

Stany 64

SUSTAINABLE
MODERN KIDS
BEDDING



Brittany Seekell
Integrative Project
2019-20

Introduction

I believe that imagination begins outdoors. The blend between exterior environment and interior living is the concept I decided to dive into over the course of this year: to invite nature inside the home and design space with natural products. Nature is the creator and inspiration for the things we use everyday, such as our clothing, bedding and even what we put in and on our bodies. By using natural food dyes as a subject of education, I have chosen to design a space for kids so they can develop a more sustainable mindset and enjoy eating and learning about the plants with which they engage.

Designing for children starting at age 4, I have created and curated a children's decor brand titled *Botany Bub*, a bedroom collection designed around nature and the pigments that are derived from plants. *Botany* means the study of plants, and *Bub* is the nickname I have given to my niece and nephew. Because my collection is for children and focuses on natural dye, I dedicate this brand to my bubbas, Ryder and Piper, as I teach them about the hidden colors found in nature.

Childhood is where your curiosity and imagination are blooming and kids find it very exciting to explore and learn what the world around them has to offer. I believe incorporating nature in an interior space keeps nature's energy present, especially when using natural dyes, as they provide tranquil colors for your space. Children are the future and *Botany Bub* aspires to play a role in encouraging them to take better care of the planet.

By using food waste to produce pigment, my collection will consist of a hand dyed quilt containing interactive components to engage children. In doing so, they will learn about the shocking colorways that come from the fruits and veggies that we consume. There are additional accessories such as a throw blanket, and stuffed creatures accompanied by a story book, to connect the quilt to the plant pigments to foster learning time between parent and child.

Contextual Discussion

In order to design a child's space, I needed to understand how their environment affects their well-being. The design of a child's room is meant to be imaginative and creative - it should make them feel energized and lively, and include colorways that inspire them. In my bedroom collection, I had to think about how I could intrigue children with natural colors, knowing that natural dyes are limited and typically less vibrant. In order to initiate play with the shapes and colors from food, I was challenged with my ability to create something that would keep children entertained and inspired. In Mark Schlichting's book, *Understanding Kids, Play, and Interactive Design*, he mentions how and why toddlers are attracted to primary and rainbow colors. Schlichting states, "A child's interest and response to color may be influenced by level of maturity, culture, personal experience, interests or even physical makeup."¹ In my opinion, it is becoming more popular to decorate children's spaces with minimal color and objects as home design has become more important to parents. By implementing softer hues and removing gendered objects, my collection is welcoming play without needing the vibrancy of rainbow colors. Children are creators and problem solvers, so designing something that intrigues and surprises them, (ex: green avocado makes pink) will help this collection create memorable interactions.

¹ Mark Schlichting, *Understanding Kids, Play, and Interactive Design*. (Boca Raton: CRC Press Inc, 2019), 82.

A constraint I worked within throughout my development is how to appeal to my buyer, who happens to be the parent of my primary client. Thinking about how to engage the adult with food-dyed products is a major obstruction as a designer. In a research article titled, “Developmental Implications of Children's Bedroom in the Interior Environment and Implementations of Adults Preferences” it discusses the psychological behaviors between space and mood and how a child is brought up in a built environment with no input into the design of their spaces.² It is primarily up to the adult to decide what the child surrounds themselves with on a daily basis. A quote from the article claims,

“Children’s bedrooms that are out of the ordinary, colorful and have movement present the first phase of raising a child, possesses freedom of thought. From a developmental perspective, supporting the children’s imaginations and giving them a place they like to live in is essential for the psychology and the development of a healthy individual.”³

With *Botany Bub*, I would provide a range of muted colors by also providing tactility and freedom to engage and imagine with the colors, book and plush creatures. Another noted point was about how children can be imaginative no matter the shape or object. They are able to give it a life and story despite the environment in which they are raised. “The prepared space should ideally be (1) a place that a child can dominate rather than be dominated by; (2) a place that encourages movements of children, allowing the immediate formation of any type that suit educational needs; and (3) a place that provides comfort, beauty and stimulation.”⁴

² Yalcin, Meryem. “Developmental Implications of Children Bedroom in the Interior Environment and Implementations of Adults Preferences.” MEGARON / Yıldız Technical University, Faculty of Architecture E-Journal, no. 3(2015):306-08. doi:10.5505/MEGARON.2015.55798

³ Ibid.

⁴ Ibid.

