geo metric schema

Bachelor of Fine Arts Thesis

Megan Gray

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thesis statement

“There are only patterns, patterns on top of patterns, patterns that affect other patterns. Patterns hidden by patterns. Patterns within patterns.”
-Chuck Palahniuk

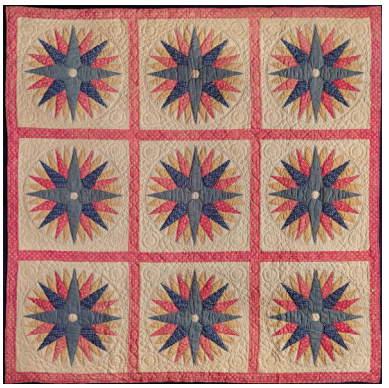
Patterning is a form of visual organization that has always felt very natural to me. Patterns take many different forms and come from both man made and natural sources, but all are based on the same principles of repetition. My work focuses on accentuating the variations in geometric patterning. By breaking geometric patterning into layers I am able to emphasize different aspects of a pattern and change which parts are seen as most important. By rearranging colors and layers, the interaction between changing shapes alter the final image.

Geo metric schema focuses on exploring two specific aspects of patterning: the breakdown of pattern into layers and the ability to see a single pattern in many different ways. Each panel is made of only a single block repeated in a large grid, but result in variations in pattern. If each panel were reduced to a black and white outline their patterns would be nearly identical. The variations in pattern are created entirely based on the placement and choice of colors.

background research

Quilting

A quilt is a padded type of blanket made from three pieces of cloth – top, batting or filling, and backing. The most obvious pattern work in quilting happens in this first layer the quilt top. There are three basic types of quilts which are categorized based on their tops – whole cloth, pieced, and applique. Pieced designs, made from small pieces of fabric sewn together to build a larger overall image, are most commonly abstract geometric patterns. These patterns are often repetitive and symmetrical. Many of these block style patterns represent everyday objects or historical events.



Amish Quilting Traditions

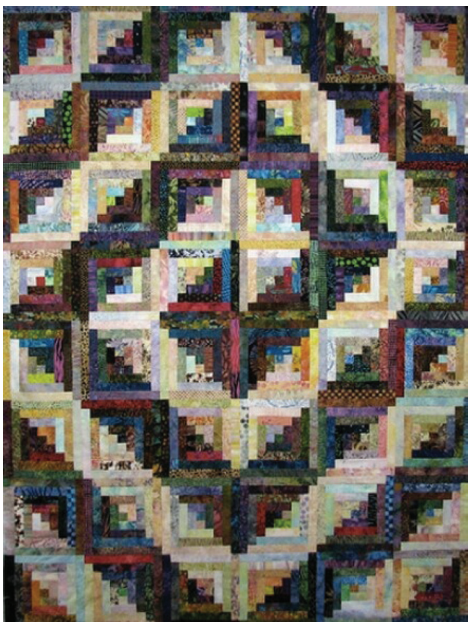
One of the biggest distinctions of Amish quilting from other types is the use of color. The Amish use saturated solid colored fabrics, never fabrics with preexisting patterns. Quilts from the Lancaster Amish focused on large color fields and very basic geometric designs. Mid-western Amish quilts though were often much busier patchwork designs composed of smaller pieces.

Quilting in America

"Quilts are central to the story of America."[1] Historically quilts were made exclusively by women and acted as their primary outlet of artistic expression throughout the 19th and 20th centuries when few other opportunities for such expression were available. American quilt makers especially embrace the block-style quilt.

Log Cabin Quilts

The Log Cabin quilt is a uniquely American pattern, created in the mid 19th century. "By the time of the civil war, the log cabin was already a well established symbol of basic American values, including self-reliance, personal integrity, home, and family."[2] Each block is composed of a series of rectangular strips surrounding a central square which is sometimes referred to as the heart stone or chimney. This square is often made of red fabric to symbolize the glowing hearth in the center of a log cabin home. Log cabin blocks are usually foundation pieced, meaning the fabric pieces are sewn onto a muslin square the size of the finished block. Each piece is sewn into place inside out and pressed open before the next strip is applied. The log cabin design covers a variety of patterns made by changing the placement of light and dark within the block, and the overall arrangement of these blocks.



1. Robert Shaw, *American Quilts: the Democractic Art* (New York: Sterling, 2009), 1.
2. Robert Shaw, 158.

thesis narrative

When I was quite young I remember sitting really close to the television – as close as I could get – and insisting that I liked to watch it better that way. Watching all the red, blue, and green pixels move around and come together to form a recognizable image fascinated me. I vividly remember realizing that all of the images on the screen were made up of those tiny little parts and how interested I was in that process. This breakdown into pieces and layers is inherent to the way so many of the things around us are structured. "Much of art is based on a tendency to fill in, to complete, to organize, and so is much of ordinary vision." [1] This connection between the science of the way our vision works and how we process the images we see became very important to my work. From the pixels on our screens to the molecules that make up this paper, we're constantly surrounded by small pieces working together to make a bigger picture.

