part of the central figure, resulting in incomplete portraits or interesting objects floating amongst the depictions.

Ultimately, I determined that training an AI would fundamentally alter the project's original intent, leading it down a path I was not interested in exploring. Therefore, I chose to continue my work with the Linedraw algorithm.

As the drawing process began with the Linedraw algorithm, it converted the image and saved the drawing to an SVG file. A custom program then transformed the SVG paths into

G-code directives while simultaneously altering the commands to ensure they stayed within the plotter's physical dimensions.

After defining the G-code coordinates, each command was parsed to the machine controller, starting the initial drawing phase with the chamois cloth. Upon completing the initial pass, the same SVG file was retrieved, and all outlines were converted into curves using a four-point method, creating S-shaped versions of the original lines. This modified drawing was translated into another G-code directive tailored to the charcoal tool. Adjustments in the G-code were added to compensate for the physical difference between the chamois cloth and the charcoal in the dual gantry.

Responsibility

One of the last aspects of the artwork that I needed to consider was how to handle the collected data the artwork produced and processed. This decision came naturally to me, and I was adamant about ensuring that none of the data from the depictions was saved. The program was designed to delete all used data, images, and files after each complete drawing cycle. By doing so, I wanted to guarantee that visitors could participate without any concerns, as the only remaining evidence of their presence would be the depiction created using chamois cloth and charcoal. I also favoured the idea that the drawn depictions would serve as the only remaining traces after the entire experience. Moreover, this decision underscores the trust and integrity I strive to uphold in my artistic practice, taking data collection and information management seriously.

Charcoal

Selecting charcoal as the drawing medium for this project was an easy decision. Although I experimented with other materials like inks, paint, and dry pastels, I eventually discarded them.

I ruled out ink due to its consistent flow, which produces precise, smooth lines. While this precision might be beneficial in some contexts, it created a digital aesthetic in combination with the plotter's exactness. The lines were so flawless that they unmistakably bore the marks of a machine.

While dry pastel offered a softer and more organic touch than ink, it lacked the appealing characteristics of charcoal that I preferred.

Charcoal, produced by burning wood under high temperatures in low-oxygen conditions, does not adhere easily to surfaces. This results from eliminating binding materials during its creation, leaving a soft medium with large particles that can be effortlessly applied and removed due to minimal adhesion.

This characteristic is sometimes viewed negatively due to charcoal being very vulnerable to touch of any kind. Hence, fixative sprays have been developed to anchor charcoal securely to the surface. However, I think this delicate quality is one of the most beautiful aspects of charcoal, which is also why I caught interest in it for this project.

Additionally, I enjoyed reflecting on the conceptual perspective of charcoal due to its transformative nature. Burnt and irreversibly changed, the material experiences a dual transformation: first in its formation from wood to charcoal and then as the charred material transforms into new sketches.

Moreover, its profound historical ties should not be overlooked. From its earliest uses in art, like the cave paintings in Altamira,²⁵ to its consistent role throughout art history as a popular

²⁵ Kassia St Clair, *The Secret Lives of Colour* (London: John Murray, 2016), 274.

sketching material,²⁶ charcoal has established itself as one of the fundamental materials in an artist's toolkit.

So, as I experimented with charcoal on various surfaces like paper, canvas, and walls, I simultaneously examined how easily the charcoal could be removed. While discussing related topics during a studio visit with Tuomo Rainio (artist and lecturer at the Academy of Fine Arts), I tested drawing a large charcoal area directly on the wall and wiping a line with a chamois cloth. This act created a fascinating and beautiful trace, and the discovery led me to contemplate what had just occurred and its conceptual implications.

The act of erasure

I have always enjoyed questioning and exploring the opposite sides of concepts within my art. Whenever I formulate an assertion through my art, I consciously consider the opposite side of that said concept. This approach not only tests my original thoughts but also uncovers fascinating perspectives that might otherwise remain unexplored. One artwork that inspired me to this approach was Rachel Whiteread's artwork 'House', made in 1993.²⁷

Even though I came across Whiteread's work only in 2012 as an art student, without ever having had the opportunity to view it in person, her work left a lasting impression on me. It opened a way to perceive things differently - to invert perspectives. I reflected on how the work was like seeing a room from the viewpoint of a wall while simultaneously challenging the traditional viewing experience by denying the viewer conventional visual access. The 'House' presents the negative form of the building as a unified object, the opposite of what we're used to seeing.

