VISUAL ACCESSIBILITY, FUNCTIONALITY, AND

AESTHETICS OF SCULPTURAL FURNITURE

by

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A THESIS

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Thomas Bonamici

This thesis is concerned with the boundaries between fine art and functional design. This thesis explores the boundaries between the fields of art and design as it pertains to furniture. Further, it examines formal properties that make a piece of furniture more or less visually acceptable through analysis of a survey of the general public. This thesis identifies design elements which are likely to cause pieces of sculptural furniture to land on either side of the scale of functionality and comfort. Through analysis of real opinions on sculptural furniture in concert with a discussion of the historical context and theory behind the incorporation of artistic elements in furniture, this concludes in the design of a piece of sculptural furniture which synthesizes the primary and secondary research done into the visual accessibility of sculptural furniture.

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Introduction

Think of your favorite object that you own. Is it family heirloom? A favorite piece of clothing? Maybe it's an otherwise benign object made special by association with a particular feeling or memory. Typically, the objects that we feel the most personal connection with are not the types of objects that are being most rapidly designed and produced in today's modern product landscape. A smartphone is an object which is indispensable to us, for certain, but one that can be easily replaced. The connection we feel with a smartphone has more to do with the activities we are able to do with it, rather than memories associated with the physical object, or the way the object looks aesthetically. The same goes for furniture. Most people do not have a personal connection with the type of mass manufactured and distributed furniture which is so readily available today, as is evident in the amount of IKEA furniture we see being sold for cheap (or free) on craigslist.

However, it is this kind of furniture which we have grown most accustomed to. We are used to seeing a thousand of the same chair in a college dorm building, or stacks and stacks of the same table in an IKEA warehouse. When picking out this type of furniture, utility and price comes first, and personal connection second. However, certainly not all designers and users of furniture have this attitude, and many desire a more personal connection with the furnishings that are available to them. What if we could have the same connection with a piece of furniture that we have with a piece of art?

This is the question pursued in this thesis, and the question pursued by those who design sculptural furniture. Today, the majority of people who own furniture do

not own pieces of sculptural furniture. I was most interested in exploring why this is, and how a designer might be able to design sculptural furniture which is more visually accessible. In embarking on this project, my goal was to prove that sculptural furniture can be both visually accessible to the majority of users, and function well within the typical home. This thesis investigates the subtleties of sculptural furniture design, and the ways in which these subtleties affect perceptions of comfort, visual accessibility, and functionality.

Art, Design, and Luxury

What separates art from design? What makes a sculpture different from a couch? These subjective questions are actively explored by artists, designers, and theorists, but in truth, the answer to this question depends on who you ask. At the core of design, however, is the need for a function. The requirement for design is improvement of a human's life in some way. A chair must provide a place to sit. If it does not fulfill this function, it is not a chair. The chair does not necessarily need to be comfortable for it to continue to be a piece of design. Design at its core is about constraints. Art does not exist under any such constraints of functionality. There are however some pieces of design which are more art-like than others. In fact, some designers also consider themselves artists. Italian artist and designer Ettore Sottsass created both designed objects and pieces of art. However, even his designed objects (see fig 2.) look and feel more like art than design.

Figure 1: Ettore Sottsass Sculpture.

Figure 2: Ettore Sottsass Solitaria Console, 1992

Because of the subjective nature of the definition of design, attempting to define it is in the end, a somewhat useless exercise. There will always be someone who disagrees, and much like asking, "what is art?" the answer depends on personal opinion. Deyan Sudjic provides a lovely definition of design, which I feel is relevant to the discussion of design as a form of art, noting that "design has always involved shaping or

embellishing everyday things, to provide us with a reminder of the world beyond utility. It is ultimately concerned with the emotional character of objects."[1]

Artists Making Furniture

For those who design furniture, and categorize themselves under the label of "designer," there are limits placed on what can be called a piece of design. For those who categorize themselves as "artist" these limits are often softened, if not lifted all together. Art is not bound to the same restrictions as design, and even when someone who calls themselves an artist creates something they refer to as design, their requirements for functionality, manufacturability, and aesthetic convention are different than the those demanded of a traditional piece of design. However, the societal and cultural boundaries between art and design in the western world are so deep set that "Isamu Noguchi, who designed a whole range of paper lamps and a table for the Knoll furniture company…found that his sculpture was never fully accepted by the art world, perhaps because he had become tainted by utility."[2] What it means to be an "artist" versus a "designer" carries such different cultural and creative connotations that it is hard for the two to exist together in harmony, and even harder for a person to carry both labels simultaneously.

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[1] Sudjic, Deyan. *The Language of Things: Understanding the World of Desirable Objects*. 1st American ed. New York: W.W. Norton & Co, 2009, 152
[2] Ibid, 172

Figure 3: Isamu Noguchi Coffee Table
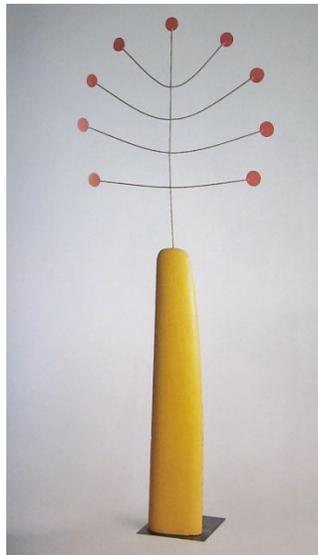
Figure 4: Isamu Noguchi Sculpture "Dark Meadow," 1945

Artists' pieces are some of the most memorable works of sculptural furniture, and yet are ones that are often not seen by the general consumer, because of their existence in a grey area between art and design. This is a wonderful in-between-place in which the creators of these pieces often pay no mind to these carefully constructed divisions between art and design. Frequently, they seek no label of either discipline, and in refusing to be labeled at all, they question why these divisions must exist.

I feel it is a shame that these divisions have arisen. Culturally and societally, there are many ways in which we divide art and design. A commonly held belief is that "one activity is about the material, commercial, useful world of mass-produced objects, and the other is about a more intangible, slippery world of ideas, and the aura of the unique and useless."[3] In summary, design is about the real, art is about the ethