

A photograph of a dense field of orange poppies in bloom, with green foliage and thin, bare branches visible. The sky is a clear, pale blue. The text 'PLANT BASED' is overlaid in large, white, bold, sans-serif capital letters at the bottom center of the image.

PLANT BASED

emerson mitchell



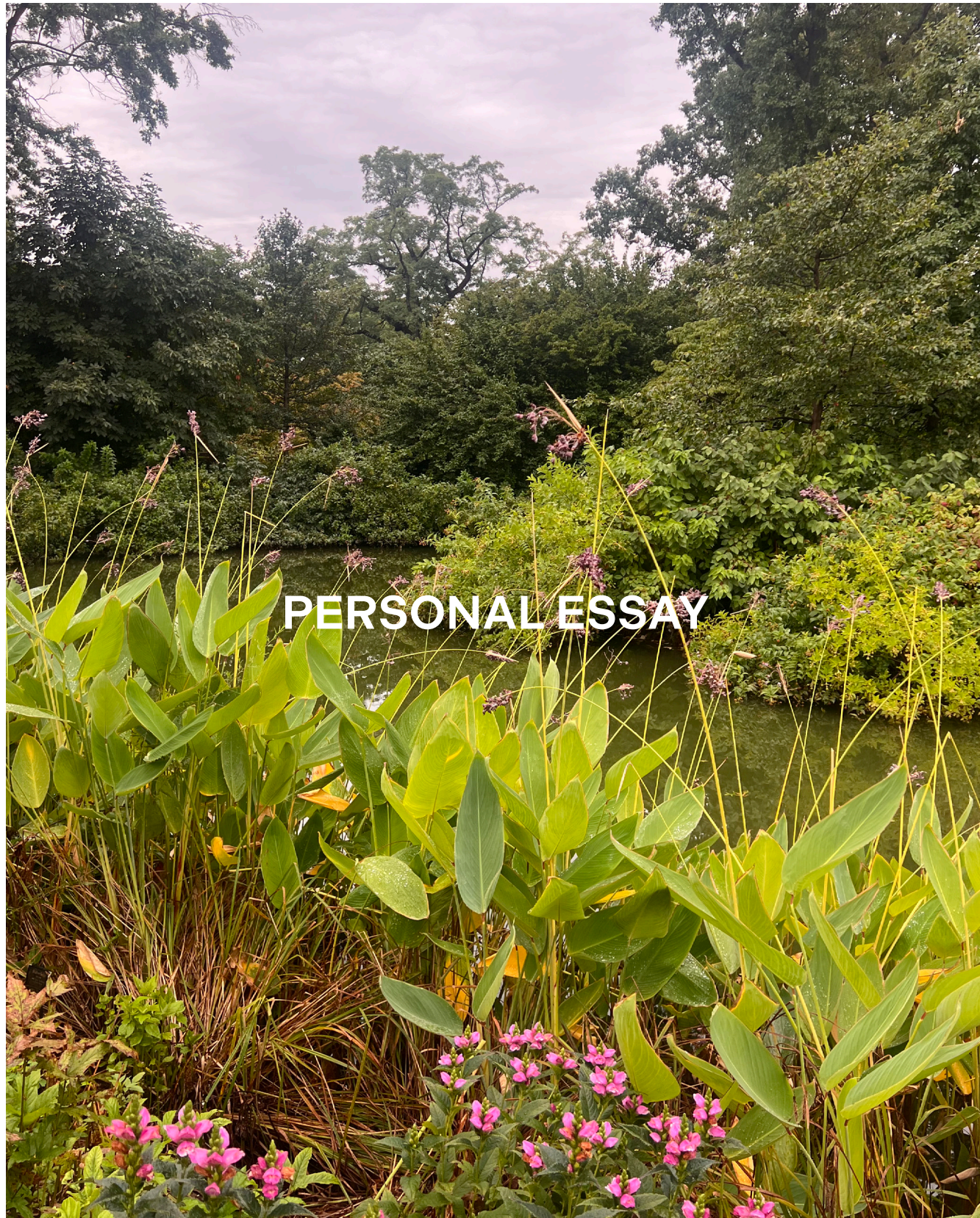
PLANT BASED
Integrating Biophilia into Graphic Design

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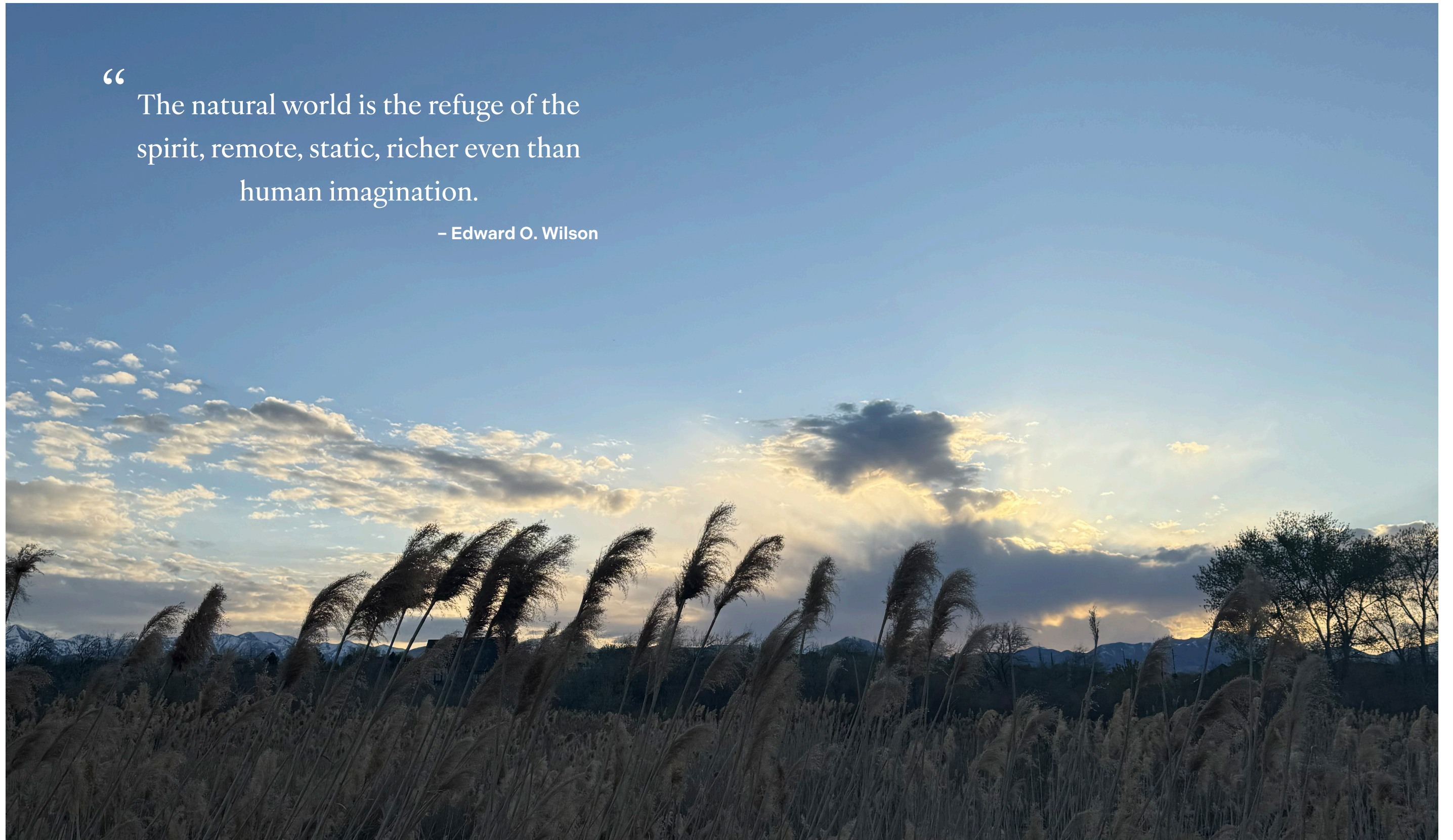


My love for nature began early in my life, rooted in the diverse landscapes of my childhood hometown of San Diego, California. The beach, in particular, held a special place in my heart. I've always felt a deep connection to the ocean; its colors, textures, and forms have been a constant source of inspiration. I am still hypnotized by the bright cerulean of the water on a sunny day in the summer. This ocean blue has long been one of my favorite colors, and I used it in most of my art when I was younger. As a child, my art often reflected the beach—its waves, shells, and the vast horizon. I also loved to paint with ocean water and watercolors so that there were shimmering salt crystals left behind when it dried. When I sketch today, I naturally gravitate towards wave-like spirals and organic, flowing shapes. Even now that I live in a landlocked state, Utah nature still influences my creative process. I find inspiration in all kinds of natural forms around me: the rustling leaves, the mountains, and the glistening snow in the winter. It is in these outdoor spaces where I find my most authentic ideas take shape.