²⁶ The Metropolitan Museum of Art, "Charcoal," Accessed August 16, 2023, <https://www.metmuseum.org/about-the-met/collection-areas/drawings-and-prints/materials-and-techniques/drawing/charcoal>.

²⁷ Alina Cohen, "Rachel Whiteread's House: Unlivable, Controversial, Unforgettable," Last modified September 24, 2018, <https://www.artsy.net/article/artsy-editorial-rachel-whitereads-house-unlivable-controversial-unforgettable>.

This made me think of what is revealed when removing or erasing something - in this case, charcoal. The act of erasure creates a void by removing material yet potentially giving rise to a conceptually new entity that, while lacking physical substance, still holds a presence. The notion challenges the perception that "nothing" would truly lack meaning or essence.

The idea of revealing the unseen or previously hidden facets by subtraction seemed an intriguing development, especially given my related wishes to dissolve my presence from the interaction between the plotter and the viewer. I reflected that it was as if my desire to step back and the plotter's act of removing charcoal was an experiment to see what would fill the following void.

In the act of erasure, I also recognised how I was challenging conventional drawing practices. Instead of relying on black lines to visualise the outlines of an object, I used them to expose something entirely different.

This inverted drawing approach led me to reflect on how we commonly eliminate drawings by adding material, like scribbling over a drawing and restarting with a new paper when it's too far gone to be salvageable. With this insight, I decided to only use charcoal sticks as the primary medium to get rid of the drawn depiction by overwriting it. Simultaneously, this process would generate more material for the plotter to remove later when a new depiction was drawn.

The cyclical nature of this procedure and the intersecting layers of erasure and overwritten representations intrigued me.



Detail of 'Unerasable Traces of You'.

Painting

While experimenting with the plotter and various materials, I also tried painting as a medium to see if it could be integrated into the interactive work. However, the constant need to refill the brush with paint was a significant obstacle if the installation was to operate autonomously. Theoretically, the plotter could be re-engineered to self-refill its paintbrush, but such a drastic redesign was not possible given my time limitations. I also tried priming the canvas with paint and using the brush to push the paint around. While this approach initially seemed promising, I soon discarded the idea of using paint for the interactive work, given the difficulties and my growing interest in charcoal as a medium. Nevertheless, I continued exploring paint as it was an intriguing medium to use in my search for unseen facets.

Yet, the figures I had the plotter paint always seemed rigid and lifeless in my repeated trials. The paintings always felt forced and inauthentic, and I reflected that one issue was using my own depiction as the basis for the figures. This only amplified my reluctance to view myself as the central figure because it was exceedingly self-focused and different from what I wanted to express in my works. However, since I intended to move away from self-representation and instead incorporate other people, I perceived this as an easy adjustment and did not invest much time addressing this issue. Instead, I realised I had a more significant challenge with the actual paint itself. The paint's colour was somehow in the way of what I searched for.

The thick, heavy, and sticky heritage of painting

While working with the paint, I searched for fitting neutral tones to enhance the focus on the motif. Yet, I could not find any hues that genuinely resonated with the essence of what I was attempting to paint.

The problem was that the oil paint's colour did not fit the part. While painting, I searched for a colour that would not only emotionally convey the feelings I searched for but also align conceptually regarding the pigments' origin and use. Rather than simply utilising a colour because it was aesthetically pleasing, I wanted to understand and deeply reflect on the painting, the motif, and the implications of the materials used.

While this approach is helpful for a deeper understanding of my work, sometimes it overburdens me with information, especially when considering that every pigment has its history.²⁸ This leaves me often disheartened that no colour feels suitable for my intentions.

Nevertheless, I tried my best to experiment with whites and shades of my preferred mixture of black through raw umber and Payne's grey. The white paintings evoked feelings of nausea through their bright light, and the angelical figures seemed to be in an astral world with a forced purity. Additionally, the white colour was problematic due to its associations with money and power, as white fabrics and objects in society have always sent a subtle message that only the rich can afford to keep white clean.²⁹ The paintings felt suffocating.

