

I Come From a Long Line of Machines

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Dedication

For my Mom, who taught me how to crochet, cross-stitch, and to express myself in creative ways.

For my Dad, who has always inspired me to follow my dreams and passions.

For my Sister and Mara, who both spent countless hours, listening to me rant about art and life. I could not have finished this thesis without the support of my best friends.

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Abstract:

My research investigates the repetitive processes of embroidery, finger knitting, digital image-making using Photoshop, and how they are similar in their use of mechanical systems. By engaging in a collaborative process with different machines and tools, I attempt to share control of artistic production. I address notions of artistic authorship, chaos, order, control, infinity, and mechanical repetitive systems. I embrace systematic processes in order to create art that is similar to that of a programmed machine. By doing so I am able to gain perspective into the ways in which machines and humans are alike.

Introduction

Growing up as a Caucasian middle-class Canadian woman in the twenty-first century, I have always had the freedom to do whatever I may choose to do. However, I always find myself drawn towards jobs and activities that rely on order, control, and precision. In other words, I enjoy doing mechanical repetitive tasks, similar to that of a machine. I come from a long line of machines. Many of the women in my family knitted, crocheted, or embroidered. The other day my Ama gifted me a scarf that she knitted and she proclaimed, “Mallory, I am a machine!” to which I responded, “so am I!” I relish jobs that have rules or instructions that can be learned and executed correctly each time. I have always been good at following instructions as it allows me to keep things organized and in control. It is part of my natural instinct to want to keep things structured and precise. I guess that makes me a perfectionist. I never understood why the word “perfectionist” carried such a negative connotation; I always use it with pride and a sense of accomplishment.

My obsession with control and structure has always been reflected in my practice even though I have not always been aware of it. I create art with close attention to details, technical proficiency, and precision. My work usually forms patterns through repeated lines, configurations, and motifs. For me pattern is the essence of control, organization, and structure. When things remain the same, repeated, again and again, it becomes more difficult to change and adapt. However, perfect repetition is an unreasonable goal; small variations will inevitably occur even when we don’t want them to.

Part 1: What do Machines, Women, and Cross-Stitching Have in Common?

“when computers were virtually real machines, women wrote the software on which they ran. And when *computer* was a term applied to flesh and blood workers, the bodies which composed them were female. Hardware, software, wetware—before their beginnings and beyond their ends, women have been the simulators, assemblers, and programmers of the digital machines.”¹

—Sadie Plant, *Zeroes and Ones: Digital Women and the New Technoculture*, 1997

In 1833, Charles Babbage with the help of the first computer programmer, Ada Lovelace, designed the Analytical Engine based off of the Jacquard loom.² In Lovelace’s words “the Analytical Engine weaves algebraical patterns just as the Jacquard loom weaves flowers and leaves.”³ The Jacquard loom was a mechanical innovation of what was previously woven and operated by women. In turn, women learned their skills and techniques from the first pioneers of them all, spiders and moths, nature’s weaving experts.⁴ Hence, by looking at the historical timeline of machines and the digital computers of today, it is evident that they were initially inspired by women’s practices. Lovelace’s experience as a computer programmer, demonstrates the historical importance of women completing mechanical tasks. Women truly were the first computers, executing the mundane, detailed, repetitive, semiautomatic operations now assigned to digital computers.⁵

My mother has always had an appreciation for ordered and repetitive activities including crocheting and cross-stitching, which she taught me as a child. Without a doubt my obsessive mechanical nature was inherited from her. For centuries, needlework, crafts, and other domestic

¹ Plant, Sadie. "Zeroes and Ones: Digital Women and the New Technoculture." (1997), 37.

² Manovich, Lev. *The Language of New Media*. MIT press, 2001, 45.

³ Ibid, 45.

⁴ Plant, Sadie. "Zeroes and Ones: Digital Women and the New Technoculture." (1997), 13-14.

⁵ Ibid, 35-36.

art forms have been passed down by generations of women. (1) *When I Cross-Stitch I Feel Like a Machine: 88 Hours of Self-Love and Self-Reflection* and (2) *When I Cross-Stitch I Feel Like a Machine: 50 Hours of Self-Love and Self-Reflection*, is a series of cross-stitched embroidery works, which produce a digital aesthetic similar to pixels that make up a digital computer image. To say that “I feel like a machine”, may have a negative connotation such as that associated with perfectionism. However, I see it as a way of creating a personal connection with machines and positioning myself in relation to the ways in which machines might think if they were able to. Thus, with this component of my thesis work I make a connection between centuries old domestic practices and new age digital technologies.



