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Conceptual Chair Designs: Study of Materials & Craftsmanship

By

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Submitted in partial fulfillment
of the requirements for
Honors in the Department of Visual Arts

UNION COLLEGE

June 2022

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Abstract

Festekjian, Aram N.: Conceptual Chair Designs: Study of Materials and Craftsmanship.
Department of Visual Arts, June 2022.

ADVISOR: Chris Duncan

This thesis is a study of different chair concepts made with various techniques and methods. Usually, when taking a seat, people do not take a moment to appreciate the architecture and design thinking incorporated into a chair. The objective of my project is to have the viewer take a moment to appreciate and feel a particular way before taking a seat. I am inspired by many different architects and designers who have created chairs within their artistic careers. The thesis work includes four different conceptual chair sculptures made from steel, plywood, expanding foam, bullet liner, and bungee. When bringing my ideas to life, I start with creating rough sketches, 3D modeled renders, and maquettes, before beginning the main process of crafting the chairs.

Preparations

As a Visual Arts and Art History major who will be pursuing Industrial Design after graduating, I was intrigued by combining different artistic skills I learned throughout my four years at Union College. I wanted to blend together art and functional objects into one. Instead of focusing on one specialty throughout the span of my thesis, even though the central theme of my thesis is chairs, I wanted to create different pieces that highlighted the use of different materials and craftsmanship. Throughout the winter and spring terms, I worked with Chris Duncan, Cole Belmont, and Jack Shaefer. Their expertise allowed me to talk through my ideas and see if they were feasible. Previously, during the independent study of my junior spring term, I learned how to weld in order to fabricate steel objects and use the CNC router to create negatives of 3D-modeled arms using Rhino and SolidWorks. I also sharpened my skills in Cinema 4D, with which I was able to create renders for various industrial design concepts, notably a space-efficient biker bench and a futuristic piano. The combination of the different skills I used within this independent study gave me the confidence to apply them to the realm of industrial design.

Having the creative freedom of designing and constructing chairs with different materials and techniques gave me the ability to think freely. After completing a sketch for a chair concept, I look through Design Boom magazine or search through different Instagram pages to find artists and designers who have similar concepts. I like to have an idea of the newest trends and find ways I can retrofit and put my own touch on particular designs. I also spend two days a week brainstorming at Lowe's, Jo-Ann's, or Home Depot to find material inspiration. Whether it is looking at different foams, fabrics, plumber pipes, or marble tiles, I think looking through hardware stores is a great way to become inspired. Whenever I find new materials within

these stores, I like to take a moment and imagine something I could create. When I have a vision in my head of a particular design, I make my way back to the studio and start sketching for a few hours then showcase my ideas to Chris Duncan and Jack Schaefer to see if they are feasible or not. Instead of planning out each step beforehand, I worked in the heat of the moment. Many of my works were spontaneously made without much planning and preparation. I found this way of working a lot more precise and enjoyable. I was able to think through the chair's aesthetics with each step rather than committing to the way I wanted it to look from the start of planning.

Background & Meaning

My artistic inclinations result from a unique chandelier-making-to-industrial design pipeline. Despite being surrounded by business-oriented family members, I grew up with an innate desire to deconstruct every object I came across. My theory is that my grandfather's creative genes and knack for the kinesthetic, being a revered chandelier bronzesmith in Beirut, skipped every relative except for me. What was first reprimanded as destructive childlike behaviors on my part evolved into a profound interest in industrial design and architecture. With every object I encounter, my grandfather's voice echoes in my head, always encouraging me to retrofit. In some sense, I consider every object as an onion: I visually strip each layer of intellectual depth until before me remains merely the core of something upon which I can improve. This is the allure of industrial design which has roped me into the discipline as a full-time student. The intersection of functionality, aesthetics, and art fulfills every aspect of my interests and passions as an artist.

Despite being a period of seemingly impending doom, the onset of COVID-19 propelled me into a new and unfamiliar dimension of art. As everyone retreated into their homes, I entered

my own sphere revolving around sculpture. I was enrolled in a remote sculpture course which allowed me to emulate the corporeal artistry of my grandfather. Never before had I truly experienced every increment of the progression from a mere two-dimensional sketch to a three-dimensional sculpture, all of which I could attribute to my own vision and skill. Sculpture ingrained in me the notion of “trusting the process”, a maxim I apply to every artwork I fabricate, notably those of industrial design.