The shades of blacks felt too oppressive and heavy, reminding me of a doomsday scenario. As in likeness to white, black is an expression of light, in this case, the absence of it, and has a close connection to death,³⁰ pushing these paintings into a similar discourse of celestial beings. Moreover, the light canvas showing through the plotter's brushstrokes introduced a certain degree of flatness to the work, which was highly distracting.

At this point, I had to sit down and deeply contemplate the impact of the pigments and my problems with them. At last, I had an epiphany. I envisioned the scenario of not using any pigments at all and started considering the possible outcomes of such an approach.

²⁸ St Clair, *The Secret Lives of Colour*, 11.

²⁹ St Clair, *The Secret Lives of Colour*, 41.

³⁰ St Clair, *The Secret Lives of Colour*, 261.

Finding my own way

In a seemingly simplistic move, I entirely circumvented the issue of pigments by eliminating it. Through this strategy, I created a new void (in this case, the withdrawal of colour) that would also be filled with new and unknown elements worth exploring.

The experimental oil paint development started with the help of Malla Tallgren (lecturer in material studies at the Academy of Fine Arts). The idea was to produce oil paint in the same traditional way, comprised of linseed oil and filler material, but intentionally leaving the pigments out.

Various filler materials were experimented with, including chalk, talc and calcium carbonate, among others. To my disappointment, they all introduced a degree of colour or tint to the paint. Essentially, a linseed oil mixture with filler would still be perceived as a shade of white, even if it lacked any pigments from a conceptual standpoint. However, this was not what I desired; I was searching for a transparent oil painting.

After further trials and expressing my observations, Tallgren grasped my concept and suggested using Acematt 125, a thickening powder designed to enhance the paint's consistency without altering the colour. To my delight, the thickened linseed oil behaved just like regular oil paint, displaying no colours aside from the natural yellowish tint of the linseed oil. Thanks to Tallgren's guidance, I created a transparent oil paint substance, allowing me to paint free from the baggage of pigments and challenge oil painting on my terms.

Working with this new paint was an incredibly thrilling experience. As I explored its functionality, I encountered an amusing revelation about my assumptions regarding the inherent visual behaviour of paint. I realised that, despite the oil paint's inherent transparency, I had somehow expected to be able to see the figures on the background I

had painted. This, however, was only a challenge to overcome. I learned that I needed to adapt my painting method, and I began covering the first layer thickly and utilising the brushes to create discernable textures. With this new approach, I continued to let the plotter paint again.

When working, I prefer to let things naturally unfold without imposing my expectations or notions of how anything should behave. Therefore, when the plotter started painting and dragged the brush across the canvas, creating lumps of accumulated paint, I chose not to intervene but to embrace this organic process.



Detail of: 'Intangible Presence Crossing Borders'

For the second painting, I decided to mirror the machine's actions. In other words, I reintroduced my own hand into the process, which offered an interesting exploration of the contrast between my actions and those of the plotter.

The difference between me and the plotter became evident almost immediately, as my stress, fears and insecurities all affected the outcome of the painting. Needless to say, these human elements are naturally absent in the plotter. The plotter executed the painting in a single attempt, while I tried multiple times, searching for a satisfying result. This was my first serious attempt at conventional painting during my studies, and it immediately revealed the discomfort of making myself vulnerable. My painting style remained unknown to many and, quite honestly, even to me, as I had not engaged in painting in a notable manner during my studies, a period that significantly transformed my artistic practice to the core.

As I painted, I became aware of the paralysing fear of failure that hindered me from painting properly. However, observing the plotter's earlier fearless and unreserved approach to painting led me to find courage. I began to push my brushstrokes further, resulting in a more expressive and wild painting than I had initially envisioned, but a piece that expressed the boundaries of the internal chaos we try to contain.

Reflecting on the paintings, I thought about what the motifs' physical markings on the surface examined. I also considered what it means to see versions of ourselves imprinted as texture on the surface.



Detail of 'Body in Morass'.

While incidental marks, such as scratches or fingerprints, are not usually intended as representations of us, they, too, are traces of our existence. The origin of these traces - how they came to be where they are - intrigues me, and I believe they communicate something about us. Therefore, my brushstrokes on the painting "Body in Morass" are not just markings on a canvas but a commentary about me while simultaneously embodying an exploration of our undefined borders of the inner self.

So, working alongside the plotter was an interesting experience. Despite my initial reflections about my role and its perceived insignificance compared to the plotter, I was pleasantly surprised to find confidence in my painting through this inanimate tool's way of operating.