Figure 1.0, Mallory Donen, (1/2) *When I Cross-Stitch I Feel Like a Machine*, 1.5”x1.5”, Embroidery floss on canvas, 2017

The series began by cross-stitching two small squares that were created entirely from my own mind. Therefore, I did not use a pre-established pattern to create the works, which is usually the case when cross-stitching is concerned. However, I did find myself making rules and instructions in my head while making each of the squares. Therefore, they still appear to be quite controlled and ordered. Next, the resulting cross-stitched squares were scanned digitally as Jpeg files onto a computer. The digital images were manipulated in Photoshop in order to create two new images more complex than the initial ones.

Using an online pattern design website, stitchfiddle.com, I was able to upload my new images and have them converted into cross-stitch patterns. During the conversion process some information and pixels were translated incorrectly or rather too perfectly, therefore the images look slightly different than the ones I created in Photoshop. It is a belief that machines cannot make mistakes, but maybe being too perfect can result in something that is perceived as an imperfection.

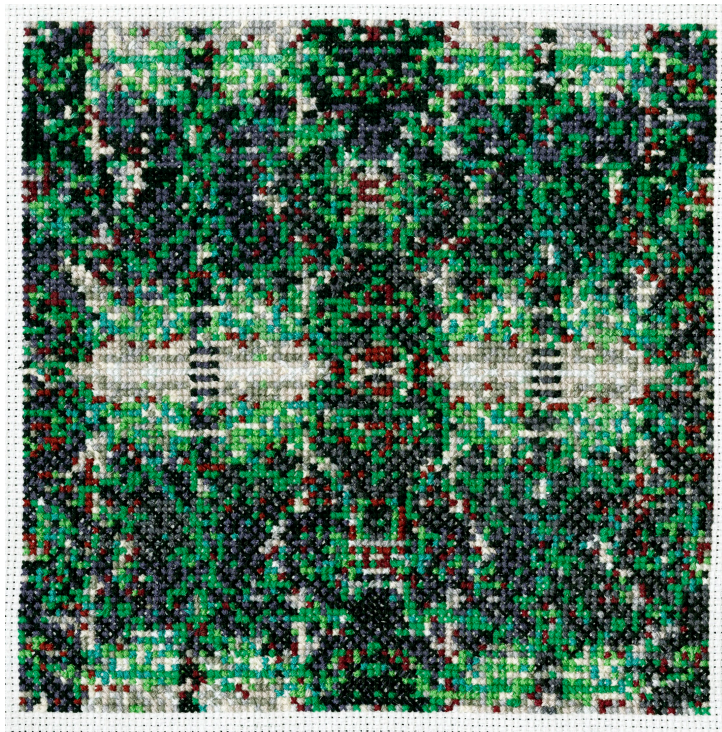


Figure 2.0, Mallory Donen, (1) *When I Cross-Stitch I Feel Like a Machine: 88 Hours of Self-Love and Self-Reflection*, 7"x7", Embroidery floss on canvas, 2017

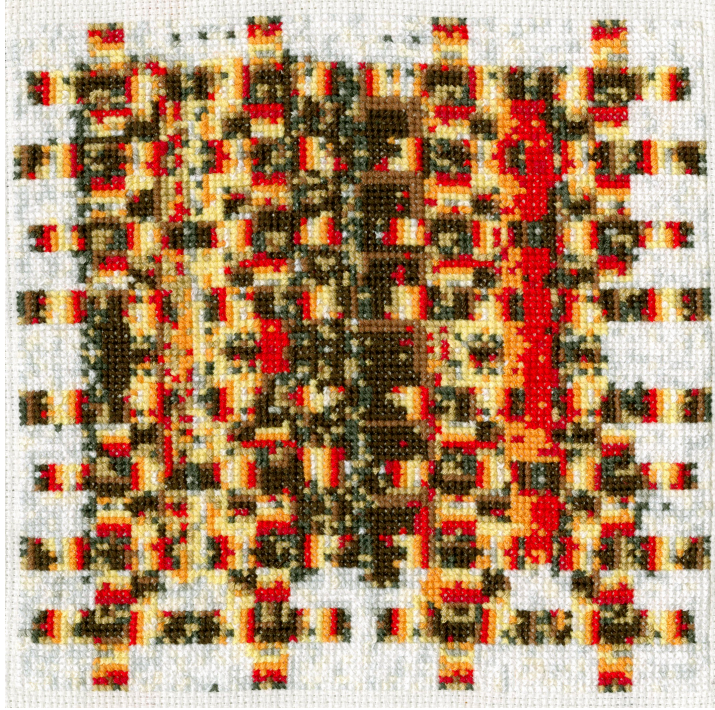


Figure 3.0, Mallory Donen, (2) *When I Cross-Stitch I Feel Like a Machine: 50 Hours of Self-Love and Self-Reflection*, 7"x7", Embroidery floss on canvas, 2017

Subsequently, I used these patterns generated on stitchfiddle.com to create two new squares larger than the initial two small ones. However, due to the scale of the larger squares a margin for error was introduced. I did not intend on straying from the patterns in any shape or form. But due to the complexity and the thousands of stitches executed, I inevitably made errors. By the time I realized that I had made a stitch, which did not follow the pattern it was nearly impossible for the mistake to be fixed. When these errors occurred, I imagined that this would be how a machine would feel if it were human. Hypothetically, a machine that works too fast may potentially make a mistake. Thus, the machine would be unsure of how it made the error and it would be forced to accept the unavoidable results. The machine would not be able to fix the mistake either since it would have to continue to execute the instructions it was programmed to follow.

