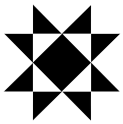
# Natural Patterns

## Cyanotyping, Quilting, and the Preservation of Land and Memory



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# University of Colorado Boulder Land Acknowledgment

The University of Colorado Boulder, Colorado's flagship university, honors and recognizes the many contributions of Indigenous peoples in our state. CU Boulder acknowledges that it is located on the traditional territories and ancestral homelands of the Cheyenne, Arapaho, Ute and many other Native American nations. Their forced removal from these territories has caused devastating and lasting impacts. While the University of Colorado Boulder can never undo or rectify the devastation wrought on Indigenous peoples, we commit to improving and enhancing engagement with Indigenous peoples and issues locally and globally.[1]

[1] University of Colorado Boulder. "Land Acknowledgment." Accessed March 20, 2025. https://www.colorado.edu/about/land-acknowledgment.

# Introduction

Through the intersection of cyanotyping and quilt making, this thesis aims to examine how environmental awareness is addressed through art and memory, particularly in relation to plant identification and ecological feminism. Starting by tracing the origins of the historic cyanotype process from Anna Atkins's botanical documentation to its role in scientific classification and colonial expansion, this project also highlights the tension between preservation and exploitation. The art of quilt making, as explored through the legacy of Gee's Bend quilters and contemporary ecofeminist practices, will serve as a historical record as well as a form of collective resistance. By engaging with these themes and mediums in my thesis, I aim to explore how art can preserve and shape environmental and cultural memory while fostering a deeper, more ethical connection to the land.

Artists often turn to the natural world to act as both subject and collaborator, as they use organic materials and natural processes to create works that capture the ephemerality of their environment. I have explored this relationship through the alternative photographic process of cyanotyping and the historic tradition of quilt making. Cyanotyping is a cameraless photographic technique that uses sunlight to create stark white and blue impressions, allowing nature to leave its own mark. By incorporating fabric which I have applied the cyanotype method to, into large-scale

memory quilts, my work seeks to bridge the fleeting qualities of nature with the permanence of memory preservation.

At the core of my research is the question, what can we learn when humans engage with their environment in a positive and symbiotic relationship? In an era increasingly defined by climate anxiety, I aim to shift the conversation toward how ecofeminist practices can foster more appreciation of nature's unique and often overlooked characteristics. Historical figures and groups such as Anna Atkins and the Freedom Quilting Bee from Gee's Bend will serve as important influences to demonstrate how artistic practices deepen our understanding of the environment and can be used for positive social change. Atkins's cyanotypes of British algae not only aided in the knowledge of the species but also highlighted how art can serve as a tool for scientific inquiry and preservation. Similarly, my work uses cyanotyped fabric to make memory quilts as a way to capture four key ecosystems of Colorado: prairie grasslands, rivers and lakes, the Rocky Mountains, and the urban environment. Each of these four is chosen for the strong variety of species that make up Colorado's biodiversity. Through the Smithsonian Institution's Biodiversity Heritage Library Open Data Collection, I utilize a catalog of thousands of archived scientific illustrations and botanical samples as I transform them into cyanotyped records inspired by Atkins's own work.

Quilts are often used for decoration or as a source of warmth, however, they also can act as a way to honor, cherish, and preserve what we love. Within my work I

utilize the practice of quilt making, in the form of memory quilts, to serve as an extension of the exploration between artistic practices and nature. Historically, memory quilts have been used to commemorate personal and collective histories, by weaving together with fabrics that hold deep significance. By utilizing fabrics, which often respond to wind and movement, my cyanotype memory quilts further embodies the living, breathing essence of the natural world. Each piece captures not just a snapshot of nature but a broader meditation on our relationship with the landscapes we cherish. By merging this process of cyanotyping Colorado's native biodiversity with quilt making, I aim to invite the viewers to reflect on their own connections to place, memory, and environmental responsibility. Through this body of work, I hope to inspire a renewed sense of connection with the environment, presenting climate consciousness in a way that is deeply personal, tangible, and reflective.

## Anna Atkins and the Birth of Cyanotypes

Before the era of modern photography and high-tech cameras, scientists and artists came together to discover a new way of harnessing the sun and chemistry to yield beautiful blue results. This process, known as the cyanotype, was not only a new artistic medium but also a groundbreaking tool for documenting the natural world. The cyanotype technique is a historic photographic printing process that produces various shades of blue due to the chemical reaction of ferric ammonium citrate and potassium

ferricyanide and its reaction to sunlight rays and water. It was developed in 1842 by Sir John Herschel, a second-generation astronomer who experimented with photochemistry to find a way to more efficiently document his manuscripts.[2] The method, however, has been widely used for scientific documentation and artistic expression. One of the most notable figures in cyanotype history is Anna Atkins, a British botanist and artist, who utilized the process and brought it into the pictorial realm. Her collection of documented British algae using cyanotypes is considered the first book of photography and represents a significant contribution to both science and art. Her use of the cyanotype technique proved to be a valuable tool for accurate scientific documentation by allowing for detailed reproductions of specimens without the need for traditional recording methods like drawing or engraving.

