

Laura Garzone

Shapes of Earth

Introduction

On a 30-hour bus ride from Ann Arbor to Park City, Utah, I had the opportunity to observe a great deal of geography and various landscapes. I was astonished by the mass, pigmentation, and banding of the Wyoming canyons. It was my first time seeing geography different from the East coast or Midwest. Being from New Jersey, I have only been exposed to the green, dark and densely forested terrain of the Appalachian trail. Having the opportunity to witness first-hand some of earth's natural wonders led me to become more aware and more invested in preserving its' beauty.

All inhabitants of the earth are experiencing the inevitable effects of climate change. Sea levels are rising, hurricanes are becoming stronger along with more extreme weather events, and droughts and heatwaves are threatening crops and wildlife. My project strives to advocate for the earth through designing furniture based on the environment without using raw resources, but instead using material made of recycled contents. I want my project to urge people to pause and think about how the environment is changing, and how each individual's carbon emissions collectively affects not only our earth, but also all of its inhabitants.

I want to place nature back into its process, and have nature be evident within the furniture's design. After all, furniture is often made from wood. My furniture will be organically shaped, with curves. I will be making a loveseat/lounge chair and a coffee table with an acrylic top with an inside you can see and put things into.

Non-Traditional/Ambiguous Furniture Design

Designer Giovanni Marmont, aims to question our relationship to materiality through design narratives. In his work *Transforming the Ambiguous*, he highlights the habits and usages within utilizing furniture. When the user interacts with it, they find out the upper part of the form is not static and it bends to create a seat when weight is put on it. Marmont claims the purpose of his project is to "stimulate people's imagination, make them question their relationship with the objects they live with and leave room for them to reflect, interpret, play and take risk". Traditional furniture items are usually designed to be angular with sharp, crisp edges. I strive to move away from the banality of common furniture design.

Another artist who constantly experiments the limits of material, design and technology is Ron Arad, an Israeli industrial designer, artist and architect. Arad's *Box in Four Movements* created in 1994 represents this sentiment quite well. This furniture item is made of four boxes connected by hinges. It is configured in a way that you can manipulate it into being a chair or a table. An individual can make the furniture a table by laying two hinged boxes straight across on top of the two boxes beneath. As a chair, each box is stacked over the other and the hinges give the sitter the feeling that the chair is sprung.

I feel this furniture piece can be classified as ambiguous because it has more than one final form. This pertains to what I plan to do with my project because I want the viewer to question the relationship that they will have with the furniture piece. I like how Arad's work makes you ask yourself, "is it sculpture or is it something functional I can use? Or is it both?"

Sedimentary Rock

I am looking to mimic the qualities that canyons and ancient geological forms possess. I have always been fascinated by the wavy layers and banding of different colors that geological forms possess. I want to use the same aesthetic of sedimentary rock layering in my furniture that are evident in natural forms. Sedimentary rocks are made when sand,

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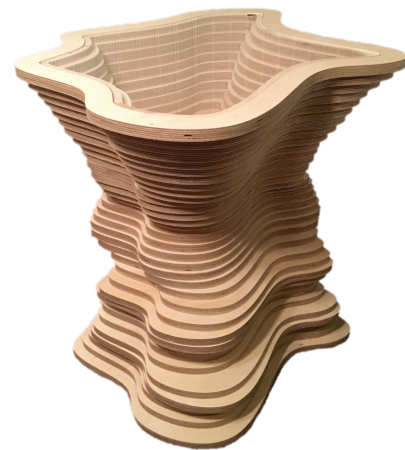
mud and pebbles get laid down in layers and over time the layers accumulate. Eventually, the layers are lithified and turn into solid rock. As for how canyons, valleys and other forms get their abstract shape, that is caused by the process of erosion over time. Most valleys are formed by rivers that erode, or wear down soil and rocks. I will create my furniture in layers, exemplifying the phenomenon of sedimentary rock. I want to make the curviness of my furniture's shape gradual.

Furniture as a Commentary on Climate Change

I am using recycled content board as a commentary on typical furniture materials, normally being wood. I chose this material specifically because the layers of recycled content within the material represent strata seen in the earth's rocks. Just as in the earth's layers, the material also has thin compressed layers of paper and recycled items. Thus, I am challenging furniture design with abstractly shaped forms. I wanted to use the method of digital fabrication to create my furniture with because it enables me to make many slices (strata), slightly altering the shape of each slice as the form progresses. I believe my furniture can bring climate change awareness through its unique material selection and geological form-like shape. In the end, individuals may think traditional furniture brings us closer to nature because we often take from trees to make these objects, but I believe it brings us farther because we are taking from the environment to serve our needs. I feel furniture that mimics geological forms brings us closer to nature because if we are around forms that remind us of the environment, we will be more conscious of how we treat the earth.

Methodology

Two years ago, I designed a CNC milled nightstand table. I wanted to create a furniture piece that was uniquely shaped, something you would not normally see every day. With the use of a computer aided design (CAD) program and CNC, exact precise lines can be cut out. Knowing this, I wanted to create something with many layers of repeated curves. When I was done building my table, I noticed the layering of material created a stratigraphic effect, similarly to how mountains and canyons are formed over long periods of time. For my project, I wanted to explore the idea of making a furniture collection that mimicked aspects of geological forms.



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As I began my material experimentation and model making, I started sketching furniture ideas with geological forms in mind and drawing out possible ways I could design my furniture. I eventually wanted to bring my sketches to life and made a few small-scale laser cut cardboard models. The next step was to make a full-scale model. I decided I would model my lounge chair/loveseat. I bought

insulation foam board and used a soldering iron to carve out my desired shapes and varied the size of the shape each layer. Completing the large-scale model was helpful because I figure out how someone could interact with the object. As someone who cares about the environment and sustainability, I wanted to find a material that represented this sentiment. I went to the

Duderstadt's material collection and was fascinated by any material labelled as "Natural".



I came across a multi-colored recycled content material. The manufacturer, ReWall, sells recyclable products used in construction. I became interested in the company's NakedBoard. I went ahead and ordered 30 4x4 foot green boards and 30 4x4 foot blue boards, equalling about 1,700 lbs.



Although I was not expecting the recycled cardboard material to have frayed edges after being cut by the CNC, the effect did add a more natural, organic aesthetic to both of the pieces overall. The look of the frayed edges represented the furniture as unrefined and unprocessed. To prevent my furniture from looking too unfinished or messy, I trimmed the edges for a cleaner yet still slightly unrefined look.

Creative Work

The final products are a coffee table and loveseat. The coffee table is about 3.5 feet long, 22 inches wide and 16 inches tall. The loveseat is almost 4 feet long, 28 inches wide and 18 inches tall. The loveseat and coffee table pieces are shaped to fit into each other, so one can put their feet up if desired. When the coffee table and loveseat have space in between them, a valley of negative space is created.

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Setting up the exhibition, I wanted my furniture to be on a platform. My solution to this was to utilize the extra boards I had in my studio, and stagger a few on top of each other. The extra boards invited people to observe the material the furniture was made of.

Conclusion

I feel my thesis has opened a new avenue for more creation of furniture. The stacked style of furniture I designed can be applied across a variety of functional objects with an assortment of different materials. I can see my collection extending into headboards, tables, and shelves. If I had more time, funds and resources I would keep making furniture items. My furniture would be practical and easy to replicate and sell because I can digitally recreate the file over again with the use of a CNC machine.



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