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Future Colors

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FUTURE COLORS

A Thesis

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
In partial fulfillment of the
requirements for the degree of
Master of Fine Arts

in

The School of Art

by
Jessi Maddocks
BFA, Colorado State University, 2012
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Abstract

Future Colors considers everyday personal stories and those held in functional objects as they leave the studio to find new homes. This work considers *daily transitional moments*, everyday occurrences that present an opportunity to witness shifts from one state of being to another. Utilizing digital fabrication tools and handworking techniques, *Future Colors* brings a synthesis of design methods to create this exhibition of functional vessels and porcelain tiles.

Introduction

The title *Future Colors* is inspired by the research and writings of Kassia St. Clair from her book *The Secret Lives of Color*. She explains how the various attempts to lock in exact shades of color throughout history have been “somewhat Sisyphean”. Colors function both in the physical and cultural realm of understanding, making it nearly impossible to catalogue each known color. St. Clair explains how “the name a society gives a color and the actual color... can shift over time, like tectonic plates.” I find this fascinating, that a collective shift in our understanding of colors can happen within a person’s lifetime. *Future Colors* is about noticing shifting or transitional moments while also connecting with the use of color and modern digital technologies throughout the creation of this exhibition.

Sonder

Sonder, n. *the realization that each random passerby is living a life as vivid and complex as your own—populated with their own ambitions, friends, routines, worries and inherited craziness—an epic story that continues invisibly around you like an anthill sprawling deep underground, with elaborate passageways to thousands of other lives that you'll never know existed, in which you might appear only once, as an extra sipping coffee in the background, as a blur of traffic passing on the highway, as a lighted window at dusk.*

-John Koenig, *Dictionary of Obscure Sorrows*

Reading the definition of *sonder* for the first time stuck with me. The beauty relies on the underlying sadness within the meaning of the word. *Sonder* identifies the totally uninteresting, normal, and everyday stories that we all carry with us. Our own radius of personal importance may just be a small blip on the radar of another's life story which is equally filled with meaning and purpose. My own internal narrative connects to the recognition that every stranger around me has an internalized narrative just as complex as my own. The realization that such an individual experience, one that simultaneously binds us all together and unifies our experience as humans on this planet changed my perspective. It is remarkable how language can account for a feeling in this way.

Origins

Growing up, I loved working on crafting projects- things like paint-by-number kits or following patterns to create latch hook rug compositions. Remaining focused on small repetitive actions led to the accomplishment of the final piece. I find this immensely gratifying. When I was nine years old, my parents bought me a kit to build a telephone, one that could actually function connected to the landline. The project was made up of many tiny components. Circuit boards, resistors, and other electronic components were all part of the puzzle. With help from my dad, I learned how to use a soldering iron and we both worked to put the phone together. The exterior plastic shell was transparent so all the work and components could still be seen after it was constructed. What was important about this project was the way it offered a first-hand perspective of the complexity of the everyday things surrounding me.

Another important aspect of this project was the fact that it was my dad and I working together. When I was young, I would watch as he worked on fixing things around the house. I would stand by, trying to anticipate the next tool needed for the task, search for it, and then hand it over. My dad is an engineer. Weekends were often when we would work on a project around the house: fixing the kitchen faucet, wiring in a new light fixture, or repairing flat bike tires. I loved the productive nature of these tasks, working with my hands, problem solving, and the quality time spent together. The summer between graduating from high school and starting college, we started the considerable project of constructing a bedroom and bathroom in the unfinished basement. From the start of a project to its finish, I cherished the continued learning of practical design and building skills from my dad.

This project brought forward each of our strengths to the tasks throughout. When installing drywall, the sheet will sometimes need to be cut down to size and holes are cut to the shape of the outlet or light fixture. The task requires calculating the placement of the cutout shapes in relation to each edge. Translating the geometry from the existing features onto the drywall stock is exactly the sort of spatial ordering puzzle I enjoy. At one point we had a piece of drywall we were installing for the ceiling; it needed a rectangular shape for the air conditioning vent cut out, just off-center of the 4x8 ft sheet. My dad had measured, drawn and cut out the hole for the vent. We both stood on ladders, holding the sheet of drywall above our heads with arms extended, aiming to sink the first few screws into the sheets to relieve some of the weight. Only then did we find the vent didn't line up, the hole had been measured and cut from the wrong face of the drywall. It wasn't a big deal, we set the sheet aside to be cut down and used in another part of the room and prepared a new sheet of drywall. My dad double checked all the measurements and cut the shape for the vent while I was working in some other part of the room. When cut, once again we flipped the drywall

