

This Is How We Walk on the Moon

By

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Abstract

Copies of two books and a newspaper rest, ready for reading, on a white, squiggly bench in the center of the gallery below a vaulted ceiling. On two surrounding tall walls, animations flash on loop all the way to the top. To the right, a framed set of eight drawings illustrate wind in the night grass. On the far side there is a light on, shining twenty-four inches above an illuminated object: a tiny folded zine, placed lightly at the edge of a long, corner-curving shelf.

For her MFA Thesis exhibition, *This Is How We Walk on the Moon*, Leigh Kaulbach uses drawing in various relational forms. The central subject matter are the parallel bonds between herself and her sister, and her two young nieces. Watching the little girls build their private universe inspires a realization that sibling bonds, which feel personal, special, and insulated between sisters, are in fact heirlooms passed down generation to generation. She honors and processes the ineffability, influence, and intimacy of sisterhood with drawing-based books and animations. These transmissive media formats, which include machine learning tools and print publishing, rely on cooperation. Lateral relationships are both the subject and method for making.

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Title

Titles are hard for a non-committal, potential-obsessed person like me. I'm restless and repel labels. Titles announce, "this is what it is." With the title *This Is How We Walk on the Moon*, I aimed to say, "this is how it could look, if you were here with me." Neil Armstrong's moon walk signified a coming of age moment in America. Michael Jackson walked it, too, differently. Backwards, in fact! We do it. We move through a world parallel to this reality, one whose civilization is still indeterminate, where much of the land is dark and unknown. It's a place we've never been but recognize as our own¹. Actually, it may be a distance each of us travels when thinking of someone who's also looking up. The moon is simultaneous. The moon is female: she has a tide in her, she is the color of Lilith², she is smaller and other, we're moon gazing³. Arthur Russell said "this is how we walk on the moon," and with his instrument and the force of need, he transformed where I'm sitting into another world and let me glimpse something familiar walking a melody across its surface⁴. *This is How We Walk on the Moon*, because this is exactly how *we* do it, in little steps, and I can say that. There are no rules here but to shine, to bounce light off of heavenly bodies, to reflect each other, to stay bare-faced to the universe, and to move, flow, grow in a weird way that I can't even imagine until it's happening.

¹ *Siblings* Juliet Mitchell. Mitchell describes how the biggest influence on a person's identity comes from their siblings, not the culture they inherit. Siblings create a culture within themselves as they grow together, building their ego as a part of the evolving relationship.

² Lilith is the Biblical antecedent to Eve. The book of Genesis contains two creation narratives. In the first, man and woman are made by God simultaneously. In the second, Eve is derived from Adam's rib. Although this second story dominates Judeo-Christian consciousness, the first woman is a dark and mysterious figure expounded in historical and contemporary midrash. Artist Kiki Smith made many Lilith sculptures.

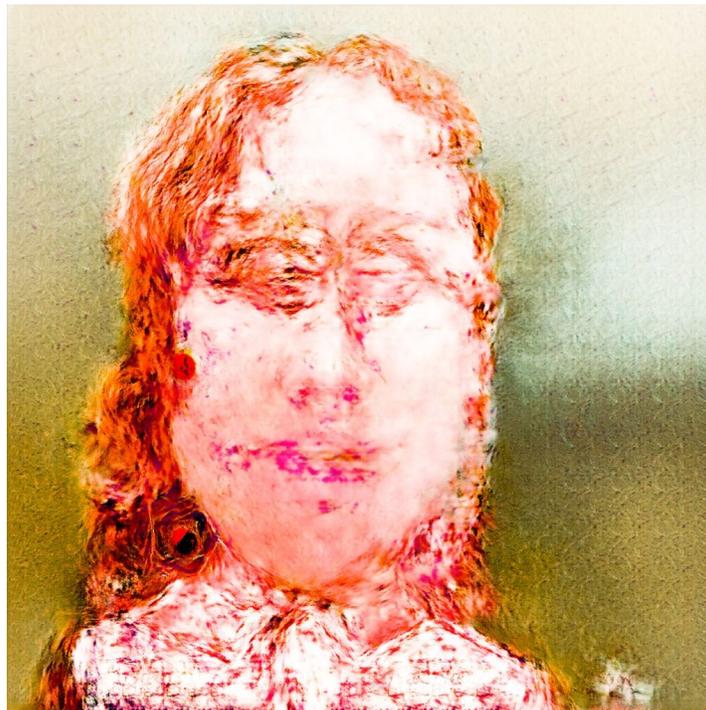
³ Mulvey, "Visual Pleasure and Narrative Cinema." Mulvey originated the concept of the "male gaze" to mean the presence of male subjectivity, patriarchal ideology, and sexual desire in articulated images of women. Effectively, images of women (and subsequently women themselves, as they consciously exist in a culture laden with pornographic images of women) are passive receivers of the male action of being looked at. The common activity of gazing up at the moon in affect feminizes it.