The interest in small parts making large images was what spiked my interest in quilts originally. There are many types of pictorial quilts ranging from storybook quilts to tree of life quilts, but I have always been more drawn to the ones that make geometric patterns. Regardless of the image created though, most quilts are constructed using small pieces of fabric sewn together in specific ways to create an image. In the case of patterned quilts, most are constructed in a fairly rigid way. The small pieces are put together to create blocks, which then become the repeated pieces to make the entire image.

To demonstrate this idea of small parts making an image I decided to limit myself to a single family of quilting pattern as inspiration. The Log Cabin is a specific type of quilt block made of many strips of fabric pieced together from the center of the blocks outward. These blocks are then oriented in very specific ways to create a greater overall pattern. This particular family of quilt pattern offers a huge amount of variety in the patterns created, all of which come from a single shared starting point. The visual patterns created are developed based on the colors used in the blocks. Changing the color, or even just the placement or orientation of the blocks can create an entirely different pattern. Limiting myself to only Log Cabin style patterns gave me a strong starting point to demonstrate the variation available in patterning utilizing a single jumping off point.

The ceramic process offers something very different than the soft qualities of textile in which these patterns are traditionally created. While a quilt is flexible and pliant, ceramic is rigid and unyielding. Rather than building quilt blocks from strips of fabric, I constructed slip cast tiles working from the center outward with a series of colored casting slips. These

1. Maya Pines, *Light and Vision (Life Science Library)* (Time Inc., 1966), 15.

tiles would become the building blocks for creating larger patterns. I did explore these patterns in other media as well, and found successful aspects of both digitally printed images and hand cut paper books. The porcelain tiles though, offered the characteristics that best displayed the qualities of the patterns that I was most interested in.

"Colors have dimensions and directionality of their own, and delineate areas in their own way."[1] In addition to setting a limitation on the type of pattern I would work with I needed to set some type of limitation on the color pallet as well. Huge leaps in the variation of color, with only a few total variations in pattern would make the images harder to understand in relation to each other. Although I wanted to create a limitation, I also needed quite a variety in color to be able to create the blocks themselves. To achieve this variation I decided to base my color work around blues, and include some green tones as well. This choice was predominantly based on the large number of blues available to me since blue is a much more common ceramic color than say something like purple.

Although the choice to work with blues was largely due to the vast number of blues available, the color choices I made were not arbitrary. Since the tiles were going to be used as building blocks to create a larger pattern it was important that the colors blend together. The ideas of optical color blending were utilized by pointillist painters who used small dots of pure color that from a distance are visually blended together to create fields of color. Although they were physically separate stripes, the colors were chosen and arranged in a way that causes them to optically blend when viewed from a distance creating larger areas of color. In order for the colors chosen to blend in a way that aided the patterns I was creating the colors needed to relate to each other in specific ways. The colors in each half of the tile are harmonious, to help blend together. According to Johannes Itten the idea of color harmony in common speech refers to colors that meet without sharp contrast.[2]

I created two different combinations of colors to create patterns. One set is harmonious, similarly to how each half is harmonious. Although one side is composed of blues and the other side greens, the two sides have similar hue and saturation. The other set of tiles have a color scheme that relate through contrasting colors, more specifically light-dark contrasting colors. The difference in these two color combinations makes the patterns created with them have a very different weight and presence.

1. Johannes Itten, *The Elements of Color* (New York: Van Nostrand Reinhold Co., 1970), 18.
2. Johannes Itten, 19.

Each set of tiles had a specific color relationship, and certain patterns could be created with each one. In addition to this though, I also worked with the possibilities of creating pattern by using combinations of both sets of tiles. The light blue sections of both sets, although not identical in color, are similar enough that they visually blend together in the same manner as each half of a single tile.

Each of the patterns I used was initially planned out and made as a digitally rendered image. Since the tiles took so long to make, and it was important to know how many of each set I would need, this began as a practical decision. The more I worked with the digital renderings however, the more I realized what an important part of my process it was and how closely it actually connected back to the ideas of small parts making a whole. The units I used to design each pattern were present in both the clay and digital versions, but the smaller elements creating each of them were different. While the digital versions were constructed from pixels, the porcelain tiles were built from many clay particles. These differences offered slight variations in both the consistency of color and the manner in which they act together. The digital renderings were made up of only the red, blue, and green pixels giving them very consistent colors. The porcelain pieces on the other hand were composed of varying combinations of fifteen different mason stains in addition to the materials already in the clay body. This gave the clay patterns more variation in color but still allowed the colors to successfully optically blend to create the overall patterns.

Since my goal was to create a variety of pattern from the same starting point, how quickly I could manipulate the digital renderings became a very important part of my planning process. Although the digital renderings acted mainly as a research and planning tool, they led to a deeper understanding of the way the base elements of different materials changed the overall effect of the patterns.

Once I realized how important the connection to the digital process was I knew that a form of digital patterning would be the perfect way to help me get a larger amount of variation in pattern in the relatively short amount of time I had to work. After scanning a handful of each set of tiles, I rearranged them digitally to create patterns that I knew I would not be making in clay. These pieces were then printed at the same scale as the finished tile compositions. Being at the exact same scale the differences between the prints and the clay pieces start to fade away. Although there are visible differences between the two, a closer inspection is necessary to discover the medium of each.