and held it up above our heads, and once again the cutout was mis-aligned, though in not quite the same spot as last time. For the third and final attempt at this section of the ceiling, I took measurements and cut the shape of the vent out from the sheet. This is a moment we still joke about; it was the moment that I took over the task of measuring and cutting shapes from drywall.

These projects with my dad have given me more than just the understanding of how to build or fix something. Most importantly I built the confidence to apply these skills and rely on my own critical thought process and problem-solving abilities.

Drawing me into the world of ceramics was this same feeling of discovering the complexity of everyday objects and wanting to dig into the inner workings of what becomes a sort of puzzle. The procedural ordering of tasks with ceramics, especially mold making and slip casting, holds my interest. Similar to calculating the cutouts required in the drywall, making molds involves anticipating several steps forward into the process. The initial prototype becomes what is the 'mold positive', and when the plaster is poured around this prototype the space created when the prototype is released from the mold is the 'mold negative'. When making molds, being able to mentally flip back and forth between these positive and negative volumes becomes useful. Changes made to a mold positive will affect the strategy for creating the mold and how best to break it down into its separate parts. The ordering of steps can be the difference between a successful and unsuccessful result. It is essential to plan for each step through the process before beginning the mold. I remember the first time I made a slip casting mold, and the discovery that plaster could capture a high level of detail of the clayness from the solid prototype. Plaster was able to capture the indentations pushed into the soft material of the clay prototype. Like plaster, clay as a material can imitate or take on an infinite number of possibilities. Clay as a material is incredibly flexible.

Daily Transitional Moments

In Iceland I remember one June evening, sitting with four friends, our feet all in a footbath by the sea. Jeans pulled above the knees, and shoes with socks tucked inside just within reach. The wind was whipping, the bath water nearly spilling out onto our seats, as we watched an endless Icelandic summer sunset. It was nearly midnight when the sun sank below the horizon and the chill in the air began settling in. As we scrambled back to the car, clouds reflected remnants of sunset as the sky slowly settled into twilight. We then made our way to the hotdog stand downtown, while the sky remained in this post-sunset twilight, the arrival of darkness withheld. The moment that stood out on this particular late-night hotdog run occurred as we were leaving; I realized that it was no longer sunset twilight, but that the sky had shifted. The sky was now the color found just before daybreak, and this shift between sunset and sunrise had been imperceptible.

These regular, daily, occurrences with noticeably shifting qualities of light relate to what I'm calling *daily transitional moments*. These moments are the everyday occurrences that present an opportunity to witness shifts from one state of being to another. One example being the change from day into night. The movement of the sun during these daily transitional moments are a measurable change, providing a clear marker for the passage of time. The loss of natural light as the sun goes down is a time where I find the light quality is just asking me to stop what I'm doing and pay attention to the sky.

Thinking about experiencing daily transitional moments and bringing this idea into a functional ceramic context calls to mind a series of cups made by artist Andy Brayman. His porcelain cups are a simple form, thrown and painted with a horizontal band of gold luster along its center. Gold luster is an expensive material. It's made from real 23k gold and is applied to glaze-fired ceramic and fired once more to a lower temperature than the initial glaze firing. The luster will eventually be worn off as the cup is used and cleaned. Frequent trips through the dishwasher will make it wear off even more rapidly.

Brayman applied luster on the cup right where it is most practical to grip when drinking. Hidden underneath the band of luster, Brayman has placed a decoration that will be revealed only when the luster wears off. The user is taking an active role in the cup's outcome. To know what is hidden beneath requires wearing off something precious and this discovery brings a physical and permanent change to the cup. To use the cup for its intended purpose means that eventually the gold luster will wear off. The beauty in the incremental loss of luster is found in the reward of the decoration beneath. Loss has been anticipated, giving way to something that wasn't present before. This to me is a celebration of the life and use of a cup. The luster decoration becomes a record of the continued use of the cup. Gradually shifting between what was and what will be.