Part 2: All Machines are Tools

“By the machine we mean an instrument of mass production. In a sense, every tool is a machine – the hammer, the axe and the chisel. And every machine is a tool... The problem is to decide whether the objects of machine production can possess the essential qualities of art.”⁶

—Herbert Read, *Art and Industry*, 1934

For centuries artists have utilized tools and machines to assist in the production of art. Sir David Brewster, the inventor of the kaleidoscope, saw the exceptional abilities of a machine to create images of precision, beauty, and symmetry.⁷ He asserted that a machine such as the kaleidoscope was more competent at composing such imagery than that of human skill.⁸ Therefore, as machines become more advanced, their technical abilities are developing at an extremely rapid pace. Eventually, machines may be able to do everything that a human can. Just like any tool used by artists in the past, machines can be used in productive and effective ways to create works of art. My research investigates this evolving relationship between artists and machines by engaging in a collaborative process where the control of artistic production may be shared.

Gerald Hushlak is an artist who creates automatically generated images from high-resolution digital photographs. He integrates his photographs into a complex computer processing software that produces images rapidly and automatically. Hushlak extracts images at certain moments as a way of interfering with the process. In comparison, my approach does not involve automatic software, therefore the evolution and manipulation of my images occurs at a much slower pace. Similarly to Hushlak, I have become aware of unique moments,

⁶ Johnston, Lucy. *Digital Handmade: Craftsmanship and the New Industrial Revolution*. Thames & Hudson. 2015, 6.

⁷ Crary, Jonathan. "Techniques of the Observer." *October* 45 (1988): 3-35.

⁸ Ibid.

abnormalities, and accidents that have occurred throughout the development of my process for creating digitally produced images. By remaining mindful of these instances, it allows me to maintain a certain element of control instead of permitting the computer to take over completely.

In *Techniques of the Observer*, Jonathan Crary quotes Karl Marx, “handcraft-based work... ‘makes use of a tool’, that is, the tool [has] a metaphoric relation to the innate powers of the human subject”⁹. Therefore, any tool used by an artist has limitation in its ability to visually represent the thoughts, ideas, and inner vision of the individual. In my opinion, an artist’s true intentions can only be expressed through mediation between themselves and some form of tool or instrument. Thus, always making art collaboration between two subjects. In other words, artists purposefully engage in a symbiotic relationship with tools, which “implies cooperation between distinguishable organisms, often a competition between host and parasite from which fruitful coexistence evolves.”¹⁰ The competition in this case is usually a fight for control. Therefore, tools and machines always contribute in varying degrees to the creation and development of artworks. It is the artist who must decide how much control they will relinquish and how much they will maintain throughout the creative process.

⁹ Ibid, Pg. 31.

¹⁰ Dyson, George B. *Darwin Among the Machines: The Evolution of Global Intelligence*. Basic Books, 2012, 12.

Part 3: Rhizomatic Processes

Deleuze and Guattari imagine new rhizomatic art practices with infinite multiplicities that have no beginning or end.¹¹ This concept of infinity is a reality in the age of digital technology. These technologies are changing the way artists make works of art. By collaborating with the computer, I am able to produce complex multi-layered images that allow for the development and imagining of infinities both physical and spiritual.¹² The physical includes the images, patterns, and motifs, which are visible on the surface. On the other hand, the spiritual is the extension of those infinities into other dimensions that are not visible, but can be imagined.

Part 4: Diminishing the Mark of the Artist

As artists continue to use the computer as a tool for creating, the evidence of the artist's hand in the work is often becoming diminished. The notion of the artist's hand disappearing from the process is not a new one. Since the 1970s, artists such as Simon Hantai, Morris Louis, and David Daio, have explored the noncompositional effects of painting.¹³ They used processes such as pouring, folding, and squeegeeing as a ways of removing the artist's hand from art.¹⁴ Similarly, my approach to digital image-making using Photoshop has also eliminated the evidence of handwork through the use of the computer. My method of noncomposition is to disrupt expectations by embracing elements of the creative process that I would usually consider mistakes.