Anna Atkins (1799-1871), while best known for her use of the cyanotype process and documentation of plant life, was also an established scientific illustrator and artist. She was well acquainted with other artistic methods, such as watercolor painting and lithography, and worked with her father, chemist-mineralogist-zoologist John George Children to produce hundreds of engravings.[3] Atkins was dedicated to her artistic craft and the possibilities of scientific discovery; thus, when Irish botanist William Henry Harvey's unillustrated *Manual of British Algæ* was released in 1841, Atkins decided to make a companion visual guide. Evan D. Williams writes, "...the cyanotype technique's capacity for the accurate, inexpensive, safe, and stable

[2] Evan D. Williams, "Ever Drifting: Anna Atkins and The Birth of The Photobook", Antenna: The Journal of Nature in Visual Culture, no. 29 (2014): 65, https://pure.uhi.ac.uk/files/2400041/Antennae_Issue_29_3.26.02_PM.pdf
[3] Evan D. Williams, "Ever Drifting: Anna Atkins and The Birth of The Photobook", Antenna: The Journal of Nature in Visual Culture, no. 29 (2014): 68, https://pure.uhi.ac.uk/files/2400041/Antennae_Issue_29_3.26.02_PM.pdf

rendering of fine phytotonic details was key, but equally notable is its elegant blue and white aesthetic that evokes the subject's suspension in a boundless ocean. In other hands, this might have been a facile effect, but Atkins took full advantage of this artistic potential."[4] Her unique artistic and creative approach to the project was a true reflection of her love for the algae she was recording and her intellectually and spiritually vibrant personality.

Figure 1: Anna Atkins, pages from *Photographs of British Algae: Cyanotype Impressions,* Cyanotype, 1843–53, Metropolitan Museum of Art

Figure 2: Anna Atkins, pages from *Photographs of British Algae: Cyanotype Impressions,* Cyanotype, 1843–53, Metropolitan Museum of Art

Her high attention to detail and compositions of the documented algae along with her expertise in the chemical process of the cyanotype medium makes Atkins's work still relevant today. Her ability to document the algae as both organic and highly

[4] Evan D. Williams, "Ever Drifting: Anna Atkins and The Birth of The Photobook", Antenna: The Journal of Nature in Visual Culture, no. 29 (2014): 68, https://pure.uhi.ac.uk/files/2400041/Antennae_Issue_29_3.26.02_PM.pdf

composed was a true talent. Her scientific documentation greatly differed from other notable scientists and scientific illustrators as her work documented the more non-idealized versions of algae. In contrast, other scientific illustrations emphasized symmetry or omitted imperfections to create a more visually appealing or easily classifiable representations. Atkins' approach made each print highly unique as it was utterly authentic in its true depiction of the algae.

In her book on the history and process of the cyanotype, Christina Anderson acknowledges a 2018 New York Public Library exhibition to honor the 175th anniversary of Anna Atkins's British Algae collection. The exhibitions were devoted to Atkins and her cyanotypes. Anderson mentions how, “It is a fitting year for the publication of this book, as tribute to the woman who created the first photographically illustrated book, and who initiated the organic cyanotype photogram still widely practiced today.”[5] It is evident that Atkins' work bridges the gap between science and artistry as she demonstrates how photography could serve as both a research tool and a creative medium. Today it is obvious how Atkins' cyanotypes remain an enduring testament to the power of preserving and sharing knowledge.

## Colonization and the Importance of Indigenous Knowledge

Plant knowledge in North America has a complex history shaped by colonization, where scientific advancements frequently drew on Indigenous expertise

[5] Christina Anderson, *Cyanotype* (Focal Press: Routledge, 2019), 26-27, https://learning.oreilly.com/library/view/cyanotype/9780429805974/

but also obscured the sources of that knowledge. Through forced displacement, violence, and suppression of traditions, the colonizers' arrival to North America and their claim of the “new world” caused the ongoing destruction of Native peoples, cultures, and traditions. Although Anna Atkins can be celebrated for her work in the advancement of scientific knowledge for British algae, her work with cyanotypes has been linked to colonization. By examining the implications of colonization and the use of photography and cyanotypes, we can see how Indigenous knowledge of landscape and plant life was exploited in favor of white botanists.

European botanists were exposed to native botanicals with the help of the Indigenous groups that inhabited North America and often relied on their knowledge to educate themselves on the species new to them. However, many of the species they encountered did not fit into their European classification systems.[6] Oftentimes, the French names initially assigned to certain plants did not accurately represent the specimen. Examples like maple and cherries were named and placed in this generic European classifying system. This revealed the limitations of European botanical knowledge. While some North American species showed a resemblance to familiar plants, further exploration demonstrated the vast diversity of native flora and fauna and the lack of European models in categorizing them.[7]

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[6] Christopher Michael Parsons, *Plants and Peoples: French and Indigenous Botanical Knowledges in Colonial North America, 1600 – 1760* (University of Toronto, 2011), 25, https://utoronto.scholaris.ca/server/api/core/bitstreams/62d8961c-ed83-4347-8dd9-c87bd48e2850/content

[7] Christopher Michael Parsons, *Plants and Peoples: French and Indigenous Botanical Knowledges in Colonial North America, 1600 – 1760* (University of Toronto, 2011), 25, https://utoronto.scholaris.ca/server/api/core/bitstreams/62d8961c-ed83-4347-8dd9-c87bd48e2850/content