The distinction between the clay and prints focused on an idea that I was also working with in the distinction between the clay and paper books I was making. The material that each pattern was made of changed the way the pattern is perceived. Just as these patterns built from clay have different qualities than if they were traditionally sewn in fabric, the digital versions and paper versions held different qualities as well. Each material holds specific connotations and brings its own weight to the patterns being portrayed. The porcelain patterns appear soft and delicate and the clay also holds a sense of fragility and preciousness. The digital prints are hard and appear much more rigid while holding connotations of mass production. The paper versions have tactile qualities from the book format, but also feel much less permanent and durable.

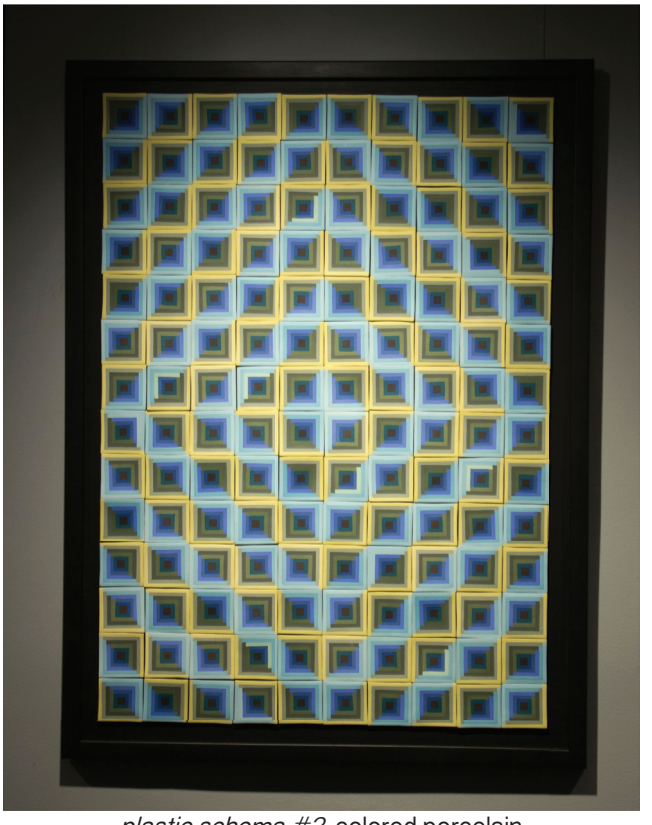
The paper versions of my tiles create a pattern the same way that the clay and digital prints do, but they held a host of ideas that the other work portions of my work did not. One of the things I have always been most interested in about patterns is the way they can be broken into layers. The flat clay tiles are constructed in layers, but that part of the process is not visible to the viewer. The flat surface of the finished tile shows no signs of the layers used to construct it. The paper books, and the three dimensional clay tiles bring the layers into the viewer's frame of reference in a way that the finished porcelain wall tiles could not.

The physical manifestation of the layers used to construct a pattern interests me most because of the dimensionality that is added to the composition. When I look at a pattern I naturally break it down into layers similar to those portrayed in the books, but I know that most people do not. By physically separating the layers other people are able to see the fashion in which I visualize pattern. By making paper versions of these layered stacks into books, another layer of experience is possible, providing a didactic experience for the viewer as well. The inner sections of each block carry a different weight when isolated and surrounded by a larger field of color. By simply turning a page and isolating parts of the pattern we are able to change the understanding of each building block used to construct the image.

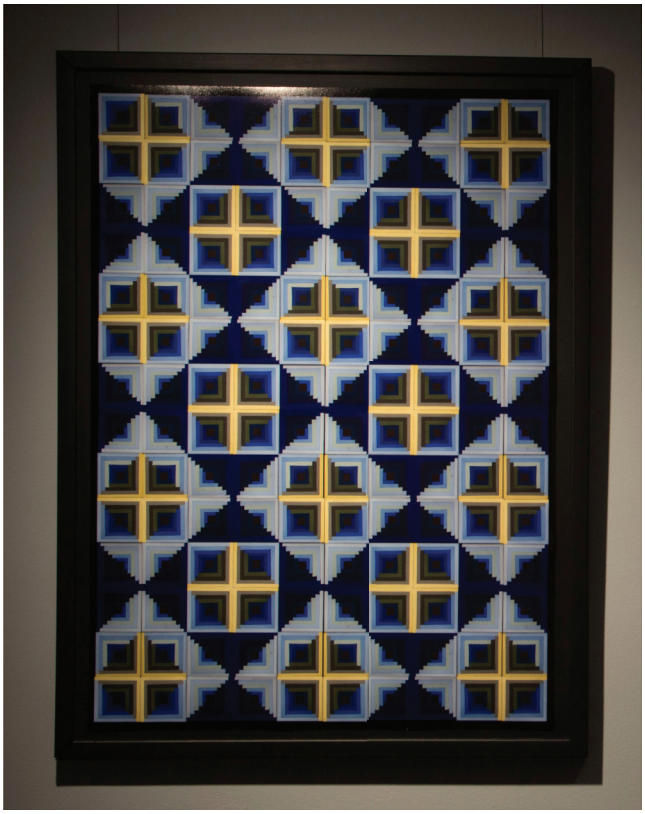
images

geo metric schema (installation view)