¹¹ Deleuze, Gilles, and Félix Guattari. "Introduction: Rhizome." *A Thousand Plateaus: Capitalism and Schizophrenia*. Minneapolis: University of Minnesota, 1987, 3-25.

¹² Deleuze, Gilles, *The Fold: Leibniz and the Baroque*. Trans. Jonathan Strauss. US: Yale University Press, 1991, 227-247.

¹³ Singerman, Howard. "Noncompositional Effects, or the Process of Painting in 1970." *Oxford Art Journal* (2003): 127-150.

¹⁴ Ibid.

By embracing mistakes I am able to produce more variations and elements of unpredictability within my work. I eventually begin producing and imagining new ways of generating my digital images by working in a chaotic manner. Executing various actions through Photoshop that allow for an element of chance and randomness helps to develop this chaos. It is as if I am creating a new language of noncomposition, a language that can be learned. Therefore, I inevitably take back control once I have mastered this new approach to image production. In the same way:

“A rhizome may be broken, shattered at a given spot, but it will start up again on one of its old lines, or on new lines. You can never get rid of ants because they form an animal rhizome that can rebound time and again after most of it has been destroyed.”¹⁵

As this example illustrates, rhizomes are both chaotic and structured at the same time. Philip Taaffe creates complex painted compositions that often seem chaotic due to the juxtaposition of several patterned layers and unexpected color combinations.¹⁶ However, even amongst the visual confusion, Taaffe’s work sustains a balanced composition with a clear sense of structure and organization. This aesthetic of controlled chaos is what I want to achieve within my own work.

¹⁵ Deleuze, Gilles, and Félix Guattari. "Introduction: Rhizome." *A Thousand Plateaus: Capitalism and Schizophrenia*. Minneapolis: University of Minnesota, 1987, 9.

¹⁶ Brody, David, Juncosa, Enrique, and Colm Tóibín. "Philip Taaffe: Anima Mundi". Dublin: Irish Museum of Modern Art, 2011, 1-111. Print.

Part 5: Programming the Artistic Process

Another influence of mine is Frank Stella, whose paintings raise the issue of artistic authorship. His diagrammatic paintings are produced by a set of pre-determined operational processes, which are established before the process of creation begins. Through an exploration of digitally produced images, I have developed a set of skills, approaches, and processes in Photoshop, that aid in the creation of complex patterned imagery. These digital images diminish the mark of the artist's hand and therefore raise the question of artistic authorship. For me it is important that I remain in control of the process and embrace a mode of creative production that appears as though it was made by a machine.

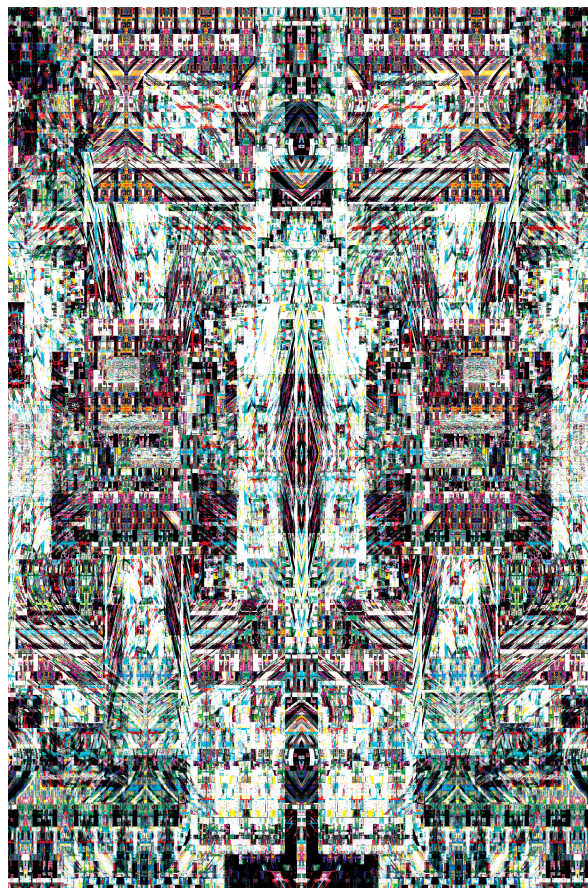


Figure 4.0, Mallory Donen, *InstructionTable 3.0_v1.jpg* from *Think Like a Human Act Like a Machine: Programming an Artist*, Book, 2017