Image 1. Andy Brayman, *Gold Lined Cup with Concealed Decoration*, 2007

Process and Techniques

Using each tool to its advantage, it's important for me to bring synthesis to different materials and processes, such as clay and plaster prototyping, 3D printing, CNC machining, and mold making. I frequently begin an idea with a single form in mind and then strategize multiple methods of creating that form. These studio strategies can be grouped into hand working methods and digital design methods.

Process:

The original prototype could be made by hand using one, or several, materials such as clay, plasticine, wood, or plaster. Generating forms by hand is direct, with each material bringing a varied set of characteristics to consider. Clay as a material offers generous amounts of flexibility. The clay can be pushed, moved, poked, carved into, whittled down, added onto, etc., for as long as it's kept in a moist and workable state. Generating forms with plaster lends itself to a sequential series of working methods: employing more aggressive reductive strategies and moving step by step into finer working methods. When prototyping from plaster, the final form emerges through a series of cutting, carving, sanding, honing, and polishing. Plaster and wood as more rigid materials are ideal for achieving refined surfaces.

By fine tuning a form in small phases, with gradual adjustments rather than changing multiple things all at the same time, I pinpoint the effects each of the parts has throughout the changes. Even when satisfied with a form, I continue to search for improvement. One way of addressing this is through making many iterations of cup handles, opening the designs to a variety of materials and processes', and then choosing three of these explorations to turn into handle molds. This teaches me more about that cup form than laboring over a single handle ever could. Isolating the choices lends clarity and a certain ordering or organization.

Another way I prototype forms is on the computer, where accuracy can come within multiple decimal places which is certainly more precise than can be achieved by hand. The computer screen and digital fabrication tools act as intermediaries between me as a maker and the final output. Considering the laser cutter, CNC router or the WASP 3D printer as fabrication methods requires defining the advantages of each tool.

Generating forms through the use of 3D printing allows me to move quickly from computer screen into producing a physical object. Arriving at the desired scale in the digital realm can be an added challenge when accounting for the normal difficulties of determining shrinkage of clay throughout the drying and firing process'. The 3D printer is a great tool for rapid prototyping. allowing for the desired adjustments to the digital file

to reprint the next version of the form after seeing the physical object. Generating forms using the CNC Router is a purely reductive process. Resembling a drill bit, the cutter spins at high RPMs enabling it to cut into or through materials such as acrylic, foam, wood, MDF, etc. As mentioned earlier, this is where flipping back and forth from the positive of the final object to the negative becomes useful. The CNC allows me to take this process one step further: I can use the tool to create a machined-mold and then pour plaster into the cavity to create the plaster slip-mold. With the machined-molds created using the CNC, I can pour the plaster slip-mold parts all at the same time, assembling the plaster slip-mold after the plaster sets up and releases from the stock. I can typically get multiple mold parts out of a single machined-mold.

By hand or through digital, each solution dictates a separate aesthetic and opens varied solutions to the same question. Engaging with these separate methods allows for new ideas to branch off the original, in the process creating new sets of questions. The combined failures, explorations and successes found throughout provide access to a reservoir of new ideas and inspiration.

Techniques:

The 3D printing process comes with its own set of unique challenges- the multitude of variables sometimes require making adjustments on the fly, and some amount of loss is highly likely. The mixture of clay to load into the 3D printing canister requires being soft enough to extrude through the 1.2 mm printer nozzle but also strong enough to support itself as the print gets taller. Wedging isopropyl alcohol into the clay adds more moisture to make the clay softer and helps to accelerate the drying process after the clay has been extruded. When the clay leaves the extruder, it has a soft, gummy consistency and handling the clay at this stage will deform the surface. The window of time from a gummy consistency to leather hard is shortened by the addition of isopropyl alcohol compared to a traditional workable claybody.