plastic schema #1, colored porcelain



plastic schema #2, colored porcelain

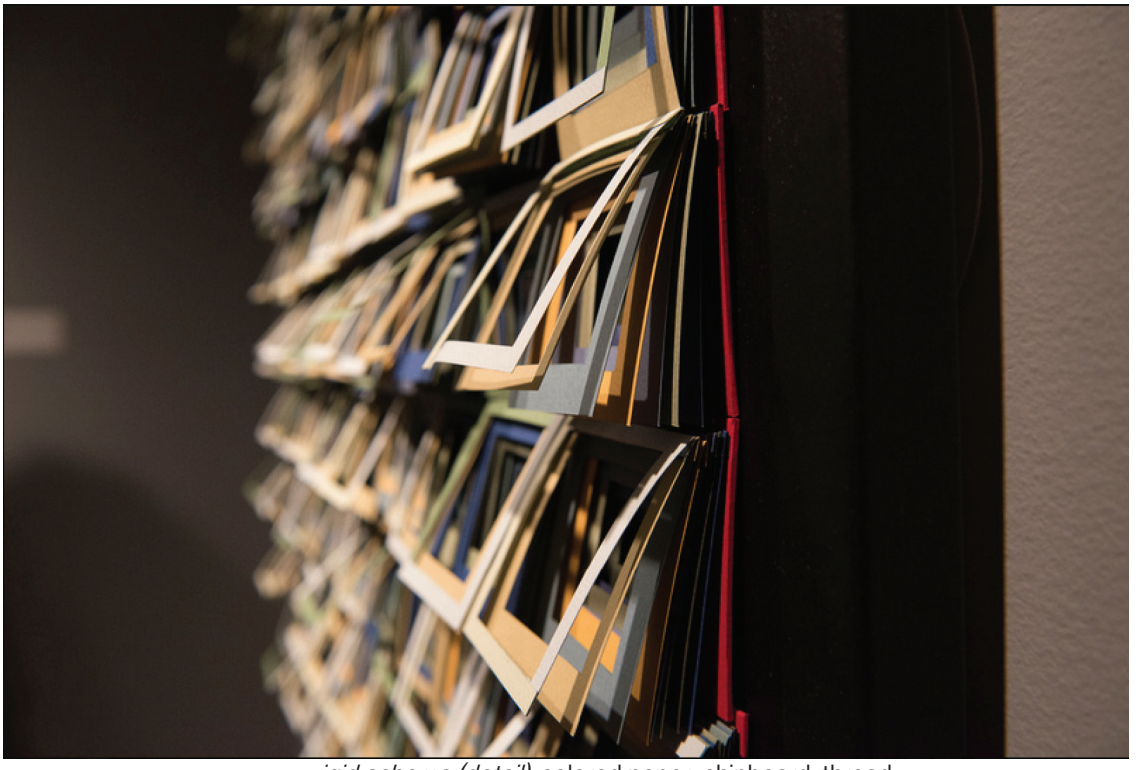


digital schema #1, archival inkjet print

digital schema #2, archival inkjet print

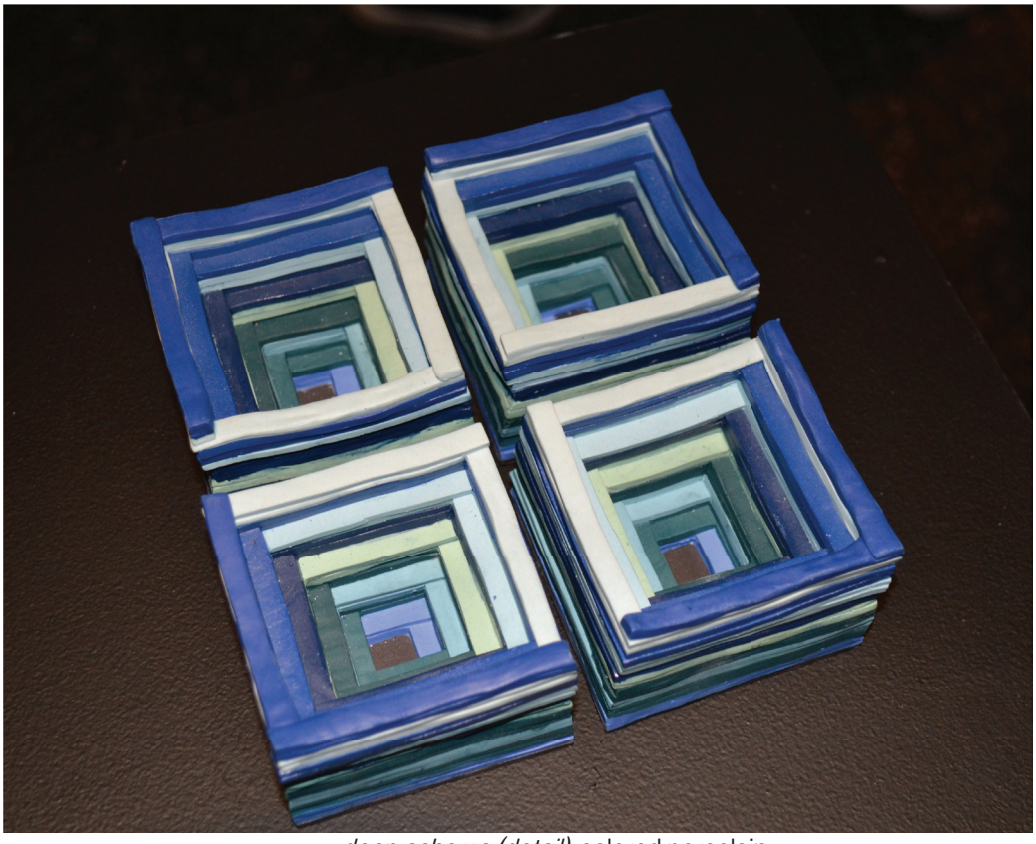
rigid schema, colored paper, chipboard, thread