Anna Atkins was married to John Pelly Atkins, the son of a West Indies merchant who owned many slave plantations in Jamaica.[8] We must look at Atkins through a colonial lens, as her actions contributed to the erasure of Indigenous plant identification. During her time in Jamaica, she had access to native land and plant life in the West Indies and documented her new environment using cyanotypes. Atkins's use of the photographic process links her with slavery and colonialism, especially given her husband's family's ownership of multiple slave plantations. The cyanotype technique is known today to have been popularized by Atkins for her artistic and scientific contributions, but it is wildly unknown how her work reinforced colonial and Eurocentric perspectives about her environment. Atkins's cyanotypes of ferns, which include 25 specimens taken from Jamaica, demonstrate how she was able to benefit from her access to the island's botanical landscape.[9]

[8] Marie Smith, “Time to consolidate on the history of cyanotypes,” last modified November 21, 2021, https://www.marieesmith.com/dycp-research/2021/11/21/s1vuhy0bg0fad2ygaxt12qb4zu72ja
[9] Marie Smith, “Time to consolidate on the history of cyanotypes,” last modified November 21, 2021, https://www.marieesmith.com/dycp-research/2021/11/21/s1vuhy0bg0fad2ygaxt12qb4zu72ja

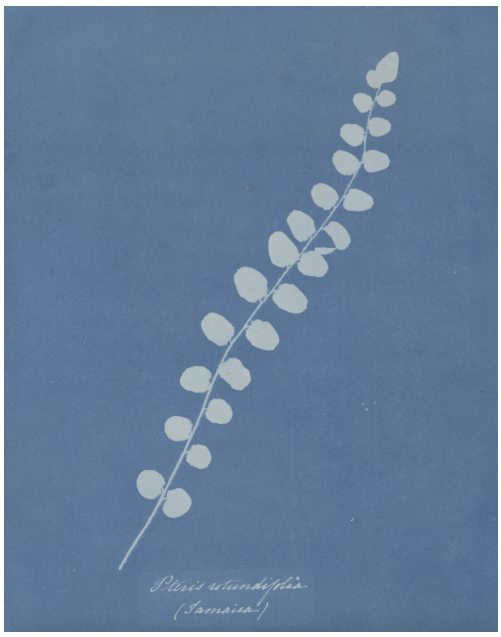

Figure 3: Anna Atkins, *Pteris Rotundifolia (Jamaica) from the album Cyanotypes of British and Foreign Plants and Ferns*, Cyanotype, 1853, Museum of Modern Art

The wealth her husband acquired from the slave plantations in the West Indies enabled Atkins to dedicate time and resources to her practice. This resulted in her highly popular and studied archive of work that continues to be exhibited widely today. Seeing how the Atkins family profited from slave labor in Jamaica, it is unsettling to learn about the botanical history of Jamaica from a white English woman of wealth, and not from the people of Jamaica.

When exploring how Indigenous groups record knowledge of native and regional botanicals, we must examine how within Indigenous groups, women are known for their roles in knowledge about plant use and management. While we can point to colonialism that led to the widespread erasure and exploitation of Indigenous

knowledge of plants and the environment, it's essential to recognize that Indigenous women have long been the primary keepers of ecological and botanical awareness.[10] Their deep understanding of plant life, medicine, and sustainable practices challenges the colonial narrative that separates nature from culture. Unlike the colonial frameworks that often treat nature as a resource to be controlled or exploited, Indigenous traditions emphasize stewardship, interdependence, and the spiritual significance of the land. Examining the intersection of ecofeminism and Indigenous knowledge highlights how Indigenous women's roles in environmental stewardship have persisted despite the colonial disruption, offering a crucial lens for decolonial thought.

By definition, "Ecofeminism uses the basic feminist tenets of equality between genders, a revaluing of non-patriarchal or nonlinear structures, and a view of the world that respects organic processes, holistic connections, and the merits of intuition and collaboration. To these notions ecofeminism adds both a commitment to the environment and an awareness of the associations made between women and nature."[11] Indigenous women and ecofeminist practices are deeply connected through their shared emphasis on the interrelationship between nature, community, and resistance to colonial and patriarchal systems. As Indigenous women have long been the keepers of traditional ecological knowledge, preserving sustainable land practices, and agricultural techniques that prioritize harmony with the environment they also,

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[10] Nancy Turner, "Chapter 7: 'Passing on the News': Women's Work, Traditional Knowledge and Plant Resource Management in Indigenous Societies of North-western North America," in Women and Plants. Gender Relations in Biodiversity Conservation and Management, ed. Patricia L. Howard (Zed Books, 2003), 133

[11] Kathryn Miles, "ecofeminism." Encyclopedia Britannica, October 23, 2024. https://www.britannica.com/topic/ecofeminism.