Technical details

These paintings consist only of traditional oil painting materials, a deliberate decision intended to engage with art history, specifically the realm of oil painting, to conceptually examine what remains visible when the most critical component of a painting disappears – the pigments.³¹

Both paintings were constructed on wooden frames with linseed canvas stretched on top, fixed with staples. The canvases were prepared with three layers of a gelatine and water blend. The oil paint formula was made of linseed oil and Acematt 125, mixed by hand.

For 'Intangible Presence Crossing Borders', the first step was to manually apply a thick layer, about 3mm, of the oil paint mixture. The software then processed and adjusted the chosen motif to fit the painting size. A 4mm round hog bristle painting brush was prepared for the

³¹ In my thesis, I have not explored the conceptual nuances of challenging the art history of oil painting as comprehensively as I intended. This is primarily because I acknowledge that my understanding of this subject is still maturing, and the broader implications of the act of removing pigments remains uncertain to me. Consequently, I have chosen to set aside this significant aspect for further reflection and analysis. While I acknowledge its importance to the themes of the paintings, I opted to prioritize more developed ideas in the limited space of this thesis, rather than diluting it with unfinished thoughts.

plotter, set to lift the brush between strokes approximately 1 cm, ensuring it touched the canvas, penetrating the paint down to the fabric. The painting process was left undisturbed and lasted about 2 hours and 30 minutes.

'The Body in Morass' followed a similar preparatory process up to the point of the actual painting. Several attempts to capture the figure were unsuccessful as I struggled to find the right brush and expression on the canvas. In the second to last attempt, it became evident that a large brush was needed. I also had to apply more physical pressure to the canvas and be bold with my strokes, finding the courage to express myself. Fortunately, the large size of the painting did not intimidate me due to other large-scale works of mine.



'Body in Morass'



'Unerasable Traces of You'

When things do not go as planned

Looking back, I admit that things did not proceed as envisioned. Throughout this project, unforeseen events happened, and I had to adapt to the changes constantly. These moments led me to analyse my methodologies critically and recognise change for long-term sustainability, ensuring a balanced approach to passionate projects and more extensive exhibitions since work driven by passion risks pushing oneself to exhaustion.

Therefore, I had to be cautious of my expectations, especially given the time constraints. While there was never a lack of ideas, ambition, or passion, I had to rein in my enthusiasm to complete this thesis project. However, it is worth noting that my initial expectations for the artworks and their presentation differed from the actual outcome.

Firstly, I planned to dedicate more time to reflect on my work. Instead, most of my time was spent resolving mechanical and engineering issues, which led to consistently feeling I was running two to three weeks behind, always catching up to upcoming deadlines. This state of being constantly behind schedule inevitably took time away from what I could have used for in-depth readings and comprehensive reflection, which might have developed the works further.

While I understand that reflection is time-consuming and ongoing, this experience showed that I still have much to learn when estimating the time involved in building and troubleshooting experimental machines. Despite meeting all my deadlines and finishing everything on time, I wish I had more opportunities to immerse myself in the work and engage with it before it was exhibited.

Therefore, it weighed heavily on me and left me feeling vulnerable and unstable, unsure of what I had truly created. However, I remind myself that the works' true essence may reveal

itself years later and that dealing with the unknown is simply part of our profession. Thus, given my time constraints, I did my best and acknowledged that my perfectionist tendencies are at play here. For that reason, I strive to moderate myself to prevent unnecessary self-criticism.

Secondly, my initial vision for the presentation and exhibition of my work differed from the actual outcome. While this deviation was mainly caused by factors beyond my control, such as how the Kuvan Kevät exhibition was organised, I too had to adjust my plans significantly, influencing the works' atmosphere.

While I appreciated the well-executed organisation of such a large-scale event, I experienced the layout of the exhibition to be challenging. The reason is that my work is intended to offer an intimate experience in a safe space.

As an artist, I intended to present my work 'Unerasable Traces of You' in a way that allowed viewers to interact without judgement, as it can become highly personal to each viewer. Neither did I want to exploit my work or turn it into a spectacle, yet this preference for privacy brings specific challenges. Given that my piece is interactive and activated by people, it needs an audience nearby or passing through. Meaning that even though the experience is intended to be private, it should not be hidden away.