Originally, I designed mugs to be printed with the walls and foot as one part, eventually finding that a better solution is printing a bottomless cylinder and slip casting the foot. When the foot was printed, rather than cast, the horizontal layers crisscross one on top of the next, multiple times to build up enough material. The printer nozzle raises after each successive layer, enough that the soft clay squishes into the layer below, but while still maintaining the structure of a coil. Lacking real compression between the base layers, and because the bottom surface of the foot remains unglazed, it would be possible for coffee or tea to leach through the base of the fired cup. Casting the foot is a solution to this issue, and to ensure the clays would fit well with each other- the same porcelain clay recipe is being used for the liquid casting slip body and malleable plastic printing body. Printing a bottomless cylinder for the mug enables me to pour the foot by

placing the cylinder on a slab of plaster and pouring casting slip in the center for the base. An improvement on this design takes this process a step further. I designed a foot mold with a slightly smaller diameter than that of the 3D printed walls. Centering the printed form over the mold with a portion of the print hanging over the negative space of the mold, the casting slip is poured into the foot mold. The liquid slip bonds to both the bottom edge and interior wall of the 3D printed cylinder, making for a strong connection between the two parts.

When printing something small, the clay's window of workability becomes even shorter. For instance, the handle design requires printing two separate halves and then joining the parts by hand. The two parts must be strong enough to hold their shape and not be damaged when picked up, but still moist enough for the slipped and scored connection to hold strong. Mistiming this step results in a handle that warps or splits along the seam during the firing.

Timing the handle assembly and attaching them to mugs in a work session becomes a juggling act with one printer and a multitude of timed steps. Still wanting the visual language of the 3D printed handle without the high level of failure, the solution was to use the printed handle as a prototype for a plaster slip-mold. The handle now becomes a single piece to be slipcast while maintaining the same language of the 3D printed surfaces.

The handle carrying the printed line qualities complements the mug as a whole. It becomes the most apparent visual clue to the 3D printing process used within the form. Because the form is small in comparison to the size of clay extrusion, the final print becomes a lower-resolution output of the digital design. This simplification of form could be seen as a limitation, but here I consider it to be an opportunity to highlight process. In this mug, the handle ties together the form as a whole: the body of the form is 3D printed, the foot is slip cast, and the handle is a slip cast form camouflaged as a 3D printed handle.

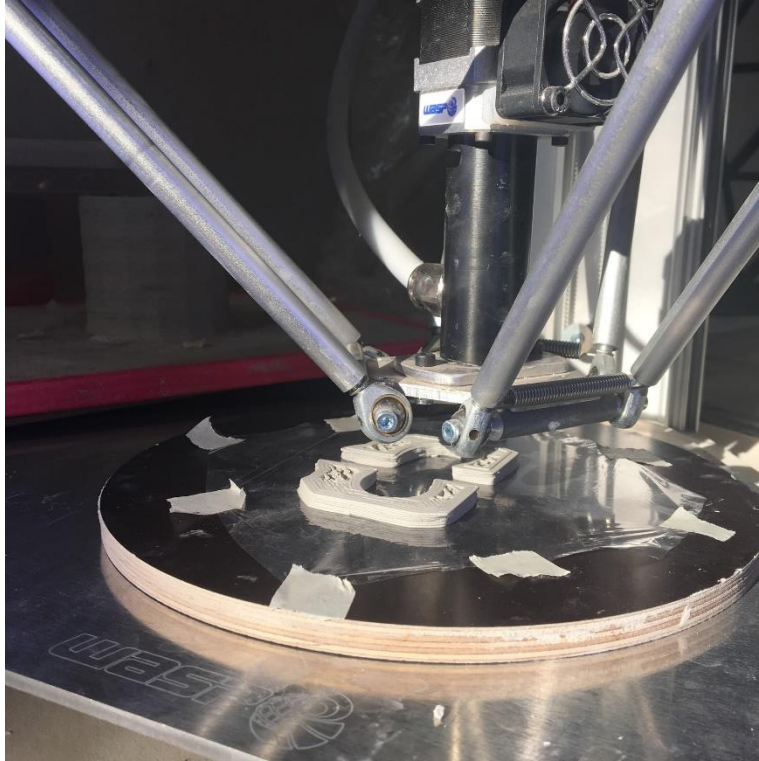


Image 2. Jessi Maddocks, handle prototype in process, 2019



Image 3. Jessi Maddocks, assembled 3D printed mug (unfired), 2019

Content and Ideas

Mugs:

This series of mugs is influenced by gradually shifting light and the difficulty in capturing the transitory moments such as the change from dusk into twilight. I add a line of color to define the transition between exposed clay and glaze, acting as a horizon line between the two surfaces. Some are decorated with a thumbprint shape sitting atop the horizon line. This shape is a representation of the silhouette of the cup's handle, while also connecting with the thumb and finger marks that artists may leave on a form after hand dipping the form in a slip or a glaze. These marks straddle a line between this process residue and deliberate design choice, becoming a transitional moment themselves.