⁴ Russell, "This Is How We Walk on the Moon." A song by experimental cellist and composer Arthur Russell.

Icon

I focused my undergraduate research on images of the Virgin Mary [see appendix A]. I closely read the language of the icon. Through this practice, I developed a deep regard for the dogmatic facility of visual media.

The icon is resolute, utterly stable, standard, and true. The figure has concluded in peak capacity, She is the target statue of magnitude. I studied the visual isolation of icons, their position at the center, eyes looking at *you* and always saying “measure up against me.” Each time, a woman will come out shorter. How can she not? The irreparable dichotomy of the Virgin Mother, who *is* and never *does*, is irreplicable for feminists who worship her. Devout women combat the impact of her image if they’re called to be priests or don’t bare children⁵.



Still from “Bloom Opening (self-portrait)” animation

⁵ Jules, “Pink Smoke Over the Vatican.” In this film detailing the suppression of women in the priesthood, images of the Virgin Mary are a standard explanation for women’s role in the home, rather than at work.

In *This Is How We Walk on the Moon*, the self portrait projected animation could be seen from outside through the glass doors of the gallery and glass doors of the building. The animation depicts a figure, morphing and quaking, but always centered in her square frame. Positioned symmetrically on the outwardly visible wall, the moving image beckoned people in, akin to how an iconographical image draws a viewer towards the altar in a church.

Symmetry / Asymmetry, Consistency / Inconsistency, & Direction

Symmetry helps the icon amass power as a radial focal point. Setting up a composition in this way establishes authority through centrality and balance. Authority necessitates and reinforces hierarchy⁶. Iconographical bodies sit stoically in the center. Often elevated, they physically stand on a firm foundation of architectural support above the viewer. Because they're already perfect, the compositions are visually still. No visual direction in the picture plane points anywhere, besides straight up to Heaven or out in domination of the viewer.

In *This Is How We Walk on the Moon*, I used asymmetry and placement to destabilize space, authority, and certainty.

⁶ Lacan, "The Mirror Stage." Psychoanalyst Lacan views ego-formation, or establishment of the self, as a transmission of identity from father to son. In this accepted, understanding of identity formation, individuals come of age via a hierarchical relationship in which they receive knowledge from an authority and over time amass status, ultimately overthrowing the authority of their father.



Installation of zine on shelf; installation view of gallery, including animations, shelf, and bench

Furniture

Instead of pedestals, I displayed the books on a long curving wooden shelf and bench. The bench cut through the middle of the gallery on a squiggly diagonal. On this platform, the books could be read and returned anywhere along the plane. This encouraged a communal feeling. The 5-foot long shelf reacted organically to the shape of the room by bending around the corner. Unlike standard gallery mounting, the shelf is homey and familiar, yet its meandering shape and asymmetrical length unusually resists the 90 degree geometry of the square room. Acutely unbalanced, it supported a 1-ounce zine placed and lit at one end, disrupting the customary supremacy of size and material. Together, these two pieces of furniture projected a subtle attitude of disruption and inconsistency into the gallery.

Pictorial

On the right side of the gallery, I played with directionality and decentralization in a framed set of drawings. Together, the eight individual pieces depicted one scene of a nighttime

breeze blowing diagonally across long prairie grass for a dynamic composition implying movement. This unresolved action also communicates potential. Furthermore, the total image, being made up of eight equal pieces, abandons the condensed focus used to indicate authority in visual icons.

Books

In the two spiral bound books, the newspaper, and the zine on the shelf, I used both stable and dynamic compositions. These conflicting qualities are seen in illuminated manuscripts, which are strangely structured while feeling disordered. In the book, “Sister Nature,” I hand-drew the script in reference to this historical form. I was also conscious of the symmetrical effect of the center binding. In some spreads I embraced the natural focal point with a mirrored composition, and I selected candy apple red and tangerine orange plastic spirals to accentuate rather than disguise the books’ cores. In other spreads, I used off center, irregular shapes and diagonal lines to oppose the symmetry.