However, my works ended up with a notable public placement, which fundamentally contradicted its intimate nature. This concerned me, but considering the challenging logistics of Kuvan Kevät, I decided to accept the reality of the situation and instead focus on making the best out of what I had.

The secondary wall for the plotter helped isolate the paintings, creating a needed calmness around them. The negotiated distance between my fellow neighbouring artist and me

ensured that the paintings achieved enough surrounding space to sit nicely on the wall. I intended to space the plotter so that viewers could appreciate the paintings without standing in the way of the drawing process while maintaining a unified feel of the entire presentation.

The pieces complemented each other well. The neutral tones and exposed materials in both the plotter and paintings established a harmonious cohesion while remaining an intriguing juxtaposition between the rich, greasy texture of the oil paint and the dry quality of the charcoal. However, since I am more known for my machines than my paintings, many did not recognise the paintings as my works, resulting in many visitors likely unintentionally separating the pieces from each other.

All in all, the exhibition layout received mixed reactions. While most felt the plotter was too exposed and awkwardly positioned, some appreciated its accessibility instead of being tucked away in a gallery. While I welcome the fact that some viewers were not bothered by the exposed placement, I believe this layout shifted the perception of the work 'Unerasable Traces of You' from an intimate experience to a more detached observation. I reflected that the viewers might be subtly conscious of being observed by strangers from the university's four floors, limiting their opportunities for introspection. Therefore, the open surroundings might have affected the intended message of my work by altering their presentation and hindering the experience I had initially planned.

However, the open environment was not the only factor that altered the discourse surrounding the work 'Unerasable Traces of You'. The charcoal feeder, though functioning well during tests, ultimately broke down. Being less developed than the rest of the machine, it failed mid-exhibition to dispense the charcoal properly, often not leaving any scribbles at all and significantly impacting the drawings. The malfunction of the charcoal feeder caused the process of emerging and overwriting to be lost, resulting in a faint grey shape of past visitors created by the chamois cloth spreading the charcoal dust around. This accumulation of lines

out of hundreds of viewers made it exceptionally difficult for anyone to comprehend that the depiction being drawn was indeed a reflection of themselves. However, over time, an outline resembling a human form emerged in the centre, creating a fitting connection back to ancient wall paintings where a 'general human form' was depicted using charcoal.



Viewer participating in 'Unerasable Traces of You'.

Yet, the work did occasionally have a surprising twist. On the rare moments when the charcoal feeder functioned correctly, it reversed the work. With the chamois cloth having spread the charcoal extensively, a proper charcoal supply suddenly brought out the scribbled contours, presenting a curvy depiction against the soft shadows, resulting in an inverted experience from the original idea.

Therefore, malfunctions do not necessarily equate to a negative outcome, as other aspects can emerge, giving new possibilities for reflection. That is why I chose to leave it unrepaired.

However, for those who recognised the plotter's ability to draw with charcoal and smudge with the chamois cloth, its failure was apparent.

This, in turn, led the discussions to focus on the relationship between humans and machines, questioning whether the machines, on a mission to understand humanity, only output incomplete and partial information about our society. This reflection came as the plotter created a shadow or chaotic blend of people, leading one to contemplate what aspects of humanity are truly to be seen when all the incomplete elements are muddled together.

The plotter's inability to draw the scribbles also weakened the connection to the paintings since the similarities between the curves in the paintings and the plotter's output were absent. This discrepancy affected the perception of the paintings, making it difficult to understand the fact that a machine created them, thereby erasing the contrast between machine-made and handmade paintings. However, I believe the paintings' abstract lines, hinting at human forms and complemented by the titles 'Intangible Presence Crossing Borders' and 'Body in Morass', guided viewers back towards the reflections on the broader topic of humanity shared by the works.