During these daily transitional moments, our minds are actively adjusting the colors of objects as the lighting condition around us changes. Olafur Eliasson talks about this as “colour memory” meaning that “an object looks the same to us even though its surface colour may change considerably when it is, for instance, carried from one light setting into another or is placed next to a dark surface rather than a light one, and so on.” Our own perception of what color we *think* the object is overrides tuning into what Eliasson calls a “number of micro-transformations... that continually negotiate the object's relationship to its surroundings.”

A series of mugs in this body of work is playing with this perception of color by simulating change in the lighting conditions. After testing various colorants to tint my porcelain casting slip, I tested and retested ratios to achieve an ordered spectrum of colored slip from light to dark. Across the 8 varied shades of gray I've applied the same vibrant red horizon line. By placing the range of grays with the same red line all together in view, the micro-transformations are made apparent. Against the lighter background, the vibrancy of red is at the forefront. The color almost floats on top of the surface. Moving across to the darker gray background, the same red line has the appearance of being cast in shadow, almost sinking into the darker surface.



Image 4. Jessi Maddocks, *Glacial Gradient*, 2019



Image 5. Jessi Maddocks, *Icy Reflection*, 2020

The rounded bottom lifts the form, and because it is narrower than the walls above, a shadow is cast underneath. This created space draws attention to the cup's relationship to the table surface. I enjoy the dynamic quality of the meeting between the mug and its place of rest. The somewhat irregular quality brings a playfulness to an otherwise rigid sensibility.

When continuing to hold a mug, one hand is usually occupied gripping the handle, holding the combined weight of mug and liquid, while the other hand can investigate other features throughout the form. The foot is highly polished to a glossy sheen, highlighting the buttery potential of porcelain. This detail remains undiscovered until the cup is in hand. The silky surface of the foot is an intimate experience. When holding these mugs, I'm inclined to circle different surfaces of my fingers, across the smoothness of the base, similarly to the way someone may hold velvety fabric up against their cheek.

Translucent Porcelain Tiles:

One evening, while indulging in a late-night mochi snack, I took notice of the compelling plastic packaging holding the frozen treats. The rounded compartments are arranged in a grid and have a beautiful ornamental quality to them. Someone somewhere would have designed the mochi storage packaging, so more than found-object, I think of it as found-fabrication. Seeking to visualize the form contained within the vacant space, I filled the packaging with plaster, thereby 'flipping' the negative space within the plastic form into a positive space. Replicating the plaster form from the plastic packaging, I sand down the rounded compartments at various angles, revealing cross sections of the plaster form. These altered plaster forms are what then become the prototype for making the ceramic tiles.

The alteration of this found-fabrication runs parallel to the process of designing forms digitally. The mochi packaging holds precise complexities from which I can readily generate multiples of the object. The original plastic packaging is like the starting point of its own family tree, and each time I alter a cast object from the base form it becomes its own offshoot. These alterations form new possibilities and configurations within each offshoot.