“include a range of harvesting, processing, manufacturing and provisioning activities, land and resource management, household management, education and mentoring, and contributions to family and community cultural life.”[12]

Ecofeminism, which critiques the exploitation of both women and nature under capitalist and colonial structures, aligns with these Indigenous practices by advocating for the protection of land and the recognition of women’s roles in environmental stewardship. Women's roles within Indigenous cultures are reflected in their ability to understand their environment; “For women, this cultural worldview is reflected in the ways in which plants are harvested; in the ceremonies and rituals enacted at the time of puberty, childbirth, marriage and death; in the ways in which women relate to one another; and in how their individual knowledge and experience is shared.”[13] Women's knowledge of the natural world allowed them to be highly regarded and respected in their communities as they were the ones who knew techniques for making items and clothing or tracking animals and finding their seed stores. Recognizing and uplifting the contributions of Indigenous women is essential, not only for historical justice, but also for shaping sustainable futures rooted in respect for the environment and community. By valuing their expertise and resilience, we can begin to dismantle colonial legacies and move toward a more inclusive, ecofeminist, and ecologically conscious world.

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[12] Nancy Turner, “Chapter 7: ‘Passing on the News’: Women’s Work, Traditional Knowledge and Plant Resource Management in Indigenous Societies of North-western North America,” in Women and Plants. Gender Relations in Biodiversity Conservation and Management, ed. Patricia L. Howard (Zed Books, 2003), 135

[13] Nancy Turner, “Chapter 7: ‘Passing on the News’: Women’s Work, Traditional Knowledge and Plant Resource Management in Indigenous Societies of North-western North America,” in Women and Plants. Gender Relations in Biodiversity Conservation and Management, ed. Patricia L. Howard (Zed Books, 2003), 139

## Quilt Making as an Act of Resistance

The use of textiles has served as both a means of survival and a form of resistance, as they can carry stories of resilience, oppression, and cultural identity. While quilts are often used for warmth and protection, the tradition is versatile and expands past only what's necessary. Nowhere is this more evident than in the quilt-making traditions of Gee's Bend, a rural Black community in Alabama whose roots trace back to the forced labor and exploitation of enslaved people on Southern plantations. Gee's Bend was once a site of colonial violence and enslavement but became a space of creative expression, where women used fabric not only for necessity but also as a powerful act of memory-making and storytelling. The act of quilt making, particularly within women-led groups, has long been a tool for community building and social justice, with quilts serving as both historical records and symbols of resistance. As I examine the quilting traditions of Gee's Bend, we can see how they use historically female-centered cultural practices as a form of activism. This ensured the proper preservation of the histories that might otherwise be erased while creating spaces for solidarity, justice, and collective healing.

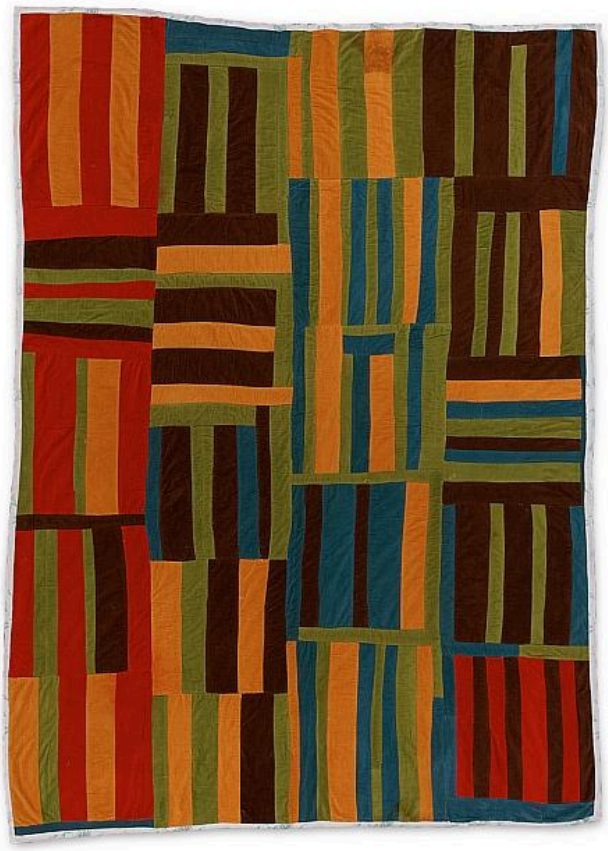

Figure 4: Willie "Ma Willie" Abrams, "*Roman Stripes*" *variation,* Corduroy, 1975, The Metropolitan Museum of Art

Gee's Bend, located in Boykin, Alabama, is named for the sudden turns made from the Alabama River. Due to its geographical location, Gee's Bend was isolated from much of the surrounding towns, thus making the culture and traditions of the African American community that lived there highly rich and unique. Unfortunately, due to the isolated nature of the community located on the bend, there was less opportunity for education and positions of financial security. In the 1900s, when women had limited possibilities, Black women had even fewer. Given the

circumstances, men and women of the community of Gee's Bend worked together in the fields and on chores like cutting wood or planting crops. More domestic skills, however, were dominated by women as they felt it was their duty to make life bearable and comfortable.

Quilt making in Gee's Bend was, at first, a means of survival. Log houses were put together from mud and made inside cold and drafty from the Alabama River, so quilts were used as protective insulation. As they had limited access to luxury resources, if someone fell ill, quilts were used as a means of protection from the elements and a source of natural comfort. Over time, however, the quilts made by the women of Gee's Bend began to reflect the complexity and distinct nature of the way of life in Alabama.