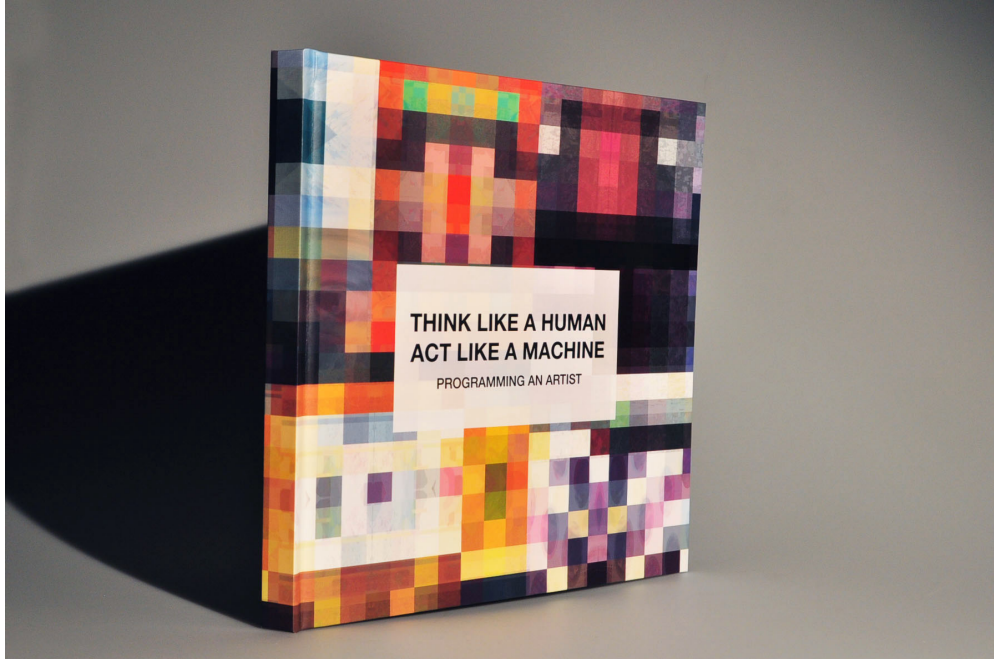


Figure 5.0, Mallory Donen, *Think Like a Human Act Like a Machine: Programming an Artist*, 12"x12", Book, 2017



Figure 6.0, Mallory Donen, *Think Like a Human Act Like a Machine: Programming an Artist*, 12"x24", Book, 2017

In the digital works compiled in the book *Think Like a Human Act Like a Machine: Programming an Artist*, as well as *Instruction Table 1.2, 2.2, and 3.2*; I investigate a process whereby I am programming myself as though I am a computer. Before I began producing digital images for this series of works, I created “Instruction Tables” which attempt to replicate and simplify my digital practice into a set of programmable instructions. By doing so, I was able to relinquish the control of the creative process by eliminating the notion of spontaneity to a certain extent. Therefore, just like a computer, I began to create the works in Photoshop by executing the

steps in the Instruction Table. I became a machine, programmed by a set of instructions and I would not allow myself to stray from the order of operations given. On the other hand, each of the various steps could be executed and interpreted in unique and unpredictable ways, creating variation each time the Instruction Table was completed. Therefore, during this collaboration with the computer I was able to “think like a human” by executing the operations in creative ways. The resulting approach is:

“a flexible, relaxed systemacy, which constantly adapts to change rather than exposing accidents as mishaps. When a system adapts to accident, that accident changes from the random to the variable.”¹⁷

The process involves both acting like a machine and thinking like a human. Acting like a machine means that I must follow the set of operations given and I do not allow myself to stray from these instructions. However, most of the instructions have a range of interpretation and can be performed with a wide range of results. Thinking like a human means being mindful and conscious of my ability to produce change during the execution of each of the instructions. I am controlled by the system, but at the same time I am able to work against it by creating randomness and variation.

If I am able to successfully act like a machine, then it may be possible for a machine to act like a human. Alan Turing is known for positing the question - “Can machines think?”¹⁸. He attempts to answer this question by using a test called the ‘imitation game’. The imitation game involves an interrogator, a human subject, or a machine/digital computer. The interrogator is unable to see the subject that they are testing, therefore they must ask a series of questions in

¹⁷ Spuybroek, Lars. *The Sympathy of Things: Ruskin and The Ecology of Design*. Bloomsbury Publishing, 2016, p 64.

¹⁸ Turing, Alan M. "Computing Machinery and Intelligence." *Mind*, 59, No. 236, 1950, p 433.

order to conclude whether the subject is human or machine.¹⁹ Turing argues that machines may be able to think in ways different from humans and that during the imitation game the machine would most likely attempt to “provide answers that would naturally be given by a [human]”²⁰. Thus, the machine imitates a human and it is evident that humans and machines are both capable of mimicry.

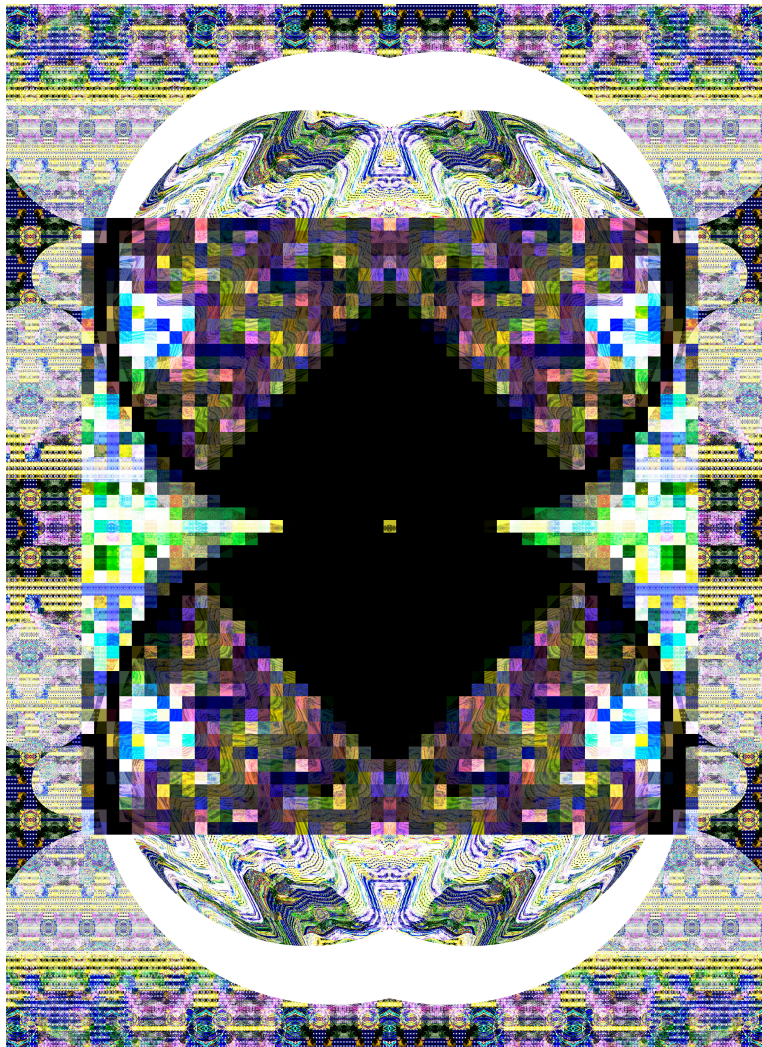


Figure 7.0, Mallory Donen, *InstructionTable3.2_v1.jpg*, 22"x30", Archival Inkjet Print, 2017

¹⁹ Ibid, p 433-435.

²⁰ Ibid, p 435.

Part 6: Becoming the Machine

“the only way by which one [can] be sure that a machine thinks is to *be* the machine and to feel oneself thinking.”²¹

—Alan Turing



Figure 8.0, Mallory Donen, *The Machine: Knitting Ouroboros*, Video Still, 2017

Turing’s notion that the only way we can know if a machine thinks is to become the machine inspired my approach for making the project, *The Machine: Knitting Ouroboros*. Knitting is done by following a pre-established pattern, similar to how a computer program must also operate by executing a set of instructions. This project began when I was in Elementary School and my Grade 7 teacher showed us how to do “finger knitting”. I embraced this newly learned skill and instantly became obsessed. I asked my mom to give me any extra skeins of yarn for which she no longer had a use. I continued to finger knit and produced a long continuous strand, because I wanted to see how long it would get. When I was not working on it, I rolled it up into a big ball and stored it in my closet. When friends came over I was both embarrassed to

²¹ Ibid, p 446.

let them see the big ball of yarn in my closet and also proud of my accomplishment. I was satisfied that there was evidence of the many hours of labor I contributed to my obsession. At this point I was already embracing mechanical processes; I reveled in the sense of control I felt while I was knitting.

Many years later, I have held on to the knitted ball of yarn and it has grown just as I have. As with many of my projects it will never be complete. Similar to a rhizome *The Machine: Knitting Ouroboros* does not have a clear beginning, middle, or end; it is in an infinite state of change and transformation.²² The subtitle *Knitting Ouroboros* is a symbolic and mythological reference to infinite growth. Ouroboros “was a mythical serpent that swallowed its own tail, an embodied contradiction that must, according to logic, either grow ever larger on its miraculous diet or, just as miraculously, consume itself and cease to exist.”²³ Just like the mythical serpent, my knitted yarn is continuously growing and feeding off of itself.



Figure 9.0, Mallory Donen, *The Machine: Knitting Ouroboros* (Work in progress), Yarn, cardboard, 2017

²²Deleuze, Gilles, and Félix Guattari. "Introduction: Rhizome." *A Thousand Plateaus: Capitalism and Schizophrenia*. Minneapolis: University of Minnesota, 1987, 3-25.