As long as a child's room follows this criteria, I believe their imagination will bloom and their identity will form. Color plays a prominent role in children's spaces, but not as large as it has been made out to be. In my opinion, tactility and textural attributes will keep kids more entertained over the long term.

In regards to the aesthetic and color choice for my collection, I have given myself the constraint of designing in a gender neutral manner. After understanding more about the connection children have with colorful objects and the concept that pink represents girls and blue represents boys, I have realized that this phenomenon has been conditioned through cultural norms. In this generation, the inclusion of all genders in terms of interior decoration and playful objects is more common; kids are raised to become whomever they choose. Play should not be gendered and nor should color or toys. In an episode of, "Abstract: The Art of Design", designer Cas Holman documents her method of "Design for Play." She emphasized how to make play unstructured and for the child to manipulate objects the way they imagine them to be arranged. She mentioned how leaving room for kids to finish and imagine the persona and face of the object, offers more freedom for exploration and play. ⁵

Using this concept, I will convey the way fruits and veggies make specific colors by abstracting each plant shape and adding minimal facial features. I decided to name each character to help kids remember the plant-color pairings. Cas' design method inspired me to use organic shapes for my stuffed creatures to engage kids with objects that are out of the ordinary. Doing so will provide kids with a springboard for them to engage with the products and create their own imaginative stories, using the fruit and vegetable characters along the way and making them choose the colors they like no matter the associated gender.

⁵ Abstract: The Art of Design. "Cas Holman: Design for Play." . Dadich, Scott, dir. 2019. <https://www.netflix.com/watch/80237096?trackId=13752289&tctx=0%2C3%2C376442f9-d266-4167-9f97-31374619f02e-5019918%2C%2C>



Image: An example of a sneaker from the Nike Plant Color Collection that are dyed naturally using madder root, indigo flower and gall nut.

Thinking further about the concept of gender neutral products, I researched what other uses there are for natural dye in the industry. Nike was a company that surprised and encouraged me to think how naturally dyed textiles could be implemented in the future. Nike footwear designed their Plant Color Collection by sourcing dye material such as madder root, indigo and gall nuts to dye fabric and implemented them into their sneakers.⁶

Nike inspires me because they incorporated natural dye into a highly commercialized product that is sustainable, variable and used by all genders. This is how I envision *Botany Bub* pertaining to toddlers. They selected a few popular sneaker styles and used colors that can be worn by anyone. Nike does a good job of designing for all genders, not limiting the colors to a specific sex such as the blue, red and brown sneaker.

⁶ "Nike Purpose: Plant Color Collection." Nike Purpose, <https://purpose.nike.com/plant-color-collection>. Accessed 18 Mar. 2020.

Learning about the color potential and ways to use natural dye has been a large portion of my journey. I had some experience making simple dyes by using black tea bags and avocado skins, but I hadn't delved into mordants or exploring the surprising dye materials such as pomegranates or cabbage. A mordant acts as an agent in fixing and brightening color to fabric. Natural dye benefits from this because they initially appear so light. Food material interested me, as it can be re-purposed and boiled to make dye. In Maggie Pate's book, *The Natural Colors Cookbook: Custom Hues for Your Fabrics Made Simple Using Food*, she wrote about why it's important to use food as a way to be creative and save the Earth at the same time.

Pate includes many helpful methods about which foods make lasting, colorfast hues, along with how mordanting works depending on fiber choice; animal or cellulose.⁷ I have read countless recipe books and articles about artists and their methods for finding and salvaging dye materials. It was intriguing to see the differences in color by using certain mordants, or seeing which dye plant is accessible to you at a given time. I was able to learn and create my own methods during my dye exploration such as pre-soaking my fibers in soy milk, adding baking soda to the dye bath and using aluminum sulfate, a food safe fixative.

Choosing an outlet to communicate nature's magical colors to children was difficult, but I knew that a quilt could be interactive and playful. I chose to design for the bedroom because it is a personal space - one where you discover and learn from the objects within it. Quilting plays a major role in history as it serves as a keepsake for memories. I have re-purposed old clothing and bedding and even thrifted fabrics for my quilt which contain a historical value.

⁷ Maggie, Pate. *The Natural Colors Cookbook: Custom Hues for Your Fabrics Made Simple Using Food*. Page Street Publishing, 2018).

In the book titled, *The Quilt-Block History of Pioneer Days*, early quilts were made from scraps of cloth and stuffed with raw cotton or even dried leaves for cushion. Scraps were carefully saved and no fiber was to be wasted. Old materials were patched and reused and given new life to each quilt.⁸ This historical process connects with my method of dying as I am collecting food waste materials for my quilt and staying devoted to only using natural and recycled fibers. By implementing pockets, patterns and dimensional structures working off of the surface, I believe kids will engage with this bedspread and learn from it as well, especially with tactile features. The purpose of tactility is to provide the sense of touch with a comfortable sensation and textural affect. I have implemented tactility into my collection with interactive components such as opening the magnetic flaps to reveal the food shapes, playing with the soft, squishy stuffed characters or even flipping the pages of the storybook.

Methodology

My methodology for *Botany Bub* began with a central focus on material exploration far before I developed a name and direction for my naturally dyed textiles. I have been experimenting with natural dyes for just over a year, and I love the discoveries that I have made so much that I decided to use this project to educate others in using natural dye.

I have saved many scraps of cotton and linen from previous projects, up-cycled old bedding and clothing and I have thrifted yards of fabric. I started my dye experiments with materials I found locally and in grocery stores such as avocados, black beans, black tea, coffee beans and onions. By simply saving and drying the skins, leaves and pits of produce, I have handcrafted various dyes in the comfort of my own kitchen using large stainless steel pots and a variable ratio of dye material to fabric.

⁸ Jan Davey Ellis and Mary Cobb, *The Quilt-Block History of Pioneer Days with Projects Kids Can Make*. (Brookfield, Conn.: Millbrook Press, 1995), 7-8.

Being able to formulate the correct color is also a very important component of my design process. Factors such as water - dye material ratio, mordant usage, dye temperature and duration of time the fabric spends in the pot are all things to consider when making natural dyes. Creating a colorfast dye, or dye that is resistant to fading, is tricky with natural materials as they already produce fairly light pigments. Luckily, in terms of washing, a bedspread doesn't get laundered very frequently, so it is less susceptible to fading over time. I explored using additives such as alum and baking soda to assist my dye bath in bonding to the fibers. I was able to create colors that suited a children's space from yellows, pinks and oranges to blues and purples. Although they lack vibrancy, I was excited to see a rainbow-like array of color to use for my collection.

Feedback has been very prominent throughout my process. I have faced a lot of difficulty deciding how to display my work in an effective way, so after several bouts of feedback and critique, I narrowed my ideas to implement naturally dyed textiles into an educational product for children.



Image: Ryder and Piper drawing connections between the shapes and colors of the dye plants.

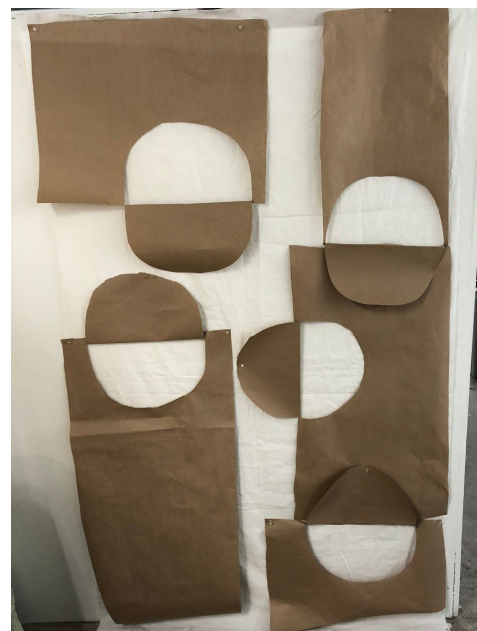
My niece and nephew and biggest critics, Piper and Ryder, were able to work alongside me during quarantine as I brought this project to life. They are my youngest clients (4 years old) and have helped me develop *Botany Bub* into what I dreamed it would become. They encouraged me to create fun characters and helped me simplify my designs so that they would better understand the relationship between the object and the color it produces. Experiencing an abrupt change in workspace actually benefited me as I created this project with them by my side. Piper and Ryder are twins which provided me with feedback from both genders. It was interesting to see that they both engaged with all of the colors regardless of what it was associated with because there is no relationship between food and gender.

Another component of my process was to create models and practice construction. I have never sewn a large-scale product before, let alone a quilt, so committing to this fiber-filled project was a huge undertaking on its own. I have drawn countless sketches and cut out to-scale models before settling on a design. Pictured below is my to-scale paper model and small sewn model to help guide me with constructing and designing a cohesive layout.



Left: A handheld fabric sample of my quilt using the actual color swatches.

Right: My paper prototype of the quilt design made to twin-sized scale.



Creative Work

Botany Bub is a children's decor brand intended to deviate from typical animal bedroom decor and make plants the focus of play. This allowed me to incorporate my passion for interior design and sustainability by using naturally dyed fibers and botanical forms in a playful setting for children. Working with naturally dyed textiles provides an interesting perspective on interior design because the colors can vary greatly and be hard to perfectly reproduce, making them unique to your individual space.

The primary focus of my children's decor collection is to educate children on different foods they can eat and relate that to the color it can produce as a way to spark their imagination and engage them with fruits and veggies in a fun and interesting way. My collection consists of a patchwork quilt with each dye color pertaining to a specific dye plant. It is made out of cotton and linen fabrics and sewn by machine and topstitched by hand. The top features interactivity with magnetic flaps that open to reveal the plant used to dye that specific color block. I also was able to screen print a sheet set with the graphics from the book implemented on it.

What I intended for my exhibition was for my collection to be staged in a commercialized environment as if I were selling it to the public. I would also have the printed storybook included with the bedding so the viewers can read and connect the plants with the quilt and its accessories. Instead, I was able to mock up a bedroom in my sister's home, where we staged the collection in space and documented Ryder and Piper interacting with it which benefited how I am able to display my project and its purpose online to the public eye.



Top: A photo of the transition from closed to open flaps.

Bottom: A close up view of the screen printed sheets and top stitching detail.

Aside from the physical quilt and fiber pieces, I have designed a story titled, *From Farm to Friends* that accompanies the bedding to help provide context and give personas to each dye plant. The book features my niece and nephew, Piper and Ryder, as they take you on a journey of making farm fresh friends. The graphics were inspired by the spelling of the fruit or vegetable and each name is correlated with the beginning sound of the object such as Ava the Avocado. This helps the children become more interested and remember the sounds and shapes associated with each character, on top of learning what color they can produce.