The photocopied book, “Said the Sky,” takes advantage of the consistency of bookforms to challenge direction. The only text within the book is placed on the centerfold pages. All other pages bear time nonspecific imagery so that, read from either direction, the book has the same rhythm. The title text is placed on the book’s back cover to question the sense of a linear beginning and end. Furthermore, the consistency of the orange spiral binding throughout the entire black book obstructs the feeling familiar with reading, that time has elapsed and distance has been traveled.

Projection Installation

While the “Bloom Opening (self-portrait)” animation emphasizes symmetry and stability with its composition and placement on the wall, the other animation does the opposite. Projected in two unequal parts, the piece, “Hugs,” feels unbalanced and directional. The smaller of the two projections, depicting an abstract twinkling pattern, is nestled in the top left corner near the ceiling. The second, slightly larger animation, depicting two girls hugging and rough housing, is offset to the first on a downward diagonal to the right. The short end of the curved shelf begins 30 feet directly below the top-heavy installation, forming an unstable foundation swerving out of the lopsided moving image. The right side of the wall is bare, causing many viewers to indicate a sense that something is missing, or that something ought to go there to fill the space. The diagonal movement of the bench, which originates at “Bloom Opening (self-portrait),” points directly to that gap.



Installation view of “Hugs” animation

Scale

Big/Collective

The height of the gallery ceiling necessitated consideration of scale. Projecting moving images on a large scale at the top of the thirty foot wall drew the eye up, activating the enormity of space. Visible from everywhere in the gallery, the scale and position of the upwardly projected animations enabled viewers to see the work with other people. By presenting these videos too big and too high to be approached individually and analyzed in detail, the scale created a cinematic viewing experience. The collection of eight framed drawings similarly enabled people to view the overall large composition at a distance and as a group.

Small/Individual

However, unlike the animations, the framed wall drawings could be fragmented into individual smaller drawings, and details may be seen up close. As the proximity between the viewer and the artwork increases, the viewing experience becomes less collective and more intimate. I experimented with this phenomenon in varying degrees through the books. A book becomes a landscape for one, traveling between the pages and the reader's mind, bounded by her arms' and hands' tactile connection to the physical object. The newspaper, "This Is How We Walk on the Moon," is large enough for the body to labor to hold it open. The two spiral bound books caused the body to react to visual media on a decreasingly smaller scale. However, the books' placement on the bench with the newspaper still allowed a degree of collective viewing if they rested the pieces on the wooden surface and the viewer(s) sat or stood, rather than holding the book exclusively in one pair of hands. The smallest and last piece in the show, "A Hug Is A

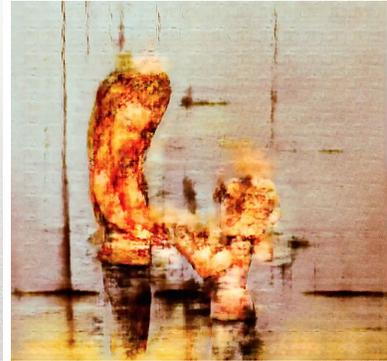
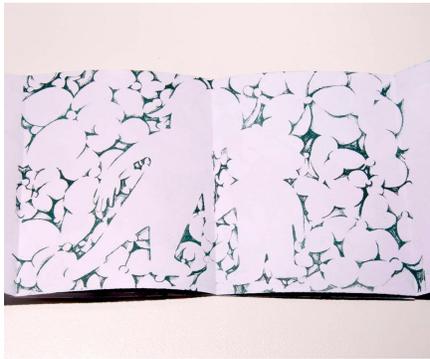
Cubby For Tenderness,” is a tiny, delicate zine. I set this piece apart from the rest along the darkened wall and beckoned viewers towards it with a small spotlight. Unlike the straightforward spiral bound books and tabloid newspaper, each page in the zine is accessible through a series of foldouts, requiring the reader to physically handle it. Also, this piece could be viewed only by standing directly in front of it, a small piece on a big shelf, due to the arrangement of light and the height of the shelf on which it sat. Through touch, scale, and position, the zine individuated the viewer more than any other piece in the show. Its content, an anecdotal story about my desire for my sister’s attention, capitalized on the emotional opportunity of quietness and isolation.