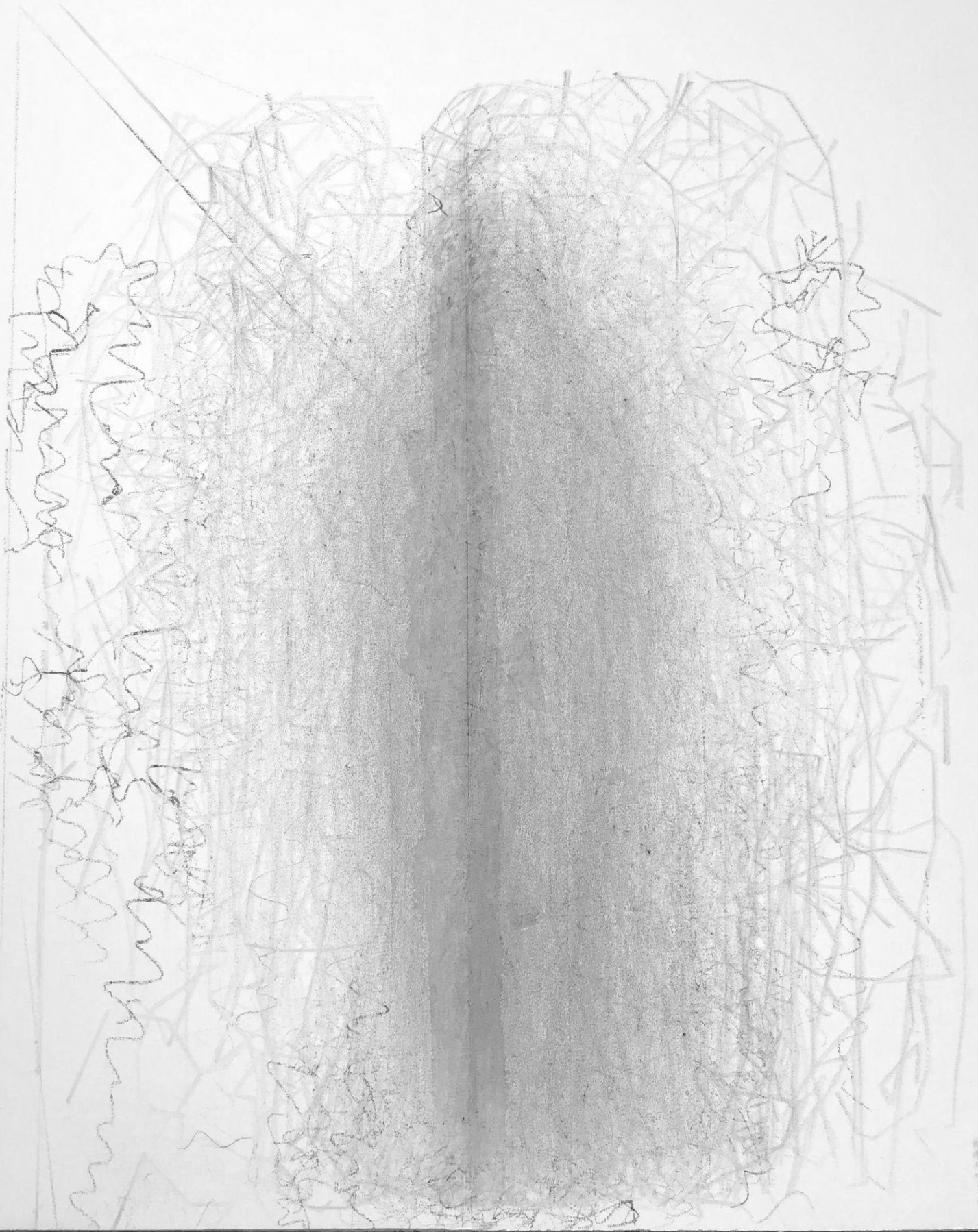
Yet, I think the unusual choice of materials had the most significant impact on the discourse surrounding the works, given a mistake I made that certainly influenced how the paintings were interpreted. I mistakenly labelled my works as just "paintings" on an online form intended to detail the materials and technology used in the works. This oversight led to confusion, with people guessing that the paintings were created using petroleum jelly or some other greasy substance. Such misinterpretation alters the conversation around the

representation of humans if the perceived medium is a common greasy substance, such as cosmetics or bodily masse. Consequently, this leads one to entirely omit the historical connection to oil painting and the notion of revealing through pigment removal.

These oversights on my part, the mistake of not specifying the painting materials and the charcoal feeder malfunction, created a lot of discrepancy between the guidelines provided and the experiences of the works, ultimately leaving the viewers conflicted about the work's intent. This led me to question if my artworks were too difficult to approach. While I firmly believe no work of art is ever too difficult to engage with due to individual reactions and interpretations being always valid and significant, even if they don't align with the artist's intentions, I still recognise that these errors of mine may have created avoidable, unnecessary confusion amongst viewers.