rigid schema (detail), colored paper, chipboard, thread



rigid schema (detail), colored paper, chipboard, thread

deep schema, colored porcelain

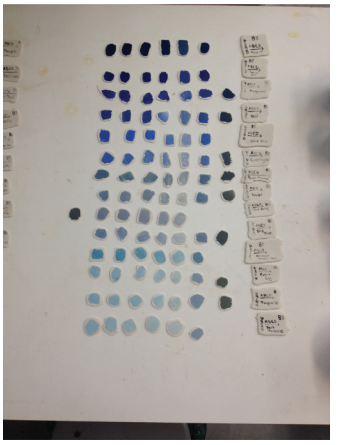


deep schema (detail), colored porcelain

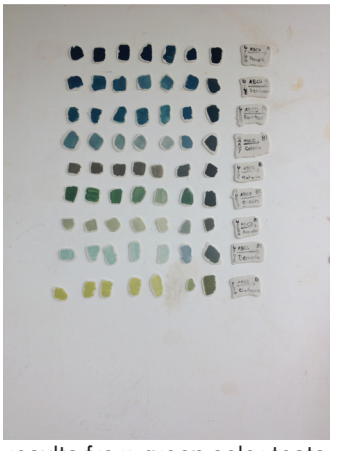
studio processes

color research

My color research began in the first semester of senior studio, looking to find a color I was happy with for each value in the six hue color wheel. To test each color I mixed a 50 gram batch of casting slip with an 8% addition of mason stain. These tiny batches of slip were the perfect amount to make a test tile of each color without using large amounts of stain. This resulted in a larger concentration of colors in the blue and green families and only a few options in other areas of the color wheel. To create the type of log cabin patterning I was looking for I needed numerous shades that related to each other. Based on the results of this first round of tests I chose to work with blues and greens. The second round of tests expanded on the blue and green tests from the first round including more colors, and different percentages of stain. Each color was also test mixed with two different shades of gray to achieve more dark tones. From these tests I mixed and matched to get different groups of colors that worked well together. All together I wound up with sixteen different colored slips.



results from blue color tests



results from green color tests

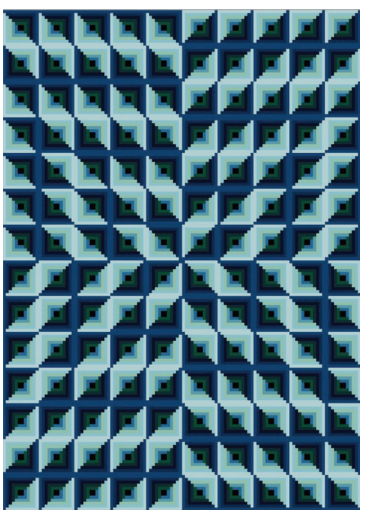
results of initial color tests

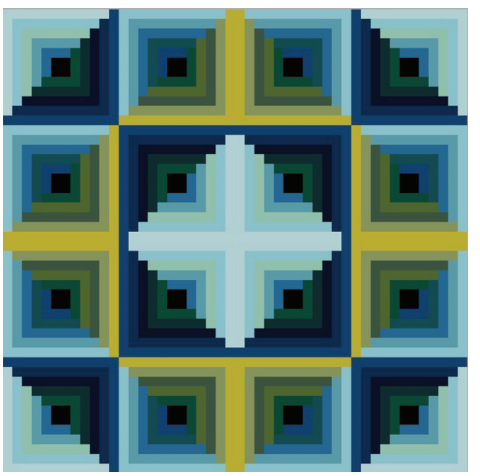
making final color choices

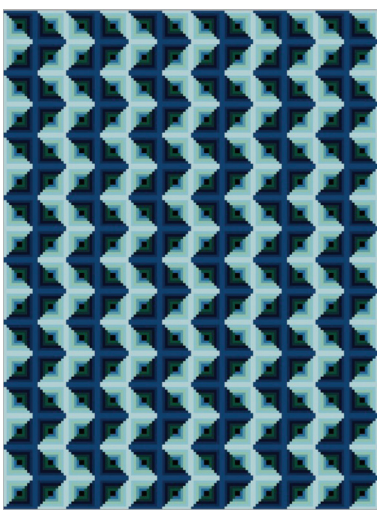
digital processes

printing a digitally created pattern

After choosing the colors for the tiles, the next step was to decide what patterns would be used. This was an important step because it would determine how many of each type of tile or book I needed to make. I used Rhinoceros to digitally render different versions of the patterns I was interested in. This helped me to make decisions about the patterns I would use, but also brought me to the realization of how vast the possibilities of patterning with this one unit were. This lead to the creation of the digital prints I used in my show, although they were created using a different digital process. Instead of rendering the images in Rhinoceros, I rearranged scanned images of fully fired tiles in Photoshop to create the patterns I planned out in my renderings.







digital renderings of pattern possibilities.

making flat tiles

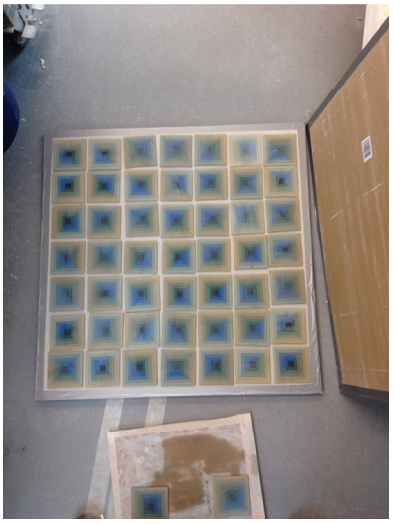
I first poured small pools of black slip, the center color, approximately where I wanted the center of each tile to lay while I worked on it. Once the pools dried to a soft leather hard state, not shinny or sticky but still fairly soft, I would cut the pieces down to size. Each layer has a chipboard stencil I cut to the exact size the tile needs to be at that stage. I place the template and carefully trace each edge with a sharp X-Acto blade. After all the pieces on one slab were trimmed and the excess clay removed I would pour the next color so it could begin to dry while I trimmed the others. This resulted in the first slab being nearly ready to trim by the time I finished with the previous layer on the last slab.

pouring a layer of slip

Beginning with the second layer of color it was important to make sure that the stencil was lined up with the previous edges to create even stripes of color. This process continued through all eleven layers of color in the tiles.

trimming excess slip

Once all the layers were poured and trimmed a final layer of white slip was poured over the entire tile. This added material to make the tiles easier to handle, and help to connect the layers. Again I waited for the soft leather hard state to work with the tiles, but this time I didn't trim them directly on the plaster slabs. Each tile was carefully peeled of the plaster and flipped over to reveal the front colored surface for the first time. The tiles were trimmed one last time using a stencil to trace the colored edges of the pattern. Each tile was then sponged down, and scraped to create a smooth surface and help connect the layers of color before bisque firing to cone 06. After the bisque firing, the tiles were wet sanded and fired a final time to cone 6.



tiles were dried between two boards to keep them flat

loading a kiln for bisque firing

printing book pages

making books

After breaking the log cabin block pattern into stackable layers and choosing colors of paper that were similar to the colors of slip I was using in the clay tiles, I began preparing the pages of the books. I screen printed the pattern in sets of four pages that would be cut apart. After being cut to size, each page had a specific section cut out of the center so that when stacked in order the log cabin pattern is created. After all the pages were cut I scored and folded them to create a tab that I would sew through, and carefully punched holes in the center of the creases. When all the pages and the backs, which were paper covered chipboard, were prepared I sewed the books together using a Coptic style binding. After the books were completed the tabs were glued shut.

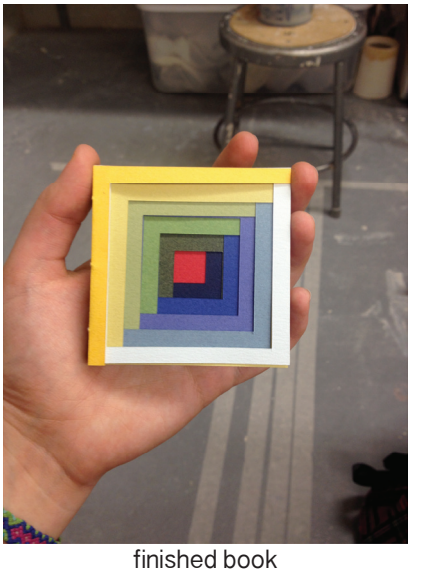
finished print

making dimensional tiles

The dimensional tiles were created using a combination of processes from both the books and the flat tiles. The same breakdown of layers from the book making process was used, but instead of paper pages each layer was a thin slab of porcelain. The slabs were poured out on plaster and when they reached the soft leather hard state were removed and trimmed following a custom made chipboard stencil. The layers were then scored and wet before being stacked together so that they would become one solid unit.

book pages drying

piles of pages ready to be sewn



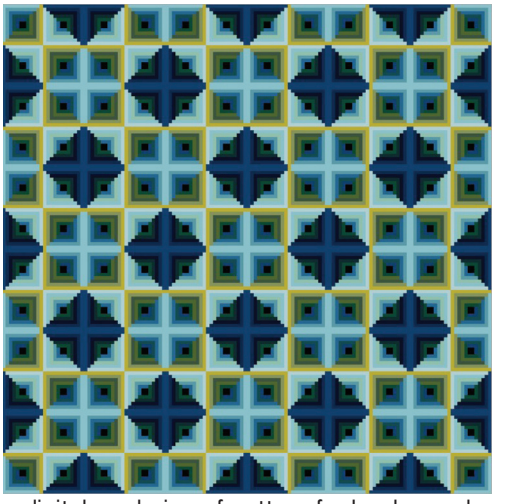
finished book

installation and display

To display each pattern, I built panels for each set of tiles, books, or print to be installed on. Each panel was made a specific size reflective of the size of the pattern to be placed on it. Once the panels were built and painted, I used Velcro to install the books and tiles on each panel. This allowed me to easily switch tiles around to find a format that each tile fit snuggly next to its neighbor. All of the patterns were predetermined based on the digital renderings I had done, so the process went fairly quick because all I had to do was follow each row of the digital printout.

tiles ready to install

installing books



digital rendering of pattern for book panel

technical information

casting slip

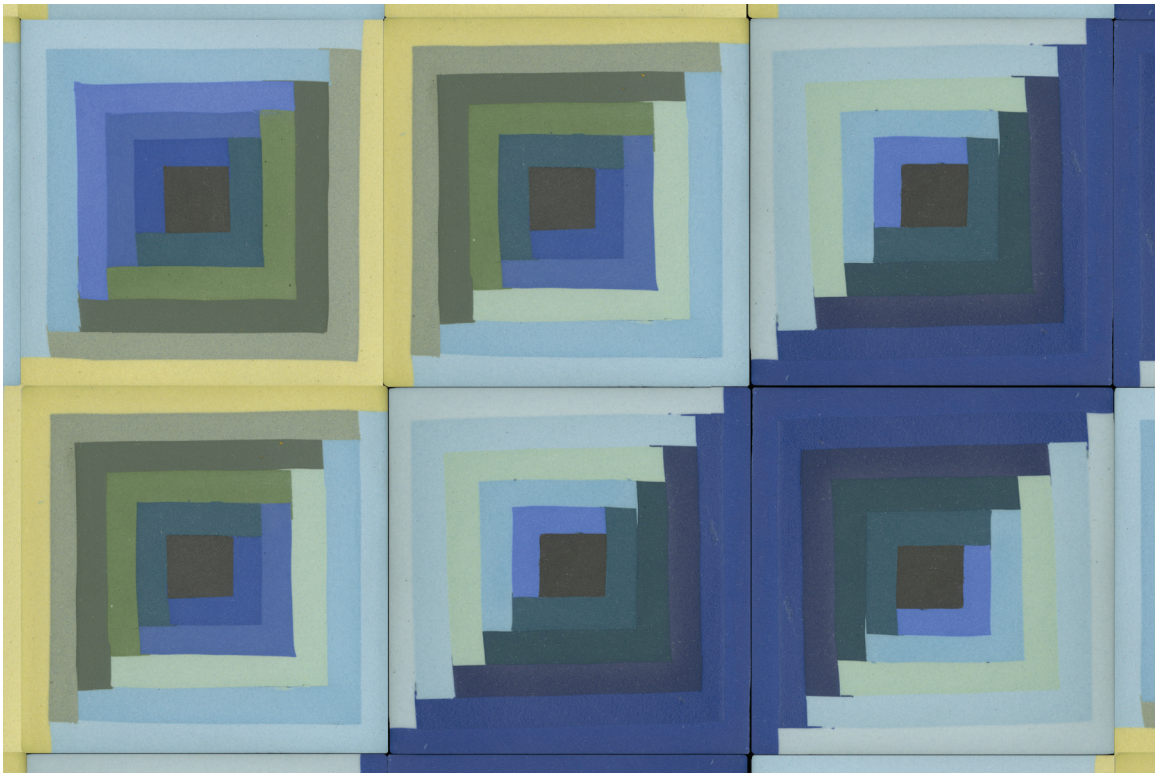
EPK	40%
nepheline syenite	34%
silica	26%
water	35%
darvan #7	0.35%

slips in bottles for easy pouring

mason stain additions

chartreuse	6236	6.5%
chartreuse	6236	6.5%
+ grey	4115	8%
chartreuse	6236	6.5%
+ blue grey	6540	8%
bermuda	6242	8%
peacock green	6266	8%
sea green	6268	8%
teal	6305	8%
vivid blue	6306	8%
wedgewood blue	6310	8%
medium blue	6313	8%
zirconium vanadium blue	6315	8%
robin's egg blue	6376	8%
robin's egg blue	6376	2%
mazerine	6388	8%
black	6657	4%
green	10947	8%

digital show card



front of card

geo metric schema

Megan Gray
BFA Thesis Exhibition

Samuel Dorsky Museum of Art
Alice and Horace Chandler Gallery
State University of New York at New Paltz
845.257.3844
www.newpaltz.edu/museum

Opening Reception:
Friday April 25th 5-7pm
Exhibit Hours:
April 25th-29th 11am-5pm

meganelizabethceramics.com | megangrayart@gmail.com

back of card

bibliography

Albers, Josef. *Interaction of Color*. New Haven: Yale University Press, 2009.

Hughes, Robert. *Amish: the Art of the Quilt*. New York: Random House, 1990.

Itten, Johannes. *The Elements of Color*. New York: Van Nostrand Reinhold Company, 1970.

Lenkowsky, Kate. *Contemporary Quilt Art: an Introduction and Guide*. Bloomington: Indiana University Press, 2008.

Pines, Maya. *Light and Vision (Life Science Library)*. : Time Inc., 1966.

Shaw, Robert. *American Quilts: the Democratic Art*. New York: Sterling, 2009.