²³ Dyson, George B. *Darwin Among the Machines: The Evolution of Global Intelligence*. Basic Books, 2012, 227.

The Machine: Knitting Ouroboros is made up of several different components. The first begins with skeins of yarn, which are finger knitted. The finger knitted yarn then informs the next part of the process where it becomes the base strand that is re-knitted through a large-scale French knitting loom. The re-knitted yarn goes through the French knitting loom and transforms into a larger, more complex snake-like string. This large string is displayed in an ever-growing continuous coil on the floor. The presentation is meant to emphasize the cyclical nature of the ouroboros serpent. The project demonstrates a connection between the ouroboros, the knitted yarn, and machines, which all continue to grow and feed off of themselves.

The project also involves a video displayed on a TV, which shows the artist working as a machine performing the repetitive task of knitting. One part of the video shows a close-up shot of hands finger knitting. Even though it is evident that the hands are made of flesh, they appear robotic. To me the hands seem to take on mechanical qualities, which are stiff, aggressive, and even violent. Another section of the video documents the elegant rhythmic movements of the hands when using the French knitting loom. The visible contrast between flow and choppiness is in a constant loop and for me it becomes a captivating viewing experience. A conflicting statement emerges between the beauty that human hands are capable of creating and the potential for destructive chaos made possible by mechanical production.

Part 7: Are You Afraid of Machines?

“The machines are gaining ground upon us; day by day we are becoming more subservient to them; more men are daily bound down as slaves to tend them; more men are daily devoting the energies of their whole lives to the development of mechanical life.”²⁴

—George B. Dyson, *Darwin Among the Machines*, 2012

The notion that machines may actually be capable of thinking invokes fear in most. Robots taking control over humans is without a doubt a popular theme explored in Science Fiction. Turing acknowledges several opposing arguments that attempt to prove that it is not possible for machines to think. Some of these “objections” include “(1) *The Theological Objection*, (2) *The ‘Heads in the Sand’ Objection*, [and] (3) *The Mathematical Objection*, to name a few.”²⁵ Turing explores each of these objections in relation to his own ideas, which in turn have inspired my creative thinking process.

First, a closer look at the arguments presented: (1) *The Theological Objection* claims that God only gave an immortal soul to humans, not any other animal or machine. Therefore, this objection concludes that animals and machines cannot think.²⁶ In my opinion, (2) *The “Heads in the Sand” Objection* is the most common argument. When imagining the idea of machines thinking, the thought can be catastrophic; therefore we choose not to believe it.²⁷ Additionally, humans often think that they are a superior species and will always be at the top of the hierarchy of creation.²⁸ These first two objections can be viewed in relation to one another. The claim that only humans have immortal souls is unconvincing and egotistical. Humans do not want to

²⁴ Dyson, George B. *Darwin Among the Machines: The Evolution of Global Intelligence*. Basic Books, 2012, 25.

²⁵ Turing, Alan M. "Computing Machinery and Intelligence." *Mind*, 59, No. 236, 1950, p 443-446.

²⁶ Ibid, p 443.

²⁷ Ibid, p 444.

²⁸ Ibid, p 444.

believe that machines or even animals can think, because that could mean that we might not always be the smartest and most important species. Understandably, the demise of the human race is a good reason to be afraid of machines. However, just because something is scary does not make it unworthy of further exploration. Fears have a way of motivating and inspiring innovations that were previously unimaginable.

Moving on to the third objection, (3) *The Mathematical Objection*, which argues that all machines are limited in their powers. Basically, there are certain things that machines are incapable of doing.²⁹ Contrary to this statement is the notion “that no such limitations apply to the human intellect”.³⁰ How is it that humans can think so highly of themselves, as to think they have no limits of intelligence? It is because of machines that humans have been able to generate news ideas; ideas that would have never been discovered without the aid of certain technologies. Therefore, it is clear that humans also have limits. But with the help of machines that work differently than the human brain and offer a unique perspective, the unimaginable can become imagined.

In relation to this fear of machines being able to think is the final component of *The Machine: Knitting Ouroboros*, an audio track. The audio includes the following phrases: “I am a machine”, “When I knit I feel like a machine”, “I must do the same action, over and over and over again”, “There is no end goal, there is no beginning and there is no end”, “Are you afraid of machines?”, “Why are you afraid of machines?”, “Are you afraid of me?”, “Are you afraid of becoming a machine?”. The phrases were compiled based off of thoughts I repeatedly have when I am knitting. Each of the phrases was recorded using my own voice, as well as several computer voices using an online voice generator. The audio was edited using a structured process of simple

²⁹ Ibid, p 444.