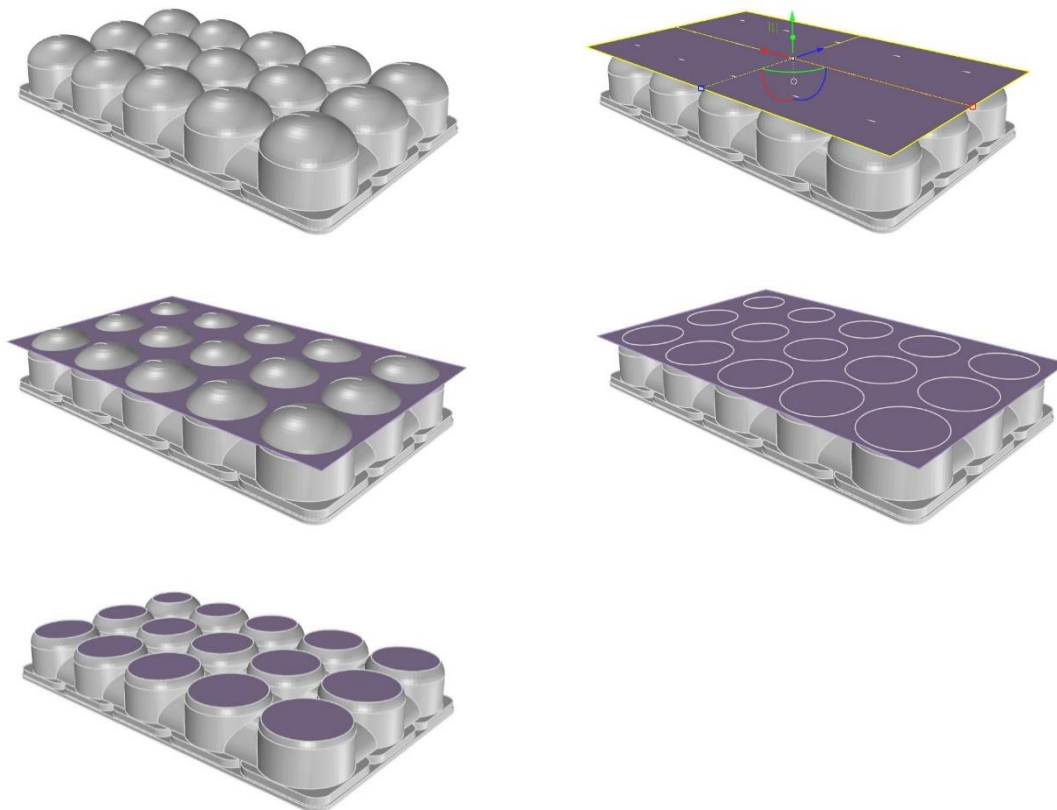


Image 6. Jessi Maddocks, *Mochi Tiles*, digitally rendered, 2020

The tiles are cast in a porcelain clay body, a material that allows light to pass through. Installed in front of large windows, the screen of translucent tiles captures transitional moments of shifting natural light in real time.¹ My intention is to compel the viewer to spend time, noticing the shifting light qualities. I consider the structure to be a screen, as it acts as a physical barrier while also allowing light to pass through. The light allows the viewer a glimpse into the process of casting and draining the porcelain slip from the molds. The length of time the slip remains in the mold will impact the thickness of the tile. When the mold is drained, liquid slip flows out of the mold leaving evidence of how it was drained, and any pooling or dripping across the interior of the cast form. Light

¹ Making this piece was interrupted by the COVID-19 pandemic. The casting and assembly of this work will be completed at a future date.

filtering through the porcelain tile structure activates this residue of process. The structure of the screen echoes the arrangement of mugs, organized vertically as a grid. The tile form is referencing functional food containers and digital fabrication forming methods, but is a step removed from each.

Conclusion

As a maker of functional objects, it brings me joy to imagine these objects finding their way into the invisibly intertwined lives and stories of the people within my communities. I consider how my observations, deliberations, and decisions are preparing these ceramic objects for a life in another person's story. Like the clear plastic assembled telephone, my hope is that these cups reveal my own thoughts and intentions as the cup continues its own journey into a person's life.

Within my own collection, handmade objects made by other artists, I recognize their integration into my own daily routines and thoughts. My own story is held within these objects, while they simultaneously assert themselves as meaningful self-contained objects.

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Vita

Jessi Maddocks is an artist from Fort Collins, Colorado. She received her BFA from Colorado State University in 2012. Following her undergraduate studies, she interned for ceramic artist Alleghany Meadows and the Artstream Nomadic Gallery in Carbondale, Colorado. During her time in Carbondale she also worked for the Harvey/Meadows Gallery and had a studio in the Studio for Arts and Works (SAW). She was an Artist in Residence at the Armory Art Center in West Palm Beach, Florida from 2014-2015. She has shown work both nationally and internationally. She plans to receive her master's degree in August 2020.