With the rise of the Civil Rights Movement, many lost their jobs and means of living. In 1966, the Freedom Quilting Bee was formed as a way for the women in Gee's Bend and surrounding rural towns to provide a source of income and to be connected to others through political empowerment. “About 30 percent of the quilt-makers living in the greater Gee's Bend community at the time of the organization of the Freedom Quilting Bee had some connection with the bee, and several of that group worked for the bee full time.”[14] The employment from the Bee allowed many women to support their families and even purchase land, which directly challenged the racial and economic hierarchies of the South during this time period.

[14] John Beardsley, William Arnett, Paul Arnett, and Jane Livingston. *Gee’s Bend: The Women and Their Quilts* (Tinwood Books, 2002), 14

The quilts proved to be more than a means of economic independence but showcased artistic expression that represents Black resilience and community strength. By reclaiming the traditional craft of quilt making, these women subverted the notion that their labor was solely domestic and instead used it as a way to assert their cultural identity and preserve their presence in Alabama. The quilts resisted cultural erasure and helped shape an environment where the fight for justice and equality thrived. America Irby (1916-1993), a quilter of Gee's Bend, used a specific type of patterned fabric that has historical roots in Africa. Dashiki fabric is characterized by its colorful and detailed patterns that reflect African heritage, culture, and pride. The Freedom Quilting Bee gained access to this fabric and quilters were able to transform it into masterful quilts that continued to show off their heritage. Irby's quilt, "One Patch" weaves the blocks of dashiki fabric with vibrant solid fabrics to show off Black pride. Irby's quilt is one example of how the Gee's Bend quilts were made with the intention of preserving their cultural heritage and influential presence on the land that once enslaved them. The quilts became personal portraits of the artist and quilts made from the same person differed wildly, showing off their expansive artistic and creative expression. A beautiful detail about the quilts made in Gee's Bend was that they were made to be used. Despite how original and well crafted the quilts were, the intention was also to be used; "Just as these quilts are made of used materials, so too, like much African art, are they made to be used: slept under, wrapped in when sick, covered with while sitting on the porch for a cold day, or sat upon in the grass during

an outdoor barbecue. The invention of these women suggests a no-nonsense approach to life and thus a no-nonsense approach to the quilts. No need for embellishment, no need for camouflage. Piece it together and move on. There is more to do outside, with the children, at church."[15] These women were true multitaskers; mothers, caretakers, homemakers, and artists. Their quilts were not only stitched with fabric but also with stories of resistance, survival, and hope for a future free from oppression.

As we have seen with the quilts in Gee's Bend, preserving memory in the form of a quilt is a common practice. Whether that is stitching a quilt made from the fabric from a loved one or to honor a community, memory quilts serve as both author and messenger for preservation. Turning from the historic Gee's Bend, we look to a more local example of women banding together as a way to show collective resistance.

[15] John Beardsley, William Arnett, Paul Arnett, and Jane Livingston. *Gee's Bend: The Women and Their Quilts* (Tinwood Books, 2002), 17