³⁰ Ibid, p 445.

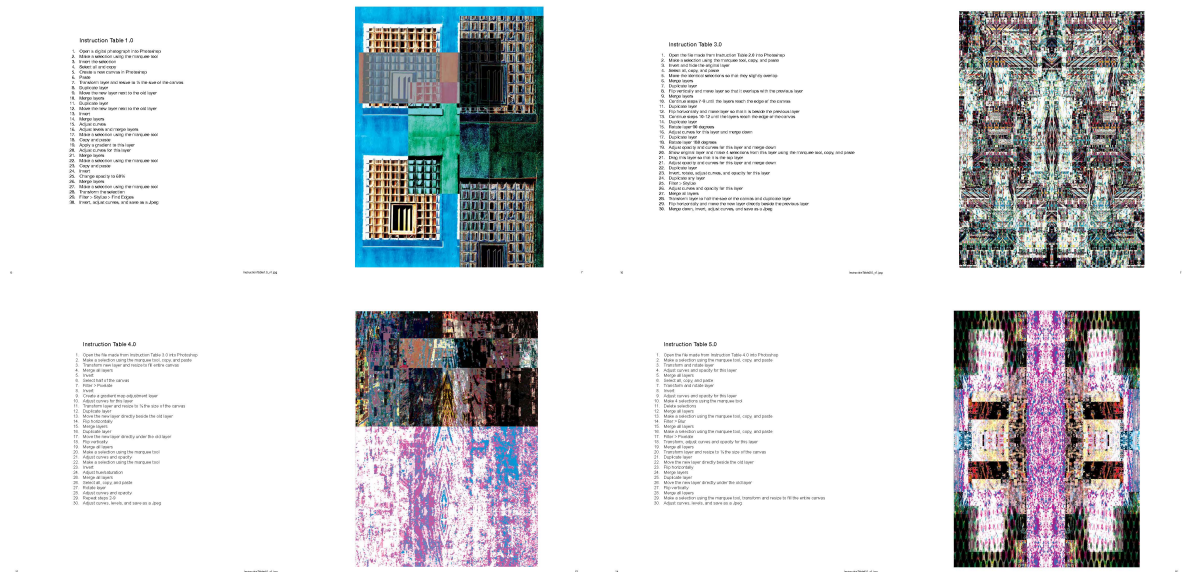
pattern formations in order to emphasize its mechanical qualities. The objective is for the audio to create discomfort and opportunities for reflection of human thoughts and fears toward machines.

Conclusion

In the end it is clear that the mechanical nature of women's craft-based media such as embroidery and knitting, resonate with the systematic processes of digital computers. By embracing a repetitive mechanical approach to art making I often lose a sense of when a work is complete. This concept of infinite production relates back to my mother's continued practice of crocheting which also seems to have no end goal. No matter how many hours of labour I execute for my projects I don't ever seem to want to stop. Yes, there are times when I need a break, just like anyone else. But like my mother and my Ama, I am a machine. There is not always a clear purpose for creation, just the need to keep on making. Whether it's a crochet pattern, a cross-stitch pattern, or following an instruction table to make digital images on the computer, I will continue to embrace modes of production that enable to me to be like a machine.

Thesis Exhibition

I Come From a Long Line of Machines







Bibliography

Brody, David, Juncosa, Enrique, and Colm Tóibín. *Philip Taaffe: Anima Mundi*. Dublin: Irish Museum of Modern Art, 2011, 1-111. Print.

Crary, Jonathan. "Techniques of the Observer." *October* 45 (1988): 3-35.

Dyson, George B. *Darwin Among the Machines: The Evolution of Global Intelligence*. Basic Books, 2012.

Deleuze, Gilles, and Félix Guattari. "Introduction: Rhizome." *A Thousand Plateaus: Capitalism and Schizophrenia*. Minneapolis: University of Minnesota, 1987, 3-25.

Deleuze, Gilles, *The Fold: Leibniz and the Baroque*. Trans. Jonathan Strauss. US: Yale University Press, 1991, 227-247.

Johnston, Lucy. *Digital Handmade: Craftsmanship and the New Industrial Revolution*. Thames & Hudson. 2015.

Manovich, Lev. *The Language of New Media*. MIT press, 2001, 30-60.

Plant, Sadie. *Zeroes and Ones: Digital Women and the New Technoculture*. 1997.

Singerman, Howard. "Noncompositional Effects, or the Process of Painting in 1970." *Oxford Art Journal* (2003): 127-150.

Spuybroek, Lars. *The Sympathy of Things: Ruskin and The Ecology of Design*. Bloomsbury Publishing, 2016.

Turing, Alan M. "Computing Machinery and Intelligence." *Mind*, 59, No. 236, 1950, p 433-460.