Despite everything, the works align close enough to my initial vision and still move in the right direction. Although the project did not pan out perfectly, the experience allowed me to discover new aspects and gain valuable insights, even post-exhibition. During the final hours of dismantling the 'Unerasable Traces of You', the piece emerged in a new light.

After the plotter was disassembled, the drawings were left bare on the wall. Whilst it no longer represented any specific viewer, the remnants of past participants remained as a haunting shadow. Liberated from the plotter, the depictions seemed to find their voice, resounding louder when given a chance to exist without the mechanics.



'Unerasable Traces of You'
without the plotter.

What's next?

In my thesis, I have developed three pieces of artwork, each questioning different perspectives of identity while pushing boundaries with conventional materials in art. Together, they have opened up new possibilities for me and further established my interest in exploring humanity in unconventional and experimental ways.

These explorations of humanity as the subject matter will also intersect with technological advancements. Knowing that this was not the last time I dabbled with machines and already thought of many new ideas for artworks, I am confident that the challenges discussed in this thesis concerning technology in my art will undergo deeper examination in the future.

Yet, technology is not and will never be my sole focus. My experimental approach to oil painting has unveiled a new perspective on the medium, which is exciting and relieving as I finally have found a way to move past my previous rut in painting as a medium. Moving ahead, I am eager to explore this material further, diving into its potential. However, while pigmentless oil paint is a significant path in my artistic practice, neither will this be my only focus, as my curiosity will always lead me to continue experimenting with and approaching other mediums in search of new concepts to explore.

In the end, reflecting on all the insights I have gained throughout this process reveals a part of me that wishes to redo everything, as I recognise a lot of room for further development. However, I suppose that's the essence of creation: as one project concludes, new avenues for exploration emerge as there is always more to be found, more to explore and more to discuss. Thankfully, I interpret these feelings as indicators of growth, confident that the next project, while presenting new challenges, will also incorporate all that I have learned from this experience.

Conclusions

Ultimately, this entire project has given me profound insights into my artistic practice. Rarely do we have an opportunity to take a considerable amount of time to reflect and express our thoughts in 50 pages of text. Though this process is demanding, I am thankful for it, as it has uncovered connections and insights I might have otherwise missed in my work.

One such connection was when I initially viewed myself as an assistant to the machines, only to later define these devices strictly as tools. When I noticed this inconsistency, it made me realise that my understanding of the relationship with my machines remains unclear.

However, these thoughts were only possible to write about because of the considerable amount of work done earlier. While I naturally enjoy reflecting on my artworks and do so continuously throughout my artistic practice, this thesis provided a structure that helped me to do so purposefully. This structure was beneficial when trying to figure out how to depict the viewers as I noticed a discrepancy between the initial portrayal and the depiction I was searching for - our inner selves. Usually, I am confident that I will find an answer to my questions given enough time, but this particular challenge still occupies my thoughts. Regardless, I am optimistic that it will lead to exciting insights as I continue to work with it.

Considering all this, my thesis has not followed a conventional trajectory, starting with a question only to be resolved during the work and presenting the final results. Instead, rather than tying up all loose ends, my thesis has introduced numerous new paths of exploration. This is evident in my frequent statements that different topics will be further explored in the future.

However, not all questions were left unanswered. This thesis has allowed me to examine identity through my art, and I have found ways to express myself using lines and various

materials like charcoal and pigmentless oil paint. I have also reflected on the intricate relationship between me as the artist, the artwork, and the viewer, which guided me to make more informed choices based on the desired outcome of my works. But as mentioned before, thoughts mature and change. Therefore, as I acknowledge that my perspectives will shift and I have yet to find the answers to all my questions, I am proud of my progress. I find myself more inspired than ever to continue challenging myself and exploring the new ways I have discovered.

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Images

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Page 5 – Overview of ‘Intangible Presence Crossing Borders’ and ‘Body in Morass’. Photo: Sofia Haapamäki.

Page 7 – ‘Unerasable Traces of You’. Handbuilt pen plotter. Aluminium rods, 3D printed parts, Wires, Arduino, Cnc v3 shield, computer, motors, GT2 belts, screws. Size: 250x200 cm. Photo: Sofia Haapamäki.

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