Gesture

A primary goal of the show was to evoke a feeling of intimacy, wonder, and unsettledness. Gestural strokes permeated the individual pieces, as well as the installation of the show in space.

Emotional Gesture

Gesture shows rather than tells the viewer a relational story. I relied on dynamic movements, either through animation or captured in a still image, that carry emotional resonance. These were frequently gestures of connection between figures, typically through the hands, and utilized the leaning and reaching of bodies to portray intimacy, vulnerability, and desire.



Detail from “A Cubby” zine; detail from “Sister Nature” book; still from “Hugs” animation

Cross-Movement Gesture

The reaching, leaning sensation in the gestural imagery was also explored in space. Instead of centering the animations on the tall wall, implying a definitive frame, I placed them off center and offset to each other diagonally. Empty space and a toppling feeling have the gesture of potential energy. The bench extended across the floor of the gallery, straddling the disparate ends of the gallery. The shelf reached around the corner, bypassing the sharp 90 degree angle in an organic bend, pulling one wall and set of animations into the next. In each of the books, directionalities extended across the centerfold binding, bridging one page to another. In an exhibition with many different types of media and imagery, the strong, organic diagonals serve to unite the various extremes. Additionally, the linear gestures, which bleed off the book pages, unbounded by neat borders, push against a stable feeling of resolution, and instead hint at open ended extension.



Detail from “Sister Nature” book; installation view of bench; detail from “Sister Nature” book

Body in Space

In preparing for *This Is How We Walk on the Moon*, I paid particular attention to the body of the viewer in the gallery. This felt especially pressing when so many materials and forms of engagement were used to explore and articulate a slippery concept. The diagonal lines aforementioned helped to direct paths across the floor and up the wall, leading one artwork into another. The small spotlight, conspicuously plugged into a nearby outlet, leads visitors to the zine beneath it. The movement of the bench, at the end of which sits a stack of newspapers, points to the original drawing from which the newspaper was duplicated, and in which directional lines mirror the gesture of the bench and shelf.

The curvature of the furniture suggests the way a body might move in space. Instead of joining the two ends of the shelf together in a sharp corner flush with the wall, the gentle, sweeping bow mimics the corner-cutting, cow path banking of organisms navigating angular architecture. Similarly, the ambling shape of the bench, along with the thick, heavy looking

cylindrical supports underneath, slow down the directionality of its cutting diagonal. This pace and sinuous movement of the line better match the natural gait of a viewer strolling in the gallery.

The interactivity of books also activates the viewers body in the space. A person can appear passive while viewing a wallwork or sculpture, but the moment the viewer reaches out to pick up a book, they become agents. This movement also signals the terms of engagement to fellow viewers. The person holding the book enters the window through which we see the piece. As a reader turns the pages, they physically trace the distance between their hands, and the seeing the next page requires a committed act from their body.

Animation

The gestural movement of the figures in the moving images is naturalistic, yet otherworldly. The people in the videos are constantly shifting. Their borders are in flux. This is partially due to the intrinsic visual quality of movement embedded in the process of drawing traditional animation. It's also due to the digital processing conducted on each still frame. However, the square format extrudes the animations from familiar associations with the screen. We usually encounter video in a rectangle or widescreen on TV or in the movie theater. Phones are also rectangles that play video vertically or horizontally. One reason why Instagram originally framed all images in a square format may have been to distinguish the platform as a gallery space for 2D imagery set apart from the typical screen interface. Seeing the animations on the wall, the square format seems to place them more within a legacy of drawing and painting

rather than 20th and 21st century tech and digital media. Also to that end, the image quality, while digitally generated, appears organic, expressive, and impressionistic, and frequently leads viewers to believe each frame is an oil painting rather than originating as a .png file.

All animations were created using a neural network tool. [See Appendix B]

“Bloom Opening” – Self Portrait

On the low wall, a 30 second animation plays on loop featuring a single figure. That figure is me, the author of the show, reaching out with my hand towards the viewer. While the show explores relationships and sisterhood in particular, it more truthfully expresses my subjective search for meaning and direction. I drew the animation frames and processed them through the machine learning tool, pix2pix. This neural net program manipulated the initial drawing by applying to it patches of color acquired through the machine training process. The colors are jarring, bright, blotchy, and glistening. Shifty unease and constant movement jitters the figure even as she stays centered in the frame.

“Hugs”

The two channel animation portrays a sequence of twinkling stars above a sequence of two young girls. The lower and larger animation begins with the older sister standing centered. A second, younger girl enters and is welcomed with an outstretched hand into the frame. She jumps on her older sister, who reacts by picking her up, placing her down, and taking her hands in hers. The looping video expresses gestures of intimacy and roughness between siblings. The younger

sister looks up at the other, raising her arms towards her almost unconsciously. The older sister, who came first, quietly assumes a protective, responsible role as she directs the little one around her body. I drew the animation frames and processed them through a set of photos of my nieces playing together. In a way, my expression of them and their relationship is filtered through their photographic image.

Machine Learning

In 2017 I saw Lara Fotogenerator on a blog⁷. The program enabled people to submit drawn pictures to the trained program and receive a modified image in return. The images output by the program were funny or scary, and always unexpected. Immediately, I saw potential for collaborating with the machine to derive new images by training the program myself. [see Appendix B]

The animations in *This Is How We Walk on the Moon* were made this way. Setting the parameters for machine learning occurs in an AI software program. Because I don't code, I collaborated with a web app developer to access the tool and build my own system. This web app developer became a link in the communication chain between me and the machine. He helped me befriend the neural network tool to generate individual frames which I sequenced as a motion picture.

⁷ Zorge, Tinka, "Help Us Test Artificial Intelligence!" For an experiment inspired by the work of artist Christopher Hesse, Dutch media outlet De Kennis Van Nu used a neural net tool called Pix2Pix to create images of one of their news anchors, Lara. The team uploaded thousands of studio portrait photographs of Lara into the Pix2Pix program, training the machine to retain the photographic information. They then solicited listeners of the radio station to send them their own drawings of Lara. Those submissions were sent into the trained Pix2Pix program, which synthesized each one individually with the color information retained from the photo set. De Kennis Van Nu made the tool public on their blog, enabling anyone to upload drawings and filter them through the "Lara-fotogenerator." Within a month, the server crashed due to the over 2 million global users, and they removed the tool from their site.

The machine learning tool processes my drawings through pictures of myself, my sister and my nieces, in just the same way that each of my experiences, my total vantage point, filters through the sisterly origination of my identity. Similarly, in the resulting images, the distinction between my hand and the digital synthesis is difficult to define. In some ways they look like photos. In other ways they look like drawings. Ultimately, they are a fusion of the two⁸. I drew the original animation frames, and the machine applied photographic color information to them. But then again, they look like something completely different and contain unintentional and untraceable artifacts. They're queer, in between, and more, and viewers can't discern just what it is they're looking at.

Dialogue

I made this work, and all of my work, because I'm motivated to participate.

I taught a computer to recognize my face. And then, I trained it to understand my sister's and nieces' faces. The neural network tool learns by looking and analyzing the material I feed to it. Sometimes, though, my instruction is faulty and the machine lets me know. In the training sessions we sparred and snappishly contested the efficacy of communication across the human-machine barrier⁹. Eventually I learned to compromise and it stuttered towards subtlety. I

⁸ Barad, Karen, "Quantum Entanglements." Barad proposes a feminist theory that redefines the terms and attitudes about relationships. In her theory, she uses the term "intra-action." Instead of interaction, in which distinct beings meet in a dynamic based on their preexisting status, through "intra-actions" all affiliated entities gain new and unforeseen agency as a result of the meeting. That means that individuals change and become more than themselves out of their affiliations. It also means that outputs and consequences of intra-actions can't be foreseen, or exist separately from every dynamic force involved in their generation.

⁹ Barad, "Quantum Entanglements." Object Oriented Ontology, or the philosophy that all things interact equally rather than on a hierarchical power structure in which human enlightenment reigns supreme, informs the adoption of a less orderly, less defined definition of relationships and outcomes in which the relationship is a force in itself. In Barad's version of OOO, the delineations between intra-acting beings break down, or, as she describes, we forget

entered a plea and it spat out an image— unpredictable, inconsistent, but always an attempt to respond. The complex process became very much like relating to a person. I crafted a swinging argument and with the output images, it frankly told me what it understood, where it was coming from, its point of view, to which I would respond more sensitively with new training. In short, it was a back and forth dialogue. Moderation by the web app developer proved volatile, as well.

In books, transmission is essential. There must be something said, because the book is the vehicle for information. However, while the author trusts the reader to receive, books expect no response. It's a one-sided conversation. Dialogue requires inconclusion. Exploring this idea prompted me to create an unstable book. I printed "Said the Sky" in the xerox machine, completely covering the pages with black toner. As the paper is handled, the toner creases and wears away, revealing the bright orange paper underneath. As the the book is read and marks appear, it becomes a dynamic score documenting the reader-writer exchange.

Relationships

Karen Barad describes how relationships are more than a sum of their constituents. Relationships can't be proven and they can't conclude. They're ill-defined, or the barriers within them are undefined. They can't stop changing, growing, aging.

Each piece in the show offers a different attempt at communicating the ineffability of relating. How can I describe what my sister means to me? In the books I try it with words, then poetry, then simply a story from our kitchen. I try to capture a moment that is motion with a still image, and a feeling that is love with animated movement. In a relationship, two people are

that we invented them. There is no difference between human and machine, subject or object, because each hold equal power and are constantly enacting unpredictable influence upon the other.

distinct, but, because they co-built and share the space of the relationship, merged. *Presence* becomes a kind of culture within the friendship; certain identities have gravity in the orbit of specific people.

Frisson

Presence and merger hold a certain kind of gravity that can sometimes, suddenly sparkle. Frisson is a momentary indescribable thrill. It's subtle, physical feeling met with emotional uprising. Sometimes I see something I think no one else has ever seen, like a certain ripple across grass in the moonlight. The fragility of a white petal lit by stars, and I'm suddenly aware of me, deep inside myself, interloping and witnessing. But, in these moments I also sense the universal. A biological takeover, bubbling up like ground water revealed in a deepening hole of intimate privacy. Everyone knows this flower and the powdered moth wing twitching on it. Everyone has entered this weed field and realized the greatness of a single flicker, the immense world of tiny attention. Gigantic, twinkling speckles, and the feeling of fusing with them.



Installation view of “This Is How We Walk on the Moon”

Earth!

If this love strong and true

is too heavy for you

too heavy for you to carry,

then a blue butterfly

that quickly passed my lover's eye

is more eternal than you.

-Erik Hillestad & Mohammed Ebrahim Jafari¹⁰

¹⁰ Vahdat, McClain, “Earth.” A song performed live by Massa Vahdat and Mighty Sam McClain.



Detail from "Sister Nature"

Sisters

The relationship I'm talking about, it's my sister. I know she is a distinct, individual person. But she's also one element of our relationship. Without the relationship, a sister is just a girl. That means I necessarily define myself *within* contrast and similarity to her.

Since rejecting the image of the Virgin Mary as my role model, I've been searching for someone new. In the picture of this new icon must be someone I trust, someone I instinctively look up to, someone I would never question. But also, some kind of mystery that keeps me striving towards it. I looked for someone like my sister. When my niece, Brynne, was born, I saw

how Autumn took care of her. More importantly, I saw how Brynne studied and parroted Autumn, how she became more herself when Autumn walked in the door.

In *Siblings*, her feminist response to Lacan, psychoanalyst Juliet Mitchell revisits the notion that knowledge and culture are passed down from authoritative sources. Mitchell observes, instead, that the greatest influence on a child's identity formation, bigger even than the father cited by Freud, are siblings. Instead of receiving (or defying) a belief system from a central administrator, Mitchell brings female subjectivity to the conversation, describing how culture forms laterally between people participating equally in exchange¹¹.

Moon Garden

My dad had a large, utilitarian garden. He grew flowers, vegetables, fruit, and herbs. At night it changed completely and became a Moon Garden. We called it a Moon Garden because in one corner he planted forest green plants yielding white flowers. In the dark, the petals reflected moonlight like a pattern of little moons floating against black leafage. It's the only garden naturally visible at night, and the only garden best understood at night. My sister and I loved the Moon Garden for its otherworldliness, and for its uselessness. It was simply a wonder. It took up space and time to nurture for the sole purpose of glimpsing something marvelous out of our bedroom windows. I always felt that I couldn't quite see it well enough. It couldn't be fully known. The Moon Garden was more of an idea than a real place. The flowering season is short and we slept through it. But inside the Moon Garden was located a shared sense of things between us, like a fantasy portal to something we couldn't describe.

¹¹ Mitchell, *Siblings*

Reading

In 2012 I learned I love making books. Spreading content, text, and image across multiple pages for individual consideration appeals to me. I have a strong affinity for accessible artforms, especially things that are inexpensive and easy to carry. Books require a certain amount of fidelity, so that the true value lies in between the author's message and the reader's attentiveness. You can't consume every part of a book at the same time. Like music, there are tiny moments of special care and connection. The reader's physical connection to the book facilitates intimacy. As a person reads the content, they also see and feel their fingers on the page. By opening and submerging into the book, the reader brings its world to life.

Publishing

Publishing helps artworks become accessible and approachable. In a bookstore or library, the reader wields the power of choice. The history of publishing is a democratic story about spreading ideas. People published to make their voice heard. The current state of alternative publishing embraces this ethos of participation. Cheaply priced, producers publish their own works and buy each other's books. It's a landscape of exchange. Because small press and self publishing lacks a centralized authority, experiences and identities outside the mainstream find an audience. The risograph and xerox machine are two frequently used methods of publishing [see Appendix C]¹². What the xerox can do in broad strokes, the riso duplicates with a fine art

¹² Risography is a digital printing method originally invented for commercial print jobs. Laying down one soy-based ink color at a time, the machine can print thousands of copies very cheaply and quickly by scanning an original straight off the glass, like a xerox. Unlike xerox, the ink texture, layering process, and internal machine components result in an image akin to lithography or screen printing, if handled carefully. Though outmoded by other duplicators for commercial purposes, risography has recently spiked as an independent publishing tool for graphic artists, printmakers, and zinemakers.

touch. As with fine art uses for machine learning software, each medium manipulates commercial technologies for creative repurpose. The joy of seeing what the machines can do is an important part of the process.

Color

The risograph machine in the Visual Art Department prints one color reliably: dark green. This was a great disappointment for me. Dark green like cold, mildewy money. I used this color for two years out of necessity. But through limitation, compromise changed me. Dark green was the backbone color throughout the show, bracing the shelf and supporting the bench, on book covers, dominating the drawings, and printed in risograph ink in the monochromatic zine. Dark green was the foliage in the Moon Garden.

Obvious colors come to mind regarding girlhood. Pink required careful handling. I wanted neither to eradicate nor succumb to it. Working within an ungendered color palette—green, orange, and red—I was able to playfully pepper in pink. I stuck close to this color palette throughout the show so that color connected various media.

What I Learned

Installing and seeing the show deeply affected my understanding of gallery exhibitions, and my process. It became apparent that the rushed pieces, especially “Sister Nature,” which I couldn’t play with and allow to take shape organically, were the least successful. Because that book was printed by Perfectly Acceptable Press, a risograph shop in Chicago, the tight timeline and financial investment, as well as the inability to see the finished product until it came in the