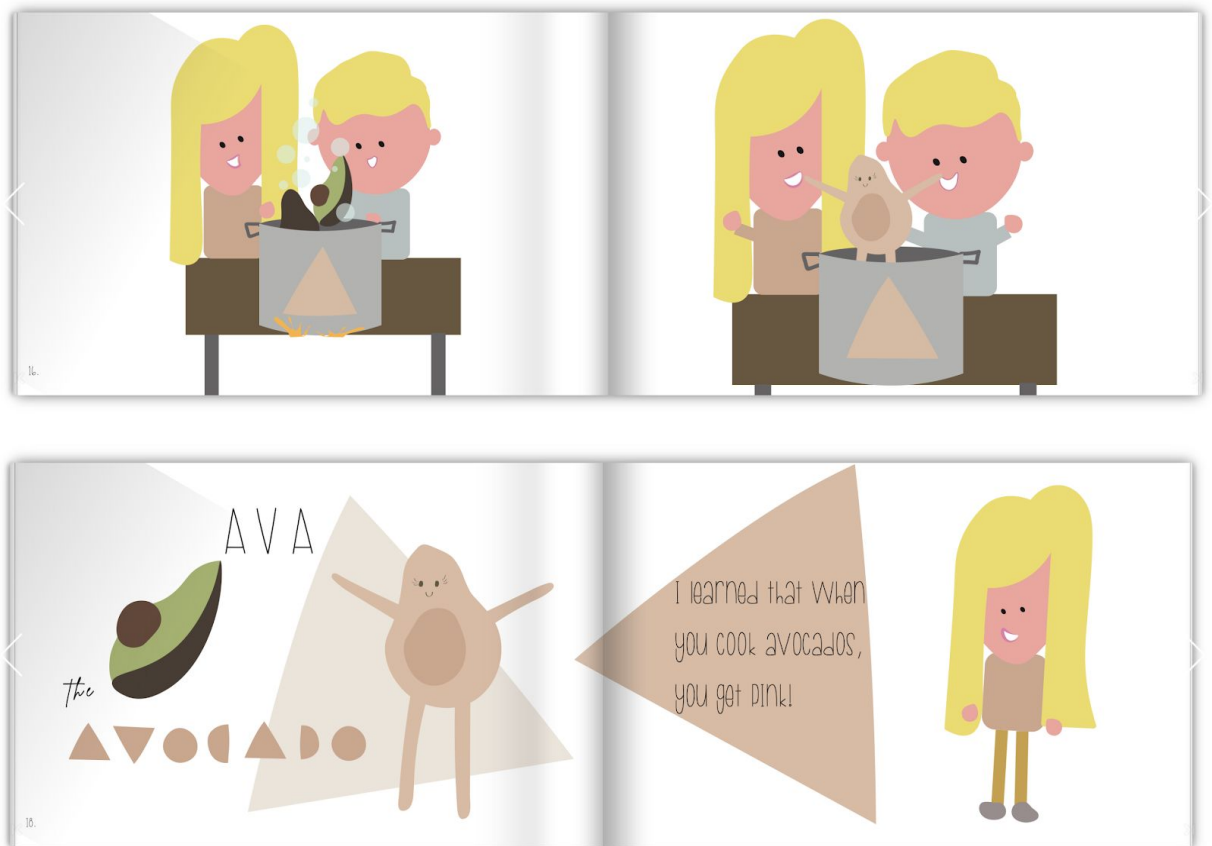


Image: Pages from, *From Farm to Friends* illustrating the process of taking the dye material and making a colorful creature! This example is the creation of Ava the Avocado.

ari the Cabbage

va the AVOCADO

tis the ONION

illie the BLACK BEAN

OPPY The POMEGRANATE

AVOCADO



CABBAGE



ONION



POMEGRANATE



BLACK BEAN



Image: Examples of the graphics and fonts used to create the aesthetic for the book.

Conclusion

Being an aunt has taught me so much about interaction, communication and learning between kids. Living alongside my customer demographic has encouraged me to use my interest in textile design and natural dyes to create something I am passionate about and that could inspire kids to live more sustainably in the future. I chose to use plants that are widely accessible and recognizable at most grocery stores such as avocado, onion and pomegranate. As a lover of interior design, I know how the space in which you live is filled with textiles from floor to ceiling. So, what better challenge than to design a space using naturally dyed textiles? By blending nature with interior design, I have created an inviting, comfortable and interactive collection for kids to learn from and form a connection between the fruits and veggies that they eat and the colors they can make.

I have used this past year to educate myself on sustainable textiles and decided to blend my love for interior design, natural dyes and being an aunt into a collection for kids to learn, imagine and play. In my opinion, *Botany Bub* does just that. I have watched my niece and nephew interact with it firsthand and they have learned and created stories using their stuffed friends, Billie, Ava, Poppy, Otis and Carl.

Being quarantined at home for the remainder of the semester took a toll on my creative process but actually motivated me to design more than I could have thought was doable for this project. I not only made my first quilt, but I made a full array of objects to help solidify my concept of sharing the magic of natural dyes.

I am excited to see where *Botany Bub* will live in the future, and want to keep discovering new colorways with botanicals and design characters to spark more imagination with food friends. Every day Piper and Ryder can't wait to read *From Farm to Friends* with me, play with their stuffed friends and put them away in their specified pockets. The fact that they are able to interact with my quilt, stuffed creatures and storybook and tell me what they learned is a mission accomplished. At the end of the day, it is not the vibrancy or patterns that interest them, but rather the way the quilt educates and entertains them. Seeing my niece and nephew play with and learn from my collection is what makes this journey worthwhile.



Bibliography

Abstract: The Art of Design. “Cas Holman: Design for Play.” Episode number (if available). Directed Scott Dadich. Written Scott Dadich. Netflix, September 25, 2019.

Ellis, Jan Davey,. “The Quilt-Block History of Pioneer Days with Projects Kids Can Make.” Book. Brookfield, Conn. : Millbrook Press, 1995.

“Nike Purpose: Plant Color Collection.” Nike Purpose, <https://purpose.nike.com/plant-color-collection>. Accessed 18 Mar. 2020.

Pate, Maggie. *The Natural Colors Cookbook: Custom Hues for Your Fabrics Made Simple Using Food*. Page Street Publishing, 2018.

Schlichting, Mark. *Understanding Kids, Play, and Interactive Design*. Boca Raton: CRC Press Inc, 2019.

Yalcin, Meryem. “Developmental Implications of Children Bedroom in the Interior Environment and Implementations of Adults Preferences.” MEGARON / Yıldız Technical University, Faculty of Architecture E-Journal, 2015. doi:10.5505/MEGARON.2015.55798.