As the pandemic burgeoned, so did my interest in industrial design. In retrospect, without the pandemic, never would I have gained such clarity in terms of my passion for industrial design and my confidence in pursuing it as a career. Although artistic opportunities seemed to be placed at the backburner due to the priority placed on essential workers and returning to a sense of normality, I threw myself at any opportunity I encountered. I accepted commissions for freelance work, forcing me to hone my skills in Photoshop, InDesign, Illustrator, and Figma in order to create logos, menus, and websites for several restaurants in the Greater Boston Area. A significant endeavor during the pandemic was founding an apparel brand, titled FORUM, for which I designed the logo, the website, and the t-shirts themselves. In addition, I constructed a digital collage mural that was displayed at the Armenia Art Fair, allowing me to combine a variety of art mediums that I had experimented with. My decision to pursue art full-time as an undergraduate student and the efforts I had put in despite it being a tumultuous time were coming to fruition. Upon returning to Union College in person, I was determined to utilize the tools and expertise my school provided to its fullest. I entered the new academic year with a clear vision of industrial design as my passion and my future career—being one of few art students at Union College, this was a confidence I previously lacked and was ready to manifest through my artwork.

This particular background information is vital in understanding my inclination of choosing chairs as the subject of this thesis. It is important to understand the path I took to end up in this position. I think it is important for me to showcase the development of my art education before graduating from Union College. I have not showcased one work of art that demonstrates my interest in functional objects even though I am attending graduate school to study industrial design. With that being said, the meaning behind this thesis is to give my professors, family, and friends an example of how I will impact the world of design through an artistic mindset. At the end of the day, I am an artist – and that will never change.

Inspiration

When I first started to think about chair designs, I wasn't sure where to start. I had no prior experience designing or constructing chairs, but I was motivated to see what I could accomplish. I started by looking through chair designs built by artists, designers, and architects I was familiar with. Daniel Arsham, Michael Aram, Oki Sato, and Gerrit Rietveld are some names within the industry whose works I enjoyed prior to starting this thesis. Ludwig Mies van der Rohe, Kiwi and Pom, and Michal Cihlar are designers, architects, and artists I learned about and was inspired by while working on this thesis project. These creators helped me expand my interests and think about various materials and crafting techniques. Daniel Arsham's *Dino Dining Chair* (**figure 9**) and Michal Cihlar's *Three-Legged Armchair* (**figure 10**) are more conceptual and amorphic designs and allowed me to think outside the box when brainstorming about form. Oki Sato is a Japanese designer and architect who assisted me in thinking about how less equals more. Oki Sato focuses on thin, clean lines that converge to make a playful and friendly whole. His installment called the *50 Manga Chairs* (**figure 5**) is an example of the

inspiration used to construct my chair called *Asymmetric Anxiety* (**figure 1**). Gerrit Rietveld and Ludwig Mies van der Rohe are architects and designers of the Bauhaus movement, inspiring me to utilize wood even though it is my least favorite material. The *Zig-Zag Chair* (**figure 7**) and the MR Armchair (figure 6) both possess this idea of defying the laws of gravity by seeming as if the chair is magically supporting the weight of a human body. This idea pushed me to create a chair that did not utilize the normal 4-legged chair blueprint in the *22 Chair* (**figure 2**). Kiwi and Pom's *Disco Chair* (**figure 8**) inspired me to think about incorporating a different material while still utilizing steel as the essential frame which can be seen within *Lucky Chair* (**figure 3**). Ultimately, the names listed above allowed me to retrofit previously made designs through my creative touch.

Process

The process of these four chairs was an interesting journey. In some instances, I succeeded creating a chair without any challenges. In other instances, I failed and spent a few weeks trying to figure out how to fix a chair that I had no idea how to fix. The process of this thesis was one I will never forget. I faced obstacles that I thought I would never be able to overcome. I learned how to be patient throughout this journey and never allowed myself to continue working on a new project without finishing the prior one.