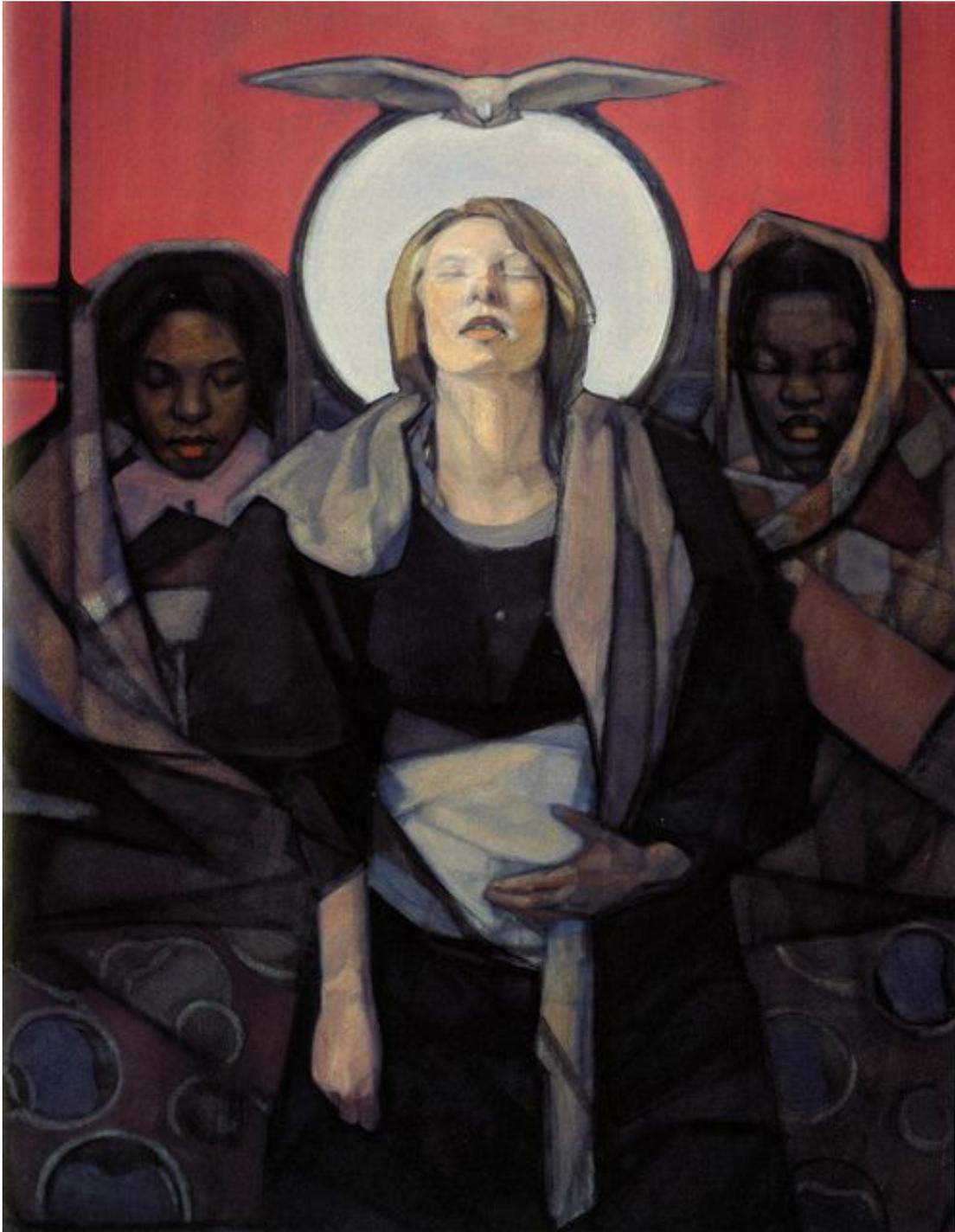
mail, made working on it stressful and fearful. Conversely, the pieces which I worked on in my own time and adapted as I went, such as the set of eight drawings and the self-portrait animation, felt imbued with the care and discovery I found in them. I realized that considering installation and working cooperatively and intuitively in the space had unexpectedly exciting results.

Technical difficulties during install caused me to drastically rethink the projections, and my unfamiliarity with working three dimensionally opened up playful possibilities for thinking deeply about the space. Additionally, my discomfort with projectors, the machine learning, and the woodworking forced me to seek help and collaborate with experts. I came away feeling that the placement of the projections, the animations, and the spatial installation elements were three of the strongest aspects of the show.

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Appendix A: Iconography



Janet McKenzie, Mary with the Midwives, Oil on Canvas, 2x3", 2003

Appendix B: Machine Learning Software

Components

Neural network training program: pix2pix

System for running programs like pix2pix, that accomodate machine learning: Tensor Flow

Coding language: Python, a scripting language

Software developer collaborator: Andy Kelleher Stuhl

Pix2pix

Pix2pix trains a neural network (image-based artificial intelligence) in two stages.

Stage 1:



- These two images (photo and its tracing) are input as one file into pix2pix.
- 50+ files of photos from the same shoot and their corresponding drawing are also input.
- Through its internal figuring process, it learns color mapping from the photo to the drawing.
- Process: Pix2pix uses a Generator component to create an image based on each drawing. A Discriminator component compares the Generator's image to its corresponding photo, and communicates to the Generator what must be revised for them to match. The Generator then creates a new image, which the Discriminator again analysis, and reports back to the Generator. This guess and check method repeats for a number of iterations defined in the code. We used 250. The resulting image, therefore, is as close to the original photo as the Generator and Discriminator could refine. That finely tuned knowledge is then locked in as artificial intelligence.

Stage 2:



- A new drawing is input into the trained neural network (this is an animation frame).
- Pix2pix assigns color information from what it learned in Stage 1 and outputs a .png file.



- This final file is sequenced with the set of animation frames to create a moving image.