As a graphic design student, my growing desire to step away from technology has become greater. I'm drawn to manual, tactile processes that involve creating with my hands. Techniques like crocheting, letterpress printing, and painting offer a grounding experience that is not found in the digital tools I use most often. While these techniques don't always involve natural materials in the strictest sense, they provide a more tangible connection to the act of creation. When I create with my hands, I feel more present, more in touch with the process itself, which is often lost when I'm behind the screen of my laptop.

“
The natural world is the refuge of the
spirit, remote, static, richer even than
human imagination.

– Edward O. Wilson





LITERATURE RESEARCH PAPER

INTRODUCTION

From the earliest human history, people have turned to the natural world as both a resource and an inspiration for creative expression. Early humans, with limited tools, crafted art from what the Earth provided. They made stone carvings, cave paintings, and sculptures from rocks. They used earth pigments, animal bones, and stones to communicate their experiences. Not only are these creations considered the beginning of art, it is also known as the beginning of graphic design.

The history of graphic design parts with general art history with the beginning of a written alphabet. This proceeds into illuminated manuscripts, the invention of the letterpress, the beginning of typefaces, and the emergence of photography. We are beginning to see a resurgence of analog and alternative processes in graphic design today. This is due to the increasing reliance and saturation of technology, the rise of eco-consciousness, and the need for authenticity and craftsmanship. The reliance on natural resources in prehistoric times in order to create illustrates a connection between humanity and the Earth, a relationship that modern designers have increasingly moved away from. Today, the majority of my creative process as a graphic designer involves digital

technology. My laptop has become the medium through which I create most of my designs. This shift towards technology has been revolutionary, but it has also distanced us from the organic nature of creation. As a designer who values the origins of graphic design in the natural world, I am curious whether this shift is beneficial or detrimental. Could returning to natural mediums, even occasionally, allow us to reconnect with the core principles of design?

By exploring where design and nature intersect, I hope to uncover ways to become a more thoughtful and grounded designer. This research will allow me to merge my two greatest passions—design and the natural world—while seeking insights that can benefit not only my own practice but also the broader design community. Something I wish to discover through my research is if we as designers should incorporate more nature into our work through alternative processes and what the benefits of doing so would be.

1 Wilson, Edward O. *Biophilia*. Cambridge, MA: Harvard University Press, 1984, pg. 11

2 Amy McDermott, "What Was the First 'Art'? How Would We Know?," *PNAS*, October 27, 2021, <https://www.pnas.org/doi/10.1073/pnas.2117561118>.

3 Laura Anne Tedesco, "Introduction to Prehistoric Art, 20,000–8000 B.C.: Essay: The Metropolitan Museum of Art: Heilbrunn Timeline of Art History," *The Met's Heilbrunn Timeline of Art History*, August 1, 2007, https://www.metmuseum.org/toah/hd/preh/hd_preh.htm.

4 Ritupriya Basu, "Exploring the Rise, and Evolution, of Analogue Design 'Techniques,'" *It's Nice That*, January 8, 2024, <https://www.itsnicethat.com/features/forward-thinking-rise-of-analogue-080124>.

BIOPHILIC DESIGN

In recent years, a growing interest in biophilic design has emerged, particularly within architecture, interior design, and graphic design. The term “biophilic” stems from the concept of biophilia, first introduced by biologist E.O. Wilson in the 1980s, which suggests that humans possess an innate connection to nature and other living systems. By integrating nature into design, designers and artists are creating spaces that promote well-being, creativity, and sustainability.

Biophilia is more than just a trend; it is an essential part of human existence. As humans, it is ingrained in us to seek out greenery, natural light, and water because these elements signal safety, sustenance, and shelter. We might think that we just love nature because it looks pretty, but there are deeper psychological reasons as

to why we are attached to it. For example, Wilson argues that humans are attracted to flowers, not because they are beautiful, but because flowers are a signal that fruit would be coming soon.

In urban environments, where metal, glass, and concrete are everywhere, humans can feel disconnected from the natural world. This disconnection has been linked to increased stress, anxiety, and depression. According to a study, spaces that lack natural elements are often associated with heightened levels of stress and reduced mental clarity. The resurgence of biophilic design is a movement back to our roots, attempting to reconnect people with nature within the confines of modern spaces.

5 Wilson, Edward O. *Biophilia*. Cambridge, MA: Harvard University Press, 1984, pg. 1

6 Zhong, Weijie, Torsten Schröder, and Juliette Bekkering. “Biophilic Design in Architecture and Its Contributions to Health, Well-Being, and Sustainability: A Critical Review.” *Frontiers of Architectural Research* 11, no. 1 (February 2022): 114–41. <https://doi.org/10.1016/j.foar.2021.07.006>.

THE SIX ELEMENTS OF BIOPHILIC DESIGN

Biophilic design is often divided into the direct and indirect experiences people can have with nature. Direct experiences include elements such as natural light, plants, water features, and views of landscapes. Indirect experiences are more about the use of natural materials, shapes, and textures. The Six Elements of Biophilic Design highlights that incorporating natural elements in both visual and non-visual ways can help foster a sense of connection to the natural environment, even within highly urbanized settings. Incorporating biophilic design into a project requires thoughtful consideration of both the space and the needs of its users. One of the most effective ways to do this is by bringing natural elements into an environment, either physically or symbolically. Designers can use the Six Elements of Biophilic Design to create more nature-infused spaces. Not all six elements are directly related to or are possible to achieve with graphic design, but are still important to consider in other fields that may be implementing biophilic design.

7 “The Six Elements of Biophilic Design.” *Thermory*, October 30, 2023. <https://thermory.com/blog-and-news/the-six-elements-of-biophilic-design/>.

PRINCIPLE 1

The first principle is having a visual connection with nature. This can be done by having windows with views of the outdoors or by having images and videos of natural environments in indoor spaces. Utilizing windows and having natural light can also brighten up indoor spaces naturally and increase the light flow within a space. Doing this can increase energy, reduce eye strain, improve mood and cognitive function, and give someone exposure to vitamin D. In digital design, this could be done using an image or illustration of nature in a design.

8 "How to Incorporate Biophilic Design with Your Windows," Moyes Glass, July 26, 2022, <https://www.moyesglass.com/biophilic-design-windows/#:~:text=Window%20glazing%20is%20the%20glass,light%20flow%20throughout%20your%20home>.

PRINCIPLE 2

The next principle is to have non-visual connections to nature. This includes tactile, auditory, and olfactory elements that can mimic the sensations of being in nature. For example, water or bird sounds; floral or woody scents; or edible landscapes made of fruits, vegetables, and herbs can be used in biophilic design. Non-visual connections to nature like these are known to reduce blood pressure and stress hormones, positively impact cognitive performance, and may increase mental health and tranquility.

William Browning, Catherine Ryan, and Joseph Clancy, "14 Patterns of Biophilic Design," Terrapin Bright Green, September 12, 2014, <https://www.terrapin-brightgreen.com/reports/14-patterns/#:~:text=Non%2DVisual%20Connection%20with%20Nature,living%20systems%20or%20natural%20processes>.

PRINCIPLE 3

Another principle is thinking about thermal and airflow variability in a space. Environments that imitate the temperature and airflow of outside can improve comfort and well-being. Variable airflow can feel comforting, refreshing, and alive. Types of variable airflow can be warmth in lit places and cold in the shadows. These methods of airflow mimic naturally occurring thermal variability thus translating the outdoors into indoor spaces. This principle is not possible to execute through digital design but could be really important in designing some sort of indoor space.

10 "14 Patterns of Biophilic Design"

PRINCIPLE 4

There is also a principle about having the presence of water. Water features like fountains or ponds can provide a calming element. Non-physical imagery of water could also satisfy this principle. Water is generally equated to tranquility, healing, and restoration. It makes up 60% of our bodies and we as humans cannot live without it. Therefore, humans already have an innate connection to water. The integration of any form of water into an experience promotes mental health and relaxation.

11 Stone Yard, "How to Incorporate Water Features into Your Biophilic Design for a Tranquil and Restorative Space," Stone Yard, June 10, 2024, <https://stoneyardinc.com/how-to-incorporate-water-features-into-biophilic-design#:~:text=Incorporating%20water%20features%20into%20your%20biophilic%20design%20is%20a%20powerful,environment%20into%20a%20serene%20oasis>.

PRINCIPLE 5

Another principle suggests using dynamic lighting and the idea of diffusing light. Using lighting that changes throughout the day, like how the light from the sun changes during the day, can support circadian rhythms. This principle can be applied when setting the lighting in a room, creating a motion piece, or in any form of imagery showing the passing of time over a day.

12 Tongyue Wang et al., "Active Interventions of Dynamic Lighting on Human Circadian Rhythm and Sleep Quality in Confined Spaces," *Building and Environment* 226 (December 2022): 109766, <https://doi.org/10.1016/j.buildenv.2022.109766>.

PRINCIPLE 6

Finally, the last principle is about using natural materials and colors. Utilizing natural materials and colors that come from nature can create a calming, grounded atmosphere. Ecological researchers suggest that earth-tone colors are more appealing to humans because color has served as a means of finding sustenance and wayfinding throughout our evolution. Humans are naturally attracted to these colors and can provide comfort and peace.

13 "The Six Elements of Biophilic Design."

14 Stephen R. Kellert, *Nature by Design: The Practice of Biophilic Design* (New Haven: Yale University Press, 2018), pg. 15.

EXAMPLES OF BIOPHILIC DESIGN

Biophilic design goes beyond the addition of plants or natural materials into spaces. It is a way of making environments and imagery that evoke feelings of tranquility, connection, and harmony with the natural world. As John Spencer notes, nature’s influence on design is evident not only in organic shapes and colors but also in patterns and functions. For instance, fractal patterns—repetitive designs found in leaves, shells, and snowflakes—are often found in biophilic design for their calming, predictable qualities. These designs can lower stress levels, making spaces more conducive to productivity and creativity. By simply using patterns found in nature, viewers will tend to feel more connection to a design even if the pattern isn’t immediately recognized as coming from nature. In the realm of graphic design, Moe-

ko Design’s Growable Graphics introduces biophilia by discussing “growable” designs. These designs incorporate organic elements into static work. This means that two-dimensional art can be dynamic and ever-evolving like nature. This specific studio creates graphics using hexagonal shapes covered in moss. By incorporating living moss, these graphics offer a direct connection to nature. The use of living elements also reduces environmental impact and is more sustainable since they are reusable and biodegradable. Finally, these “Growable Graphics” breathe life into a space with their ever-changing nature. This concept of using plants to design exemplifies the idea that design should not only mimic nature aesthetically but also adopt its processes of growth and transformation.

Designers are now actively exploring ways to implement these ideas in everyday spaces. In the workplace, for instance, biophilic design has been used to reduce skipping work and increase job satisfaction. At home, elements like indoor gardens, water features, and natural materials can create a sanctuary-like atmosphere that helps people unwind from daily stress. As emphasized by Moeko Design, incorporating nature into spaces is not only aesthetically pleasing but also integral to our mental and emotional health.

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Biophilic design offers a way for humans to reconnect with the natural world in environments that are more sterile and disconnected from nature, like indoor spaces. Through the integration of natural elements and processes, designers can create spaces that increase well-being, re-

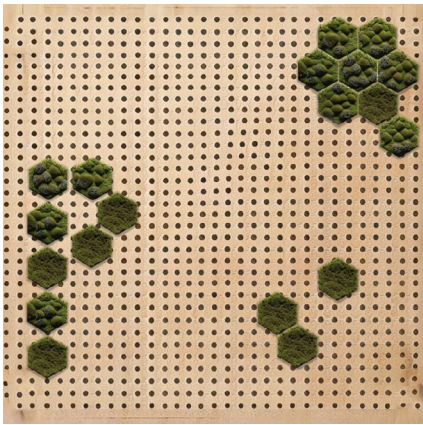
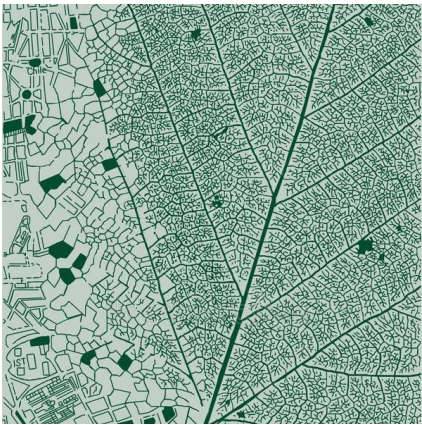
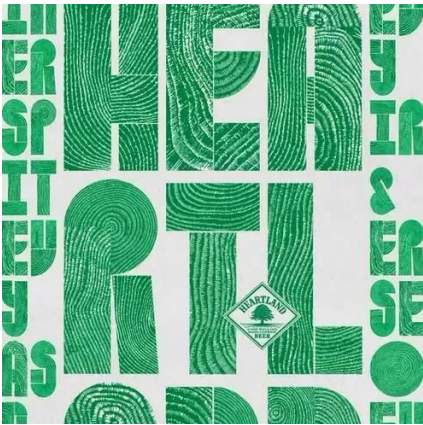
15 Spencer, John. “How Nature Inspires Better Design (and What This Means for Students).” Medium, April 12, 2020. <https://medium.com/@spencerideas/how-nature-inspires-better-design-and-what-this-means-for-students-7a72cb74cce4>.

16 Tequilajazz, Ecology, Leaf and City. Vector Illustration, Dreamstime, accessed November 20, 2024. <https://www.dreamstime.com/royalty-free-stock-photos-leaf-city-image12009398#res26615551>.

17 Stefanie Titus, Heartland Beer Poster, Pinterest, accessed November 20, 2024, <https://www.pinterest.com/pin/289215607338530201/>.

18 Moekodesign. “Biophilic Graphic Design: The Fusion of Nature with Creativity.” moekodesign, December 12, 2023. <https://www.moekodesign.com/post/growable-graphics-biophilic>.

19 Moekodesign.



20 Moekodesign.

IT’S SCIENCE

Nature has always held a unique power to calm the mind, rejuvenate the spirit, and inspire creativity. There is something about it that is so calming and grounding. I love to look out my window, go on hikes, or just drive with my windows down. Fresh air is freeing and the greens and blues in nature are so beautiful and soothing. I also tend to go on walks whenever I need to clear my head or to just take a break. I always come back with clarity and am ready to do what I need to do. I also feel like I have more creative thoughts when I am outside. I can take inspiration from the shapes and colors I see and the textures and patterns in nature can be insightful. Many other designers I know have had these same experiences with nature and their design process. It turns out there is scientific evidence for why being in nature just feels so good.

There are several studies that show a link between time spent in nature and cognitive improvements to mental health, well-being, and

mood. There is a theory called Attention Restoration Theory that has to do with this phenomenon. Attention Restoration Theory is the belief that concentration and mental fatigue can be improved by spending time in or just by looking at nature. In our fast-paced, screen-dominated lives, we often experience cognitive overload, but nature offers a peaceful break that allows the mind to recover and reset.

A renowned study explored this theory and used neuroscience techniques to provide data that backs Attention Restoration Theory. In this experiment, scientists took 150 college students and had them take a test. The students were asked to take a trial test then were given a micro-break for 40 seconds. After the break, they took the actual exam. During the micro-break, the students spent their time viewing a city scene. Half the students saw a scene with bare concrete roofs and the other half saw a roof with a lush, flowery garden. Results from the study showed that the

students who saw the garden rooftop made significantly less errors and were more consistent in their answers than the students who saw the bare roof. Based on the data, the scientists are confident that looking at nature can improve concentration.

Not only does looking at nature help with concentration, it can also help with mental health. Another study measured the association between time spent in nature and self-reported health and well-being for almost 20,000 people. The results of the study concluded that spending at least 120 minutes in some sort of nature setting a week had positive outcomes. The study also concluded that the longer you spent outside after those 120 minutes resulted in even greater positive outcomes. 2 hours a week is less than 18 minutes a day. It is definitely reasonable for a person to spend 18 minutes outside each day and it does not even have to be a consecutive 18 minutes. These studies show that having any sort of exposure to nature can lead to pos-

itive changes in physical and mental health.

One of the most significant advantages of biophilic design is its impact on mental health and well-being. According to the Living Future Institute, environments that integrate natural elements improve cognitive function, enhance mood, and foster feelings of peace and relaxation. This is particularly important in today’s world, where fast-paced living often leads to overstimulation and burnout. Natural elements like plants, wood, and stone help to reduce stress levels and create environments that feel revitalized. The inclusion of greenery, for example, has been shown to increase attention spans, lower blood pressure, and boost overall mood. In addition, the presence of natural light improves circadian rhythms, leading to better sleep and increased productivity.

As a designer, these studies really resonated with me because of the experiences I’ve already had with nature.

21 “Attention Restoration Theory: A Systematic Review,” European Center for Environment & Human Health, March 25, 2024, [https://www.ecehh.org/research/attention-restoration-theory-a-systematic-review/#::-:text=Attention%20Restoration%20Theory%20\(ART\)%20](https://www.ecehh.org/research/attention-restoration-theory-a-systematic-review/#::-:text=Attention%20Restoration%20Theory%20(ART)%20).

22 Courtney E. Ackerman, MA, “What Is Kaplan’s Attention Restoration Theory (Art)? Benefits + Criticisms,” PositivePsychology.com, July 10, 2024. <https://positivepsychology.com/attention-restoration-theory/>.

23 Kate E. Lee et al., “40-Second Green Roof Views Sustain Attention: The Role of Micro-Breaks in Attention Restoration,” *Journal of Environmental Psychology* 42 (June 2015): 182–89, <https://doi.org/10.1016/j.jenvp.2015.04.003>.

24 Mathew P. White et al., “Spending at Least 120 Minutes a Week in Nature Is Associated with Good Health and well-being,” *Scientific Reports* 9, no. 1 (June 13, 2019), <https://doi.org/10.1038/s41598-019-44097-3>.

25 “Biophilic Design Initiative,” Living Future, Accessed October 16, 2024. https://living-future.org/biophilic-design/?utm_source=google_search&utm_medium=PPC&utm_campaign=biophilicdesign&gad_source=1&gclid=Cj0KCQjwyL24BhCtARIsALo0fSDP9_h19-J61e221-5imSZPLI9GaOMnQs0bbczZt6t-WHvKJYnnL_0DEaAsVhEALw_wcB.

26 “How Biophilic Design Is Making Humans Happier,” TerraMai, May 1, 2024. <https://www.terramai.com/blog/biophilic-design-making-humans-happier/?srsltid=AfmBOoob6GATp-pa0233DaDIHR2Pgyh-ETbdY-884I19Ofv2INH4YJ6ad5>.

There are many upsides and benefits to choosing to become more grounded with the Earth and spend more time with nature. More than just drawing inspiration from nature, I'm excited by the idea of incorporating natural materials and methods into my design work. Designers can paint with natural paints and inks and use a letterpress with woodblock type. Woodblock printing with sustainable materials could add a tangible, eco-friendly quality to any work. Designers can even create designs that directly engage with nature, using actual plants to create designs that are tangible and interactive. Designers can go outside and find inspiration in the natural forms of the Earth. They can even just go outside for a walk to think and get their creative brains working. By choosing to use more natural resources, designers are coming in contact with nature. By spending more time outside, designers can get more inspiration from the land and also increase their general health. Doing these things are scientifically proven to help people in several aspects of their lives.



BIOPHILIC ALTERNATIVE PROCESSES

Alternative processes in graphic design using plants and natural resources bring a sustainable, organic dimension to one’s work. We can call this biophilic alternative processes. There are several ways that designers can incorporate nature into their design process. One way is by using natural inks and dyes. Designers can create these inks and dyes from plants, fruit, vegetables, and spices. Natural inks can create distinct colors that are often unpredictable and variable in texture. This process reduces the use of synthetic inks which makes designing more eco-friendly. Furthermore, designers can use leaves, branches, stones, and grasses to create unique stamps and brushes. These elements can be dipped in ink or paint and used directly on a surface to create organic patterns, textures, and gradients.

Designers can also create custom paper by using fibers from plants like cotton, hemp, flax, or even recycled natural materials. Handmade paper is usually rougher and more textured,

which adds depth and a connection to nature when used to design. Not only is handmade recycled natural paper aesthetic, it also takes 50% less energy to make, uses 75% less water, and causes 70% less air pollution than machine made paper.

In addition to materials, some alternative printing methods, like risograph, use soy-based inks and eco-friendly paper. Designers can incorporate natural color palettes and themes inspired by the natural world, as well as environmentally conscious printing methods, to bring both sustainability and a natural feel to their projects.

Graphic designers can also keep in mind the benefits of biodegradable and plant-based materials when designing packaging. Materials such as mushroom mycelium or bioplastics made from algae or corn are becoming increasingly popular due to their biodegradable nature. These materials are more eco-friendly and can still be visually appealing while con-

tributing to a lower environmental footprint.

Because modern graphic design is so digital, there are also ways to integrate natural materials into digital design. One way to do this is to scan items like leaves, handmade paper, or other natural textures and digitize them to use in designs. This hybrid method keeps the feel of natural elements but it is in a digital format which keeps the organic quality of biophilic alternative processes.

Some other ways that designers can incorporate biophilic principles into their work is simply by using colors found in nature. The color green is known to have a calming and soothing effect on people and that is due to its direct connection to nature. Green symbolizes growth, renewal, and balance—traits and concepts humans are intrinsically drawn to.

Designers can also use physical plants to design graphics and signage like Moeko Design’s tiles. Moss

covered tiles, living walls, or beautifully designed gardens are just a few examples of how designers can use plants in their designs.

Using plants and natural resources allows graphic designers to develop pieces that are more sustainable and unique while exploring the textures, colors, and unpredictability that nature provides. Integrating these elements can make designs more engaging and allow designers to tell a compelling story about their commitment to the environment.

27 Emma Fanning, “Natural Inks and the Artists Who Use Them,” Natural Inks and the Artists Who Use Them - by Emma Fanning, October 2, 2023, <https://green-graphicdesign.substack.com/p/natural-inks-and-the-artists-who>.

28 Jaime, “How to Paint with Plants and Be Inspired by Vincent van Gogh,” LEARN PLAY READ, July 8, 2023, <https://www.learn-playread.com/paint-with-plants/>.

29 “Environmental Benefits of Choosing Handmade Paper - Handmade Paper: Tree Free Paper: Bluecat Paper,” Handmade Paper | Tree Free Paper | Bluecat Paper, August 1, 2020, <https://bluecatpaper.com/environmental-benefits-of-choosing-handmade-paper/#::-:text=It%20can%20be%20used%20for,cuts%20air%20pollution%20by%2070%20%25>.

30 “Environmental Responsibility,” Riso, November 5, 2024, <https://us.riso.com/about/environmental-responsibility/>.

31 “Mushroom Packaging? Why Mycelium Is the Greenest Alternative for Styrofoam,” Source Green, June 8, 2023, <https://www.sourcegreen.co/food-packaging/mycelium-packaging-styrofoam-alternative/>.

32 “Bioplastics in Packaging,” interpack, accessed November 21, 2024, https://www.interpack.com/en/Media_News/SPOTLIGHT_Magazine/FOOD_INDUSTRY_PACKAGING/Food_Industry_News/Bioplastics_in_packaging.

33 Hugh Asher, “Green Therapies: Exploring the Impact of the Colour Green on Emotional and Mental Health,” An Darach Forest Therapy, November 17, 2023, <https://silvotherapy.co.uk/articles/why-green-makes-us-feel-good#::-:text=Green%2C%20with%20its%20connection%20to,and%20a%20sense%20of%20security>.

34 Moekodesign. “Biophilic Graphic Design: The Fusion of Nature with Creativity” moekodesign, December 12, 2023. <https://www.moekodesign.com/post/growable-graphics-biophilic>.

35 Studio Naam, Piet Oudolf, accessed September 30, 2024, <https://oudolf.com/>.

THE POWER OF BIOPHILIC DESIGN

By grounding one's work in natural elements, designers are not only connecting themselves more deeply to the Earth but also creating something that might inspire others to do the same. Designers provide audiences with opportunities to interact with and see natural elements in their daily lives, fostering improved mental and physical wellness. The act of creating with nature is deeply therapeutic, offering a meaningful way to reconnect with the world around us.

Biophilic design exemplifies how blending natural inspiration with alternative, sustainable processes can result in powerful and impactful creations. These approaches not only benefit the designer through creative fulfillment and emotional well-being but also enrich the viewer's experience, creating spaces and objects that feel alive and restorative. Furthermore, biophilic alternative processes prioritize environmental stewardship. This ensures that their work not only reflects nature but also respects and sustains it. Together, these principles support a harmonious relationship between humanity, creativity, and the planet, demonstrating that design can be both beautiful and responsible.





ANNOTATED BIBLIOGRAPHY

BIOPHILIA

Battershill, Claire. *Women and letterpress printing 1920-2020*. Cambridge: Cambridge University Press, 2022.

Relationship between gender and literary letterpress printing from the early 20th century to the beginning of the 21st.

Birgisdottir, Idunn. “Top 10 Land Art and Earthwork Pioneers.” *Artland Magazine*, April 17, 2023. <https://magazine.artland.com/top-10-land-art-and-earthwork-pioneers/>.

Examples of earthwork artists.

“Earth Art Movement Overview.” *The Art Story*. Accessed September 30, 2024. <https://www.theartstory.org/movement/earth-art/>.

The American movement of creating art out of the Earth.

“Earthwork.” *Moma*. Accessed September 30, 2024. <https://www.moma.org/collection/terms/earthwork>.

Article on making art out of the land.

Evans, Poppy. *The Complete Guide to eco-friendly design*. Cincinnati, OH: North Light Books, 1997.

A comprehensive guide of earth-safe materials.

Kench, Sam. “The Land Art Movement and Earthworks Explained.” *StudioBinder*, February 9, 2023. <https://www.studiobinder.com/blog/what-is-land-art-definition/>.

History of earthwork.

Margolin, Victor. *World history of design. 1, prehistoric times to World War I. Vol. 1*. London: Bloomsbury Academic, 2017.

Prehistoric people created art from the materials they had like the Earth. They made tools from rocks, pottery from sediments, sculptures from wood, etc. Their art forms also all came from

nature because that is what they would see everyday.

Moore, Henry, and David Finn. *Sculpture and environment*. London: Thames & Hudson, 1977.

This book depicts lots of sculptures made from stone in natural places like parks and forests. The sculptures are modern but they don't look out of place because they are made from the materials of their environment.

Perry, Michael, and Jennifer N. Thompson. *Hand job a catalog of type*. New York, NY: Princeton Architectural Press, n.d.

A collection of hand drawn typefaces, not done with any machine.

Walters, John. *Alan Kitching a life in letterpress*. London: Laurence King Publishing, 2016.

Alan Kitching's letterpress work.

Wang, Shaoqiang, and David Wolske. *Get impressed: The revival of letterpress and handmade type*. Barcelona, Spain: Hoaki Books, S.L, 2021.

Letterpress is in revival and widely used in books, posters, bespoke stationery like invitations, name cards, letterheads.

“What Is Land Art?” *The Utah Museum of Fine Arts*. Accessed September 30, 2024. <https://umfa.utah.edu/land-art/about>.

Article on land art in Utah.

LIVING WALLS

“Growup Greenwalls and Living Walls.” GrowUp Greenwalls and living walls. Accessed October 4, 2024. Grow up Greenwalls website.

LiveWall. “Designing and Planting a Living Wall.” YouTube, September 23, 2023. <https://www.youtube.com/watch?v=fLOxMLIdDYU>. How to make a living wall with planters.

“LiveWall: Vertical Plant Wall System.” LiveWall Green Wall System, July 18, 2023. <https://livewall.com/>. Livewall website. How to make a living wall tutorial video.

Pal, Katalin. “Stunning Living Plant Walls from around the World.” Meristem Design, February 13, 2023. <https://www.meristemdesign.co.uk/blog/stunning-living-walls-around-the-world>. Live walls from around the world.

“Planted Design.” Planted Design. Accessed October 4, 2024. <https://www.planteddesign.com/>. Planted Design website.

“Plantscapes That Define & Enrich the Spaces We Inhabit.” Habitat Horticulture. Accessed October 4, 2024. https://www.habitathorticulture.com/?utm_source=googleads&utm_campaign=20885616635&utm_content=165622244068&utm_keyword=living+wall&utm_medium=c&gad_source=1&gclid=Cj0KCQjw6oi4Bh-DIARIsAL6pox0qfoJfjAMxbfyFlr5VNzJwG17eOco1hu-M3Q-t9ukg6PYCgmpi9FtUaAvCQEALw_wcB. Examples of living walls. Horticulturalists.

NATURE & MENTAL HEALTH

“3 Ways Getting Outside into Nature Helps Improve Your Health.” UC Davis Health, October 1, 2024. <https://health.ucdavis.edu/blog/cultivating-health/3-ways-getting-outside-into-nature-helps-improve-your-health/2023/05>. How nature improves health.

Asher, Hugh. “Green Therapies: Exploring the Impact of the Colour Green on Emotional and Mental Health.” An Darach Forest Therapy, November 17, 2023. <https://silvotherapy.co.uk/articles/why-green-makes-us-feel-good#:~:text=Green%2C%20with%20its%20connection%20to,and%20a%20sense%20of%20security>. The color green and it’s psychological effects like it’s calming and soothing nature.

“Attention Restoration Theory: A Systematic Review.” European Center for Environment & Human Health, March 25, 2024. [https://www.ecehh.org/research/attention-restoration-theory-a-systematic-review/#:~:text=Attention%20Restoration%20Theory%20\(ART\)%20](https://www.ecehh.org/research/attention-restoration-theory-a-systematic-review/#:~:text=Attention%20Restoration%20Theory%20(ART)%20). Attention restoration theory.

Bratman, Gregory N., Christopher B. Anderson, Marc G. Berman, Bobby Cochran, Sjerp de Vries, Jon Flanders, Carl Folke, et al. “Nature and Mental Health: An Ecosystem Service Perspective.” Science Advances 5, no. 7 (July 5, 2019). <https://doi.org/10.1126/sciadv.aax0903>. <https://www.science.org/doi/10.1126/sciadv.aax0903> Human well-being is linked to nature.

“Bringing Nature into Treatment.” Monitor on Psychology, April 1, 2020. <https://www.apa.org/monitor/2020/04/nature-sidebar>. The benefits of nature therapy.

Lee, Kate E., Kathryn J.H. Williams, Leisa D. Sargent,

Nicholas S.G. Williams, and Katherine A. Johnson. “40-Second Green Roof Views Sustain Attention: The Role of Micro-Breaks in Attention Restoration.” Journal of Environmental Psychology 42 (June 2015): 182–89. <https://doi.org/10.1016/j.jenvp.2015.04.003>. <https://www.sciencedirect.com/science/article/pii/S0272494415000328?via%3Dihub> The 40 second green rooftop experiment.

Mayer, F. Stephan, Cynthia McPherson Frantz, Emma Bruehlman-Senecal, and Kyffin Dolliver. “Why Is Nature Beneficial?” Environment and Behavior 41, no. 5 (September 5, 2008): 607–43. <https://doi.org/10.1177/0013916508319745>. [h t t p s : / / j o u r n a l s . s a g e p u b . c o m / doi/10.1177/0013916508319745](https://journals.sagepub.com/doi/10.1177/0013916508319745) Benefits from seeing nature.

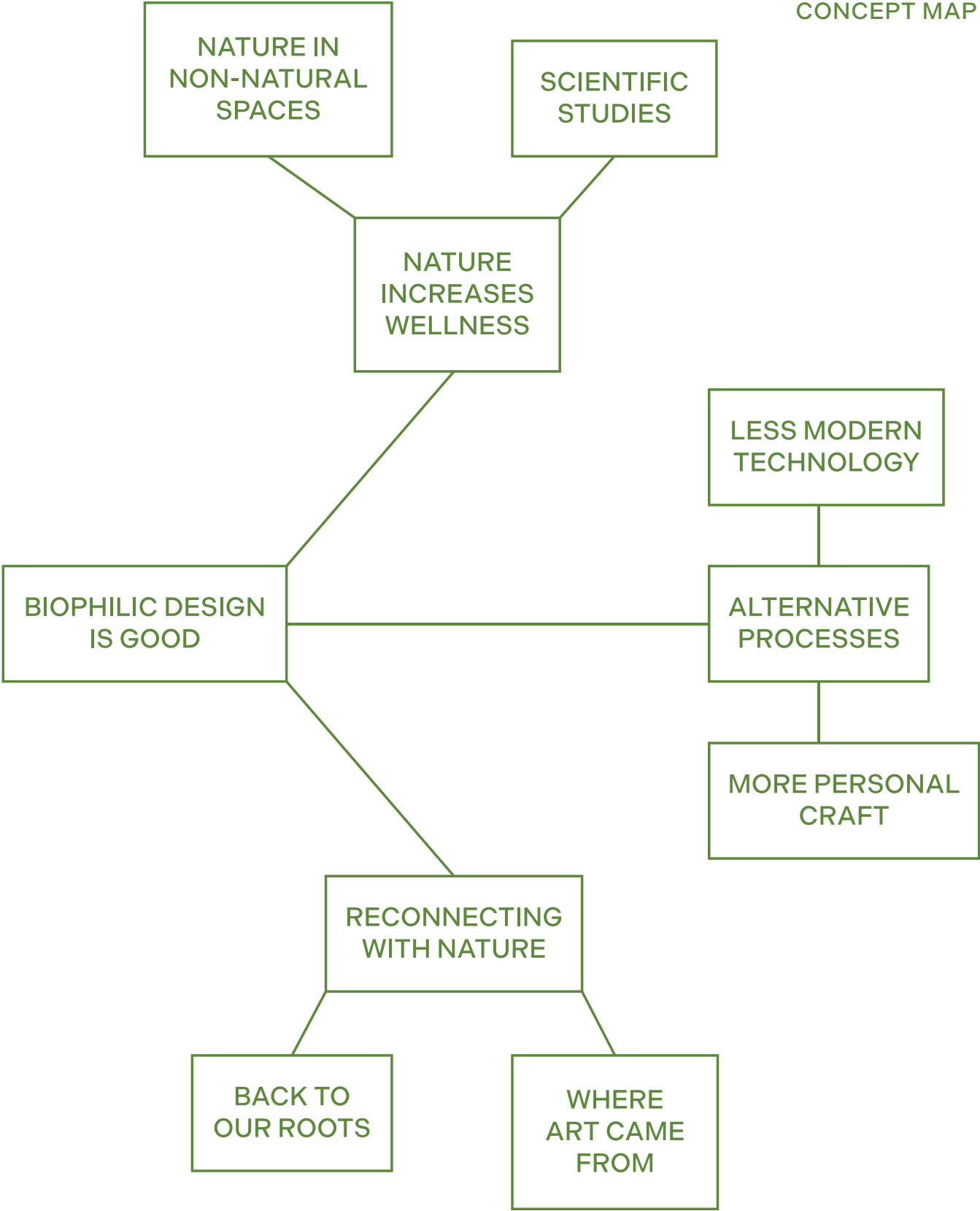
Pritchard, Alison, Miles Richardson, David Sheffield, and Kirsten McEwan. “The Relationship between Nature Connectedness and Eudaimonic Well-Being: A Meta-Analysis.” Journal of Happiness Studies 21, no. 3 (April 30, 2019): 1145–67. <https://doi.org/10.1007/s10902-019-00118-6>. <https://link.springer.com/article/10.1007/s10902-019-00118-6> Nature connectedness and well-being.

Van Hedger, Stephen C., Howard C. Nusbaum, Luke Clohisy, Susanne M. Jaeggi, Martin Buschkuehl, and Marc G. Berman. “Of Cricket Chirps and Car Horns: The Effect of Nature Sounds on Cognitive Performance.” Psychonomic Bulletin & Review 26, no. 2 (October 26, 2018): 522–30. <https://doi.org/10.3758/s13423-018-1539-1>. <https://link.springer.com/article/10.3758/s13423-018-1539-1>

Cricket chirps vs car horns experiment.

Weir, Kristen. “Nurtured by Nature.” Monitor on Psychology, April 1, 2020. <https://www.apa.org/monitor/2020/04/nurtured-nature>. Psychological research is advancing our understanding of how time in nature can improve our mental health and sharpen our cognition.

White, Mathew P., Ian Alcock, James Grellier, Benedict W. Wheeler, Terry Hartig, Sara L. Warber, Angie Bone, Michael H. Depledge, and Lora E. Fleming. “Spending at Least 120 Minutes a Week in Nature Is Associated with Good Health and Wellbeing.” Scientific Reports 9, no. 1 (June 13, 2019). <https://doi.org/10.1038/s41598-019-44097-3>. <https://www.nature.com/articles/s41598-019-44097-3> 120 minutes in nature is beneficial.





Eco-printed tapestry.



Eco-printed tapestry.



Graphics made from plants.



Haden, Francis Seymour. Modern masters of etching London: The Studio, 1926. A collection of hand-etched prints that depict nature. Lots of trees and fields.



“Superbloom at the Tower of London by Grant Associates.” Landezine. Accessed September 30, 2024. Tower of London flower earthwork



Living wall.



Type directly inspired by plants.



Moekodesign. “Biophilic Graphic Design: The Fusion of Nature with Creativity.” moekodesign, December 12, 2023. Moss covered tiles to make signage.



Zerbini, Luiz, and Pierre-Édouard Couton. Botanica: Monotypes. Paris: Fondation Cartier pour l'Art Contemporain, 2021. These are prints made from leaves and other organic materials.



Biophilic design is currently more
of an interior design principle.

How can we translate the essence
of biophilia into graphic design
practices?

IDEA 1 – MADE WITH PLANTS

Create graphics or signage out of physical plants.



IDEA 2 – ECO-PRINTED TAPESTRY

Make an eco-printed tapestry and hang it in an unnatural space.



IDEA 3 – PLANT BASED TYPE

Create type that is directly inspired by things found in nature (plants, water forms, animals, land forms, etc.)



IMPLEMENTATION CHOICE

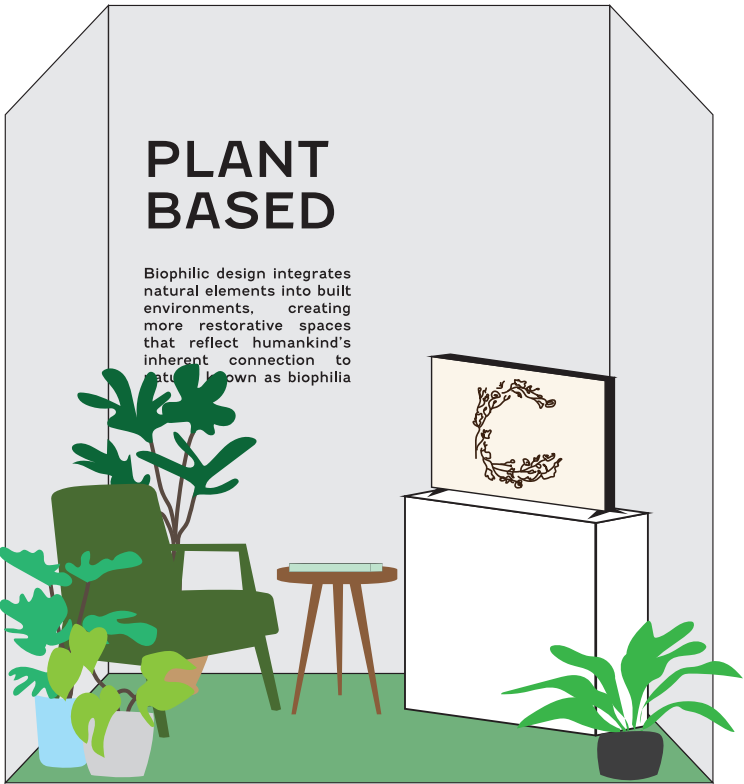
I decided to go with Idea 3 - Plant Based Type for my implementation. I am really interested in custom type so I wanted to push myself and do custom lettering for each letter in the alphabet. Each letter would be based on a real plant whose scientific name started with that letter. For example, the letter “E” in my plant based alphabet is drawn based off of the epimedium grandiflorum.

I knew I wanted the letters to feel very organic and whimsy so I decided to hand-draw each one in Procreate using the Dry Ink pen. This gave the letters the very natural look that I was going for.

To present these letters, I wanted to print a book that showcased each letter next to an image of the plant it is based on. I decided to riso print the book because in my research I discovered that riso ink is better for the environment.

To further show off the letters, I wanted to create an animation for each letter. I think movement and growth is a big part of nature so I wanted to make each letter either grow or be in motion in some way. Frame-by-frame motion made the most sense to do in order to maintain this organic look.

For the actual set-up for the exhibition, I had a few ideas.



SET-UP 1 – TV

Play animations on a TV and have the printed book on a side table.

SET-UP 2 – PROJECTOR

Same concept, just the animation is played projected on the wall.

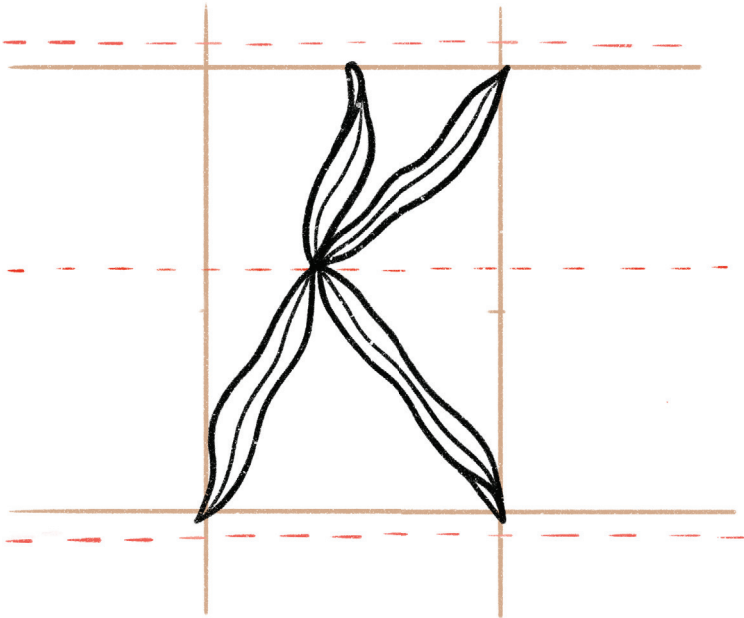
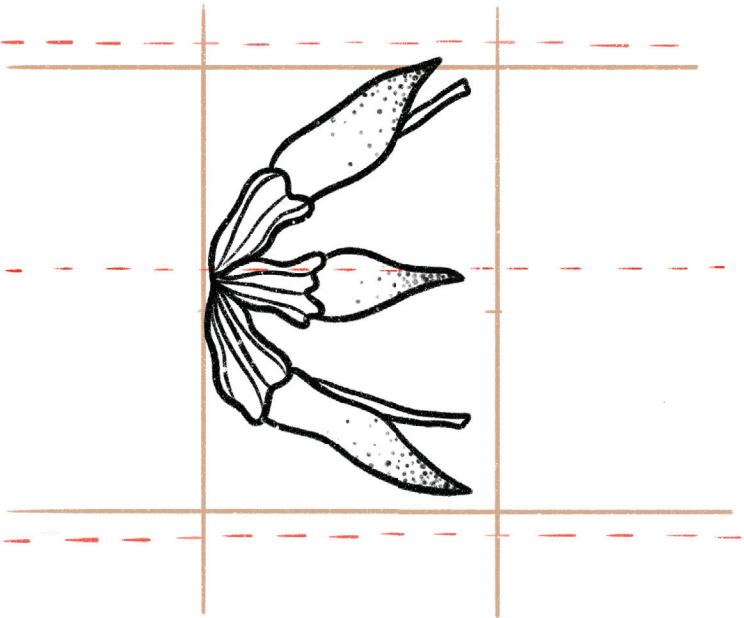
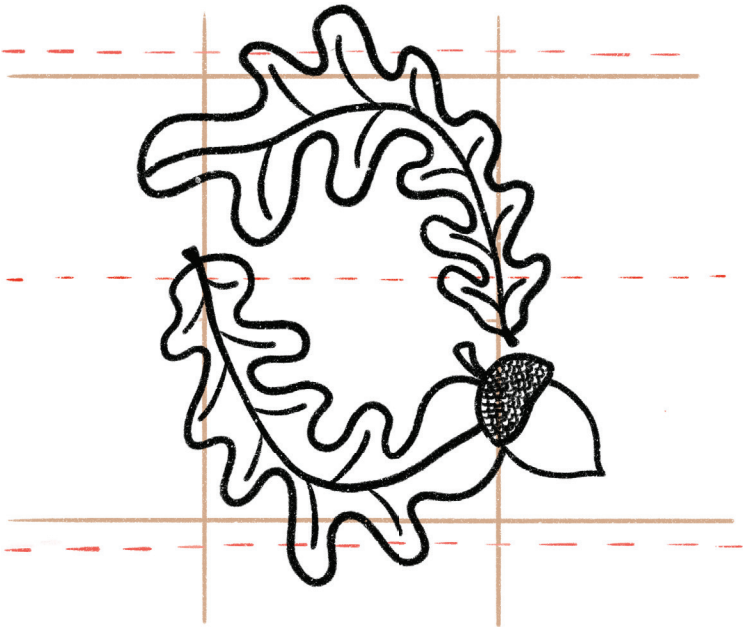
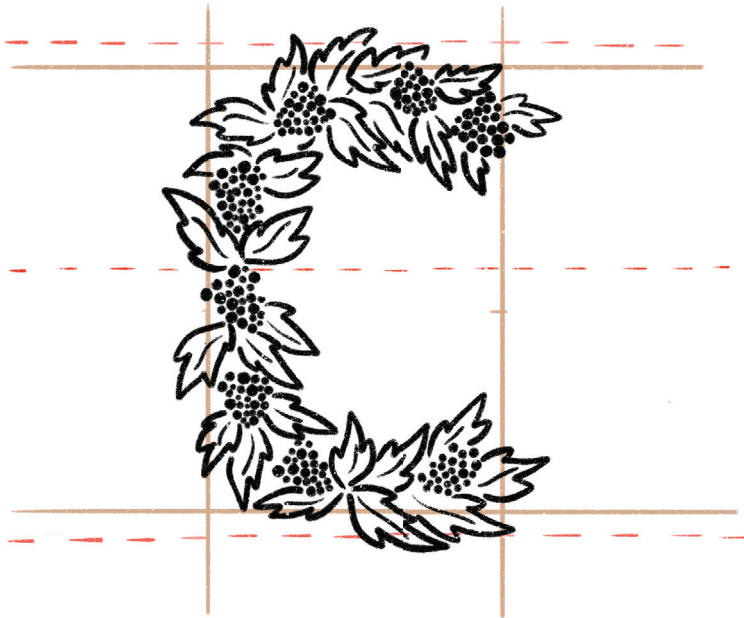
This is the set-up I chose.



SKETCHES

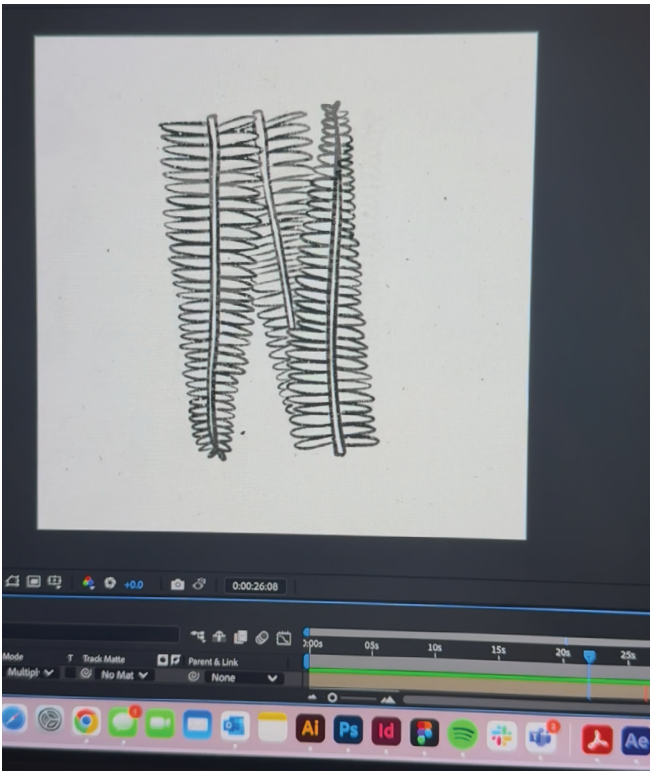
The look I wanted for each letter and the animations was very natural and organic.

The animations ended up being around 10 frames. They were simple animations to show some natural movements of the pant letters.





Gluing moss onto letters.



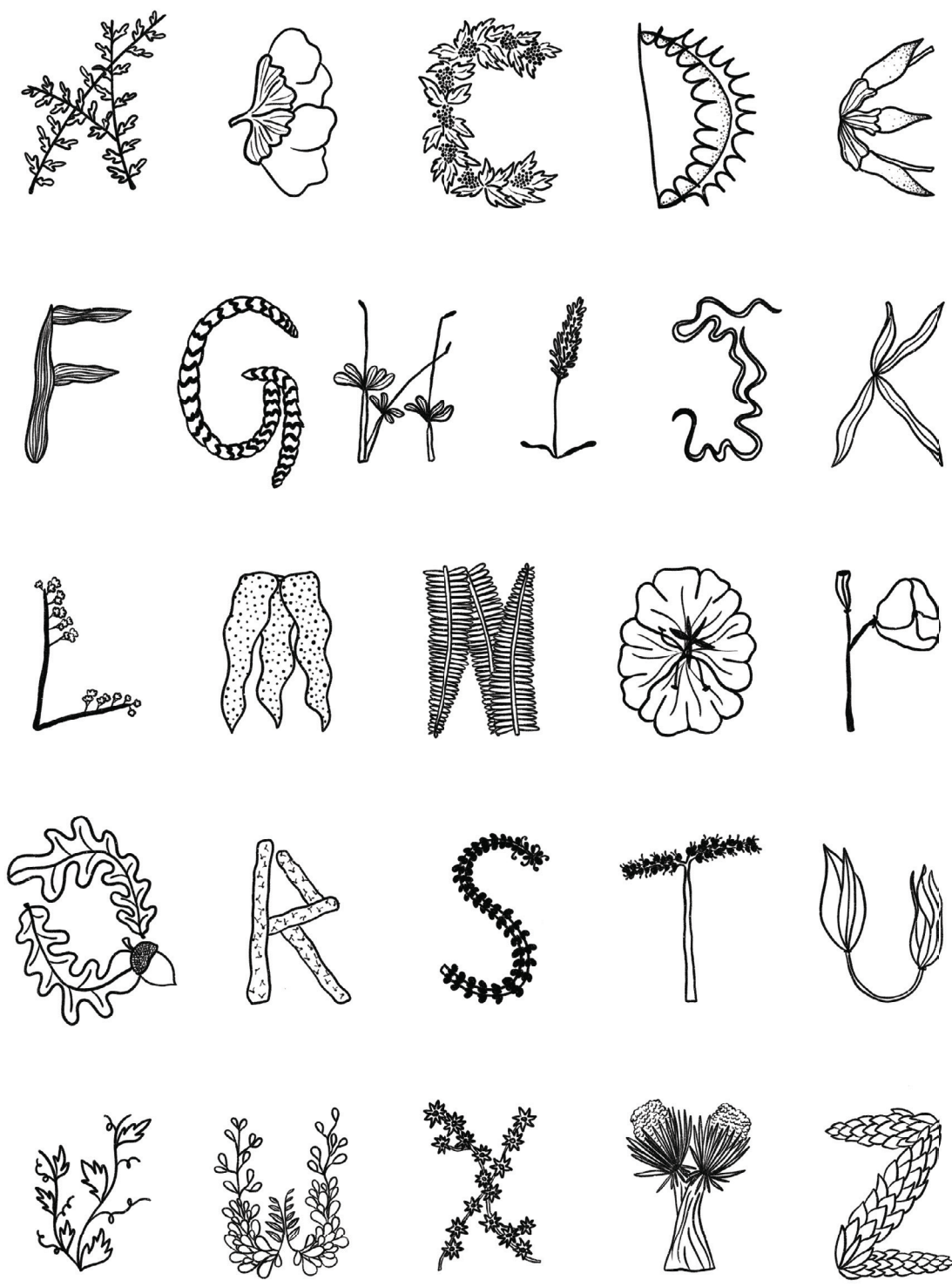
Formating animation in AfterEffects.



Letting riso printed pages dry.



Found a ladybug while setting up!



Final letterforms.



THE IMPLEMENTATION







ACKNOWLEDGMENTS

The Graphic Design BFA program has been one of my greatest joys and greatest stressors over the last 2 years and I am eternally thankful for my time in the program. This capstone is an accumulation of everything I have learned from this program and everything I have learned about myself. There are many people I would like to thank who got me to this point.

I would first like to thank my professors, especially Doug Thomas and Linda Reynolds. Doug has been by my side throughout this whole capstone process and has helped me every step of the way. Doug cares deeply about his students and was never hesitant to help us with whatever we needed. Linda was my capstone mentor but she was so much more than that. Linda believed in me from day 1 and helped me get into the program when I was not accepted the first time around. She guided me when I needed help, offered me her time and possessions, and shaped me into the designer I am today. I hope for her to be a lifelong mentor.

Next I would like to thank my cohort. When I entered the program I did not know anyone. But days into the Fall semester of 2023, I knew that I was forging connections and friendships that would last forever. I love that I was able to see these people everyday over the next 2 years and that they were so willing to offer assistance, feedback, and praise. I love each member of my cohort deeply and I am endlessly grateful for each of them.

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I thank all of these people and more for all of their love and support. I am excited to see what the future has in store for me, but no matter what, I know these people always have my back.

♥ emerson
mitchell