The first chair I made is called *Asymmetric Anxiety Chair* (**figure 1**), which I had previously hand-modeled with toothpicks and balsa wood sticks at home during the summer leading up to my senior year at Union College. I decided whether I wanted to create chairs for my senior thesis and challenged myself to create something simple yet eye-catching. Once I created the maquette, I was confident that I could pursue the topic of chairs as my thesis subject. Returning to school a month later, I enrolled in a 3D modeling class with Fernando Orellana in

the fall of 2021. After receiving positive reactions to the chair concept, I felt confident enough to create an authentic version of the chair in the winter term. Oki Sato, an award-winning Japanese designer is the main inspiration for this piece. I am intrigued by Japanese design due to its ability to keep things inventive and minimalistic. This piece consisted of 1.25-inch steel square tubes and a 3/8-inch steel bar that I welded into the evenly drilled holes to create the seat and backrest. I had some trouble with the dimensions of this chair; however, after some trial and error, I finally completed it the way I had imagined. This particular chair allowed me to refresh my welding skills and become more precise when creating the third chair called *Lucky Chair* (**figure 3**), which was also made out of steel. Oki Sato inspired me to coat the steel chair with metallic spray paint, giving it a sleeker and more attractive look. I was planning on spray painting it a light blue. However, after seeing the similarities between his 50 Manga Chairs and my Asymmetric Anxiety Chair (figure 1), I realized that the chair's form was too interesting to be blinded by color. This piece is called Asymmetric Anxiety because of everyone's initial thought: if sitting on it will break, bend, or hurt because of the use of unsupported steel bars and the overall inconsistent composition. Even though the chair does look fragile, it is certainly functional.

The second chair I made is called the 22 *Chair* (**figure 2**) which was inspired by Dutch designer Gerrit Rietveld and German architect Ludwig Mies van der Rohe who were both a part of the Bauhaus movement. The idea behind this chair was to minimize the number of legs within a chair. I was drawn to both Rietveld and van der Rohe's works by making them look like they are defying gravity. The frame for this specific chair was made entirely from plywood using the CNC router with the assistance of Cole Belmont. For this project, I shifted my attention towards working with plywood which I had not done since Sculpture 1 during my first year at Union College. The spline was created using Cinema 4D and Adobe Illustrator which was then

transferred to SolidWorks. Within the process, I used four 4ft by 8ft pieces of plywood. There was a total of eight frames with four frames on each side that were glued and clamped together. Each side has three interior pieces that have a cut-out to fit the seat and backrest without being exposed within the exterior piece. In addition, I learned how to upholster this chair using cushions and orange suede fabric. I painted the two frames a smokey orange to blend together with the fabric. This piece is called the *22 Chair* because the frames look like the number two and it was finished being constructed on that very day: 2.22.2022.

The third chair I made is called *Lucky Chair* (**figure 3**) which is inspired by the award-winning design studio Kiwi and Pom. The vision of this chair was to shift my attention toward incorporating a different material while still utilizing steel as the frame and structure. For this particular piece, I used 1.5-inch steel square tubes and a 3/8-inch steel bar. The frame did not have any back or seat support. This was done purposefully to effectively incorporate 100-foot neon bungee within the concept. While observing the *Disco Chair* (**figure 8**) created by Kiwi and Pom, I did not like the idea of sinking within the chair. With that being said, I incorporated a thirty-degree angle to stop one from sinking within the seat and keeping them at a steady ninety-degree angle. I ended up using different tones of green and titling the piece *Lucky* because it was made a few days before the celebration of St. Patrick's Day. Overall, the consistent neon green bungee and the main steel structure complement each other quite well giving it a professional look.

The fourth chair I built is called *Amorphous Chair* (**figure 4**). This chair is inspired by Daniel Arsham and Michal Cihlar. I wanted to create a chair that had curves mainly because the three previous chairs had many hard edges. I wanted to experiment with a different form, something more abstract with no defined shape. For this particular project, I started off with a

steel interior structure, which I then poured expanding foam on. Pouring expanding foam was a process that was tedious, so I decided to substitute the pourable foam with a spray-on foam. After achieving the shape I envisioned, I wrapped the entire chair with duct tape to get rid of open holes. I then coated the duct tape with hard molding paste and coated it with spray paint. After a few days, I decided that I hated the way the chair looked because of the inconsistent surface. Impulsively, I ripped the layers of molding paste and duct tape off and decided to return to the process of pouring foam. After sanding and cutting the foam into the perfect shape, I patched up open holes with wood putty and molding paste. Once I achieved the shape I wanted, I drove to Platinum Protective Coatings located about forty-five minutes outside of Schenectady, NY to finalize the chair with a coat of bullet liner. The seat itself is structured in a way where the user can sit within the chair in many different positions.

Within **figure 11, figure 12, figure 13, and figure 14**, One can view the different pictures that highlight the important stages of constructing the *Asymmetric Anxiety Chair*, *22 Chair*, *Lucky Chair*, and *Amorphous Chair*.

Exhibition

The thesis work had to be completed before May 20th, the reception day. I was planning on creating a fifth chair; however, a week before the show, I tested positive for Covid-19 and could not work on the newest chair design concept I had in mind. With that being said, I was still content with the way the four chairs ended up looking altogether. So, I set up my chairs in the smaller room within the Cromwell Gallery in the Feigenbaum Visual Arts Building. Setting up the chairs within the gallery took less than 5 minutes. I lined the four chairs side by side, starting from the left with the *Asymmetric Anxiety Chair*, followed by *Lucky Chair*, *Amorphous Chair*,

and 22 Chair. Even though the chairs are quite different, they complimented each other quite well due to their uniqueness. I purposefully put the Asymmetric Anxiety Chair on the left and the Amorphous Chair in between Lucky Chair and the 22 Chair to spread the brighter tones within the chairs.

At first, I was worried about where I would place the four chairs because Phosphores Senior Exhibition is one of the most significant art exhibitions in Union College history. However, after discussing the locations of the pieces, I felt confident about their final location. The biggest issue in setting up was choosing where to put the labels and artist statements. This was an issue because of the location of the chairs within the gallery. After a brief discussion with Frank Rapant, we agreed to use a white pedestal to stick the labels and artist statements because the chairs themselves were quite distanced from the surrounding walls.

I enjoyed the process of utilizing the design studio, steel shop, woodshop, and independent services to construct these four chairs. I find it difficult as an artist and designer to stay focused on a singular material and look; instead, I like being able to utilize different approaches rather than being tied down to a niche look. Ultimately, at the end of the reception on May 20th, I was proud of the hard work on this project during the winter and spring term. This thesis has given me the courage to continue expanding my work toward different products. My design vision does not stop at furniture.

Acknowledgments

I would like to thank my thesis advisor, Professor Chris Duncan for guiding me throughout my four years at Union College – you reignited my interest in the arts and pushed me to follow my dreams. For that, I am forever grateful. In addition, I would like to thank Cole Belmont for his technical assistance throughout the past two years and his mentorship while applying to graduate school. Finally, I would also like to thank Jack Shaefer for his reliable words of advice and technical assistance throughout the process of my senior thesis.

Figure 1

Asymmetric Anxiety

2022

Aram Festekjian

Steel



Figure 2

22 Chair

2022

Aram Festekjian

Plywood, Suede Fabric, and Upholstery Foam



Figure 3

Lucky Chair

2022

Aram Festekjian

Steel and Bungee



Figure 4

Amorphous Chair

2022

Aram Festekjian

Steel, Expanding Foam, Wood Putty, and Bullet Liner



Figure 5

1 of the 50 Manga Chairs

2016

Oki Sato

Steel



Figure 6

MR Armchair

1927

Ludwig Mies van der Rohe

Tubular steel and painted caning



Figure 7

Zig-Zag Chair
1930
Gerrit Rietveld
Wood



Figure 8

Disco Chair

2016

Kiwi and Pom

Steel and Electroluminescent Wire



Figure 9

Dino Dining Chair

2021

Daniel Arsham

Birch



Figure 10

Three-Legged Armchair

2021

Michal Cihlar

Epoxy Resin, Foam



Process for Asymmetric Anxiety Chair
Aram Festekjian
2022

Process for Asymmetric Anxiety Chair
Aram Festekjian
2022



Figure 12

Process for Amorphous Chair
Aram Festekjian
2022



Figure 13

Process for 22 Chair

Aram Festekjian

2022



Figure 14

Process for Lucky Chair

Aram Festekjian

2022