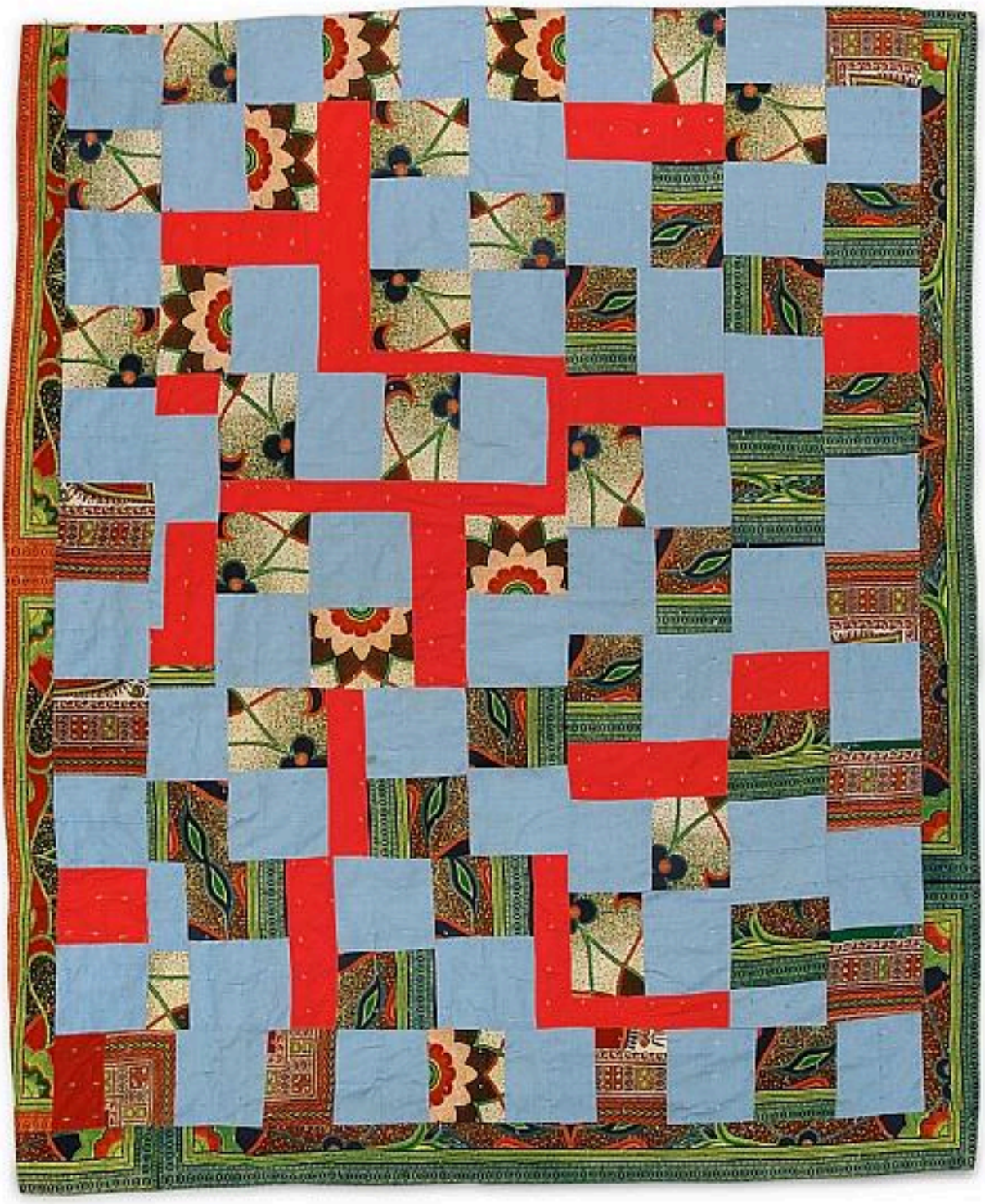

Figure 5: America Irby, "*One Patch*" *tied,* Cotton, 1970, The Museum of Fine Arts Houston

In 1983, a couple by the name of Homer and Thelma Jennings were selling their 40-acre plot of land in the Rocky Mountain National Park. Property developers wanted to purchase the land for housing development despite the land being the prime habitat for elk, deer, river otters, and many more native Colorado species. Rocky Mountain National Park turned to the Rocky Mountain Conservancy to help secure the land for protection. They had two years to raise $85,000 or else the land would be allocated to building developers. Unfortunately, a year later in 1984 only $16,000 had been raised. Funds were coming in slowly from grants and donation gifts but it still wasn't enough. That's when a group of spouses from the National Parks Service and female park employees, Rocky Mountain National Park Women (RMNPW), came together to help push the fundraiser to the finish line.[16] The women of RMNPW would hand-make a king sized quilt that embodied much of the vibrant wildlife of the Rockies they sought out to protect. The women came together to craft their own block for the quilt, every block was different in style and medium as different techniques like applique and embroidery were used. The quilt would be used as a prize in a sponsored raffle where tickets could be purchased for one dollar. The raffle helped raise $1,800 for the Jennings Tract acquisition and played a key role in helping the land be returned to Rocky Mountain National Park to remain a safe place for the flora and fauna of Colorado to thrive. Although it was not a significant amount of the funds needed, the quilt fundraiser

[16] Anne Morris, “A Stitch in Time: The Journey of the Quilt that Helped Conserve a Tract of Rocky Mountain National Park,” *Rocky Mountain Conservancy*, Winter (2025), 1

publicized the need to preserve the land resulting in the conservancy being able to purchase the land officially becoming part of Rocky Mountain National Park.


Figure 6: Close ups of quilt blocks, 2025, Rocky Mountain Conservancy

Figure 7: The king sized quilt made for the raffle, 2025, Rocky Mountain Conservancy

The RMNPW demonstrated ecofeminist principles as they utilized the traditionally female centered medium of quilt making as a tool for environmental activism. Their quilt dedicated to preserving the memory of the Rocky Mountains helped contribute to land conservation as well as their interconnectedness of ecological preservation and social justice. By transforming their labor into a means of fundraising, they challenged the notion that women's domestic skills are separate from political action, instead using them to protect the natural world. Their work in helping save precious land from being more urban development highlights the ecofeminist

belief that care for the environment and collective action are deeply intertwined. This emphasizes the power of women-led efforts in conservation and resistance against capitalist exploitation of land.

The winner of the quilt, Gwyn Ellis Fields, “loved telling the story of winning the quilt— but would also admit from time to time that she felt a little bad taking the quilt away from Colorado.”[17] The Ellis family had traveled the world as Gwyn's husband worked with the Peace Corps. For Gwyn, the quilt was an honor to win as she had grown up loving being outdoors in the Rocky Mountains, and the quilt was always a reminder of her love for Colorado and the great outdoors. This quilt is just another example of how women have come together to form a community and to take collective ecofeminist action to preserve the land they cherish. The quilters of Gee’s Bend and the Rocky Mountain National Park Women demonstrate how memory preservation is deeply tied to both liberation and the conservation of geographical history.

## Process and Methods

Growing up in Colorado, I have a true affinity for this state's abundant natural beauty. I use the intersection of cyanotyping, quilt making, and storytelling to honor and memorialize the diverse landscape of the state I grew up in. My series of four quilts is dedicated to some of the different ecosystems of Colorado: prairie grasslands, rivers

[17] Anne Morris, “A Stitch in Time: The Journey of the Quilt that Helped Conserve a Tract of Rocky Mountain National Park,” *Rocky Mountain Conservancy*, Winter (2025), 15

and lakes, Rocky Mountains, and urban areas. Through the layering of cyanotype prints, I capture the textures, plant life, and organic forms unique to each ecosystem, embedding them into the fabric as archival traces of place and memory.

Quilting, a craft historically associated with women, has long been a way to communicate stories, preserve cultural knowledge, and express connection to the land. Through this medium, I found myself tapping into a tradition of women's resilience and creativity, recognizing the importance of passing down knowledge and stories through tactile, often domestic, art forms. Through this thesis I was able to connect strongly with the women in my own community, seeking guidance from my grandmother, mother, sister, and friends. Learning techniques and sharing supplies are just some of the examples of how working with the women in my life has reflected the research I have completed. By choosing to work with quilts, I am directly participating in this lineage of women who have used quilting to reflect, resist, and redefine narratives of identity and place.

My work also reflects an underlying challenge to colonialism's separation of nature from culture. Taking strong inspiration from Anna Atkins's British algae series, I made simple compositions of each specimen with their common and scientific names. Yet, I learned that colonial narratives often depict nature as something to be exploited or controlled. I counteract this while quilting, as I seek to acknowledge the interconnectedness of all living things and not to exploit its beauty but to honor it. By layering my cyanotyped flora and fauna from Colorado's ecosystems into the fabric of

the quilts, I'm weaving together a story of unity and connection, resisting the commodification of the natural world.

To source the scientific illustrations, I used the Smithsonian Biodiversity Heritage Library Open Data Collection, which is the world's largest open-access digital library for biodiversity literature and archives. It houses thousands of scientific illustrations from around the world and is licensed to allow anyone to reuse, modify, and re-purpose without the need to ask for permission. By using this massive archive, I was able to source all of the 134 species of flora and fauna to represent Colorado in my four quilts. I took each illustration I found and in Photoshop made templates for digital negatives to be placed on the cyanotype dyed fabric. Once the fabric had been exposed, I removed the digital negative, rinsed the fabric, and let it dry. Once dry I was able to use the fabric to make the quilt blocks for each quilt. This method not only allowed for the precision of details for each species but also ties together the artistic and scientific, creating a tangible record of the natural world.

*Natural Patterns* represents many of my passions, merging my love for art with my deep commitment to environmental sustainability. Through the combination of cyanotyping, quilt-making, and memory preservation, I aim to honor the ecosystems of Colorado while also reflecting on the ways we are interconnected with the land. This project allowed me to engage with both the natural world and the traditions that help preserve and reimagine the beauty of our environment in a way that is both personal and universal.

## Prairie Grasslands

Covering much of eastern Colorado, the great wide prairies are full of swaying grass and open sky. Known for its wide expanse, the prairie grassland of Colorado offers many native grasses, insects, birds, and mammals. In total there are 48 species that represent this ecosystem on the *Prairie Pinwheels* memory quilt. The use of a pinwheel quilt block evokes notions of wind and movement. This helps emulate the strong winds that come off the Rockies from the west. This coupled with the lack of trees and flat land helps the breeze move grasses and spread seeds. The thick grass provides shelter for small animals such as; prairie dogs, field mice, and jackrabbits. The imagery of clouds reflects the expansiveness of the grasslands and the big open sky. All together the clouds, flora, and fauna native to the region form a symbolic crest. Patterned fabric of green and yellow fabric reflect the shifting hues of the grasslands, green representing the vitality of new growth, and yellow capturing the sunlit warmth of the dry, windswept fields. Crests are often a symbol of family and a way to distinguish themselves. These prairie crests represent the distinct identity of eastern Colorado, capturing the essence of the prairie grasslands. The species depicted within the crests honor the deep connections between living organisms to emphasize the interwoven relationships that define this ecosystem to reflect a broader sense of identity and belonging.

## Rivers and Lakes

Flowing throughout the state, our rivers and lakes create an essential ecosystem that sustains life across Colorado. From Rocky Mountain streams to lakeshores, these waterways not only nourish the land but also serve as a vital connection between the diverse habitats they support. The rivers and lakes memory quilt, *Chevron Currents of Rivers and Lakes,* utilizes 40 species of fish, reptiles, and aquatic plant life in a waterfall like pattern to simulate the flow of water from a river or stream. The dynamic between the species is reflected in their collective movement, as they appear to flow downstream together, united by the rhythm of the river. You can also spot maps for the rivers we have in Colorado, winding lines representing the flow of water throughout all ecosystems. Patterns with colors such as vibrant green with shades of purple represent mimic iridescent shells of crustaceans and plant life in clear water. Due to the nature of the chevron pattern, the quilt can be viewed from a horizontal or vertical perspective as both give the illusion of downward movement.

## Rocky Mountains

The Rockies are the iconic image of Colorado, standing tall as a symbol of the state's rugged beauty and natural grandeur. The towering mountain peaks, alpine landscapes, and vast diverse ecosystems embody the resilience of the land, offering a striking contrast to the lower plains and rivers that flow beneath them. The third memory quilt, *Rocky Mountain Stars,* seeks to mimic the cold white snow, mountain

peaks, and crisp clear nights. Viewing stars in the mountains has been a way for us to be more in touch with the nature around us and to help us understand our role in the universe. The sawtooth star quilt block is one of the most recognizable and versatile within the quilting community. Patterns are chosen to represent the western aesthetic with gingham, plaid, and denim. Framing the sawtooth stars in white allows for each species to stand out while also representing the cold and snowy conditions of the mountains. Compared to the previous two quilts, a smaller selection of only 25 species are selected. As the Rocky Mountains are a diverse ecosystem I wanted to showcase what makes the Rockies in Colorado familiar and iconic. The Rocky Mountains are not only a backdrop to Colorado but to our lives. The mountains prove to be an integral part of who we are, shaping our identities, our communities, and our sense of place.

## Urban Environment

The urban ecosystem might seem unconventional, yet it plays a crucial role in Colorado's overall environmental and social fabric. Urban environments are centers of commerce, culture, education, and community. Beyond their social contributions, urban centers also support unique ecosystems through neighborhoods and parks. The fourth and final memory quilt, *Urban Patchwork,* brings together comfortable and familiar aspects of our everyday landscape in Colorado. House blocks are visual reminders of spaces we inhabit which foster our own lineage, merging landscape with man made structures. The 21 species in this patchwork quilt are essential to the

ecosystems that keep our urban environments diverse. A patchwork quilt traditionally represents themes of community, heritage, and the interconnection of different lives or experiences. Urban environments are a patchwork in themselves, woven together by themes of community, heritage, and the interconnection of different lives and experiences. As Colorado's population continues to grow, the urban ecosystem becomes increasingly important in balancing development with sustainability and creating spaces where both people and nature can thrive together.

## Conclusion

Through the joining of cyanotyping and quilt making, this thesis seeks to bridge the fleeting qualities of nature with the permanence of memory to reinforce the idea that art can serve as both a historical record and a tool for ecological awareness. Engaging with ecofeminist practices, like the work of Indigenous women and Rocky Mountain National Park Women group, allowed me to situate my practice and research within a lens that seeks to use more holistic ways of being eco-conscious. By drawing on the legacies of artists such as Anna Atkins and the quilters of Gee's Bend, my creative work highlights how artistic processes can both document and honor our relationship with land. It is more crucial than ever to explore ways of preserving environmental and cultural knowledge in forms that invite personal connection and collective action. I do not seek to appropriate or claim Indigenous traditions as my own, but rather to honor and learn from them while expressing my deep appreciation for my

home and the land I was privileged to grow up on. My cyanotype memory quilts are an effort to transform ecological documentation into something intimate and tangible as I invite viewers to engage with the landscapes of Colorado in a way that fosters appreciation, responsibility, and care. Ultimately, my thesis project seeks to demonstrate that art is not just a means of representation, but a powerful method of preservation, activism, and remembrance.

## Bibliography


Anderson, Christina. *CYANOTYPE*. Accessed March 5, 2025. https://learning.oreilly.com/library/view/cyanotype/9780429805974/xhtml/09_Chapter01.xhtml.

Beardsley, John. *Gee's Bend: The Women and Their Quilts*. Tinwood Books, 2002.

Ducan, Sophie. "The (Un)Natural Archive.," n.d. file:///Users/rileyramsay/Downloads/mrln,+04-duncan.pdf.

Miles, K. "ecofeminism." Encyclopedia Britannica, October 23, 2024. https://www.britannica.com/topic/ecofeminism.

Morris, Anne. "A Stitch in Time: The Journey of the Quilt That Helped Conserve a Tract of Rocky Mountain National Park." *Rocky Mountain Conservancy* Winter, 2025 (n.d.).

Parsons, Christopher. "Plants and Peoples: French and Indigenous Botanical Knowledges in Colonial North America, 1600 – 1760," March 2012. http://hdl.handle.net/1807/36212.

Smith, Marie. "Extraction: In Conversation with Anna Atkins." Horniman Museum and Gardens. Accessed March 14, 2025. https://www.horniman.ac.uk/story/extraction-in-conversation-with-anna-atkins/.

Smithsonian Institution. Biodiversity Heritage Library Open Data Collection. Accessed March 20, 2025. https://www.biodiversitylibrary.org/.

Turner, Nancy. "'Passing on the News': Women's Work, Traditional Knowledge and Plant Resource Management in Indigenous Societies of North-Western North America," n.d. https://www.researchgate.net/profile/Patricia-Howard-3/publication/320347173_Women_and_Plants_Gender_Relations_in_Biodiversity_Conservation_and_Management/links/59df4e7daca27258f7d77b75/Women-and-Plants-Gender-Relations-in-Biodiversity-Conservation-and-Management.pdf?__cf_chl_tk=FlJWX4KDglbjM6jUFx0wyseaIhRVM.UsPHScKPuccI-1741210582-1.0.1.1-ple88UA_Nr6s0do1jsbPuMRXGzUKGR1DouUrwlWz5fI#page=106.

University of Colorado Boulder. "Land Acknowledgment." Accessed March 20, 2025. https://www.colorado.edu/about/land-acknowledgment.

Williams, Evan D. "Ever Drifting: Anna Atkins and the Birth of the Photobook" Autumn 2014, no. 29 (n.d.). chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://pure.uhi.ac.uk/files/2400041/Antennae_Issue_29_3.26.02_PM.pdf.