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Education

May 2014 — Bachelor of Fine Arts (BFA) in Ceramics
State University of New York (SUNY) at New Paltz | New Paltz, NY

Teaching Experience

Fall 2011 - Present — Substitute Teacher
Sidney Central School District | Sidney, NY

July - August 2013, 2014 — Summer Camp Teacher
Sidney Central School District | Sidney, NY

June - August 2012 — Ceramic Specialist
Lake Bryn Mawr Camp for Girls | Honesdale, PA

June 2009, 2010, 2011 — Teaching Assistant
Mr. Liss' Summer Art Camp | Sidney, NY

Involvement and Professional Development

January - May 2014 — Chili Bowl Volunteer
Women's Studio Workshop | Rosendale, NY

January 2013 - 2014 — New Paltz Student Art Alliance Treasurer
SUNY New Paltz | New Paltz, NY

September 2010 - 2012 — National Art Education Association (NAEA) Student Chapter Treasurer
SUNY New Paltz | New Paltz, NY

April 2011, 2012 — New York State Art Teacher Association (NYSATA) Region 7 Symposium
SUNY New Paltz | New Paltz, NY

November 2011 — NYSATA Conference
Tarrytown, NY

November 2010 — NYSATA Conference
Rochester, NY

Affiliations/Memberships

January 2011 - Present — New Paltz Student Art Alliance
SUNY New Paltz | New Paltz, NY

January 2012 - Present — Clay Club
SUNY New Paltz | New Paltz, NY

September 2011 - Present — Hooked on Stitches Knit and Crochet Club
SUNY New Paltz | New Paltz, NY

September 2010 - 2012 — SUNY New Paltz NAEA Student Chapter
SUNY New Paltz | New Paltz, NY

Exhibitions

April 2014 — BFA Thesis Exhibition
Alice and Horace Chandler Gallery | Samuel Dorsky Museum of Art | New Paltz, NY

2014, 2013, 2012 — Open Studios
Ceramics Studio | SUNY New Paltz | New Paltz, NY

December 2013 — Clay to Table
a tavola | New Paltz, NY

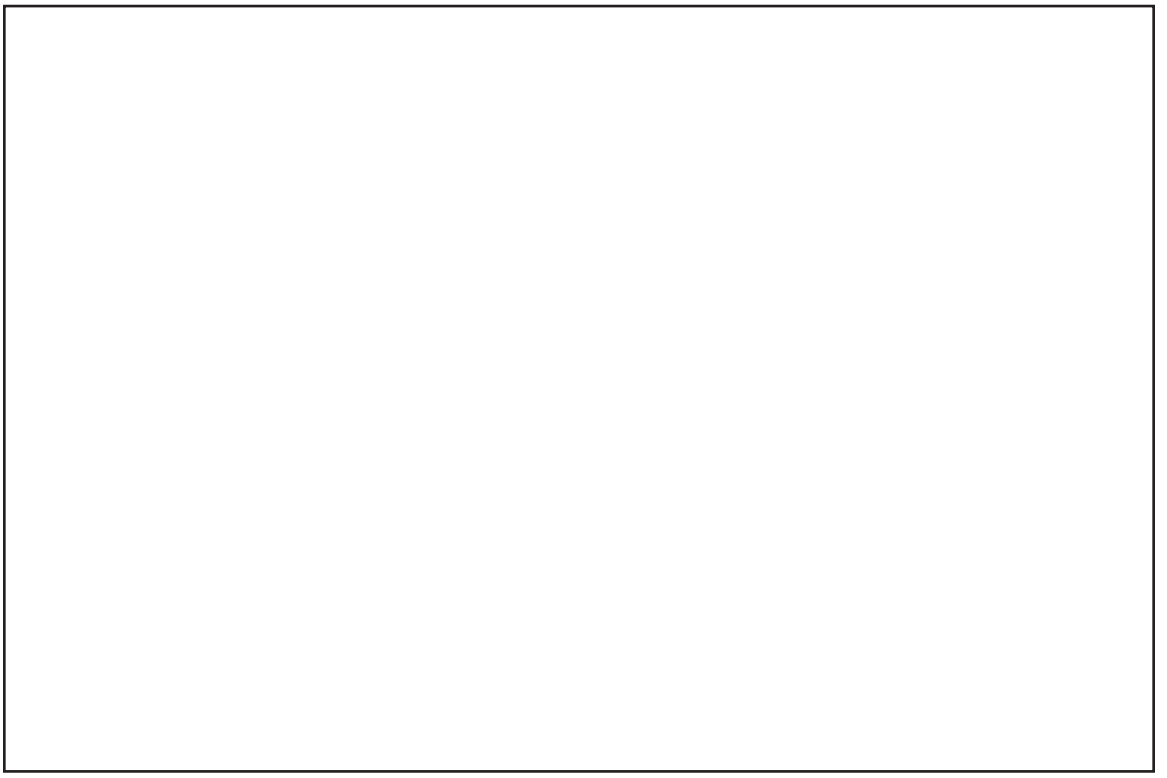
May 2011 — Foundations Student Exhibition
Fine Art Building | SUNY New Paltz | New Paltz, NY

June 2010 — Senior Student Art Exhibit
Smart Community Room | Sidney Memorial Public Library | Sidney, NY

March 2010 — Jericho Art Council Selected Student Exhibition
Town Hall Building | Bainbridge, NY

June 2009 — Portfolio Final Exhibition
Sidney High School | Sidney, NY

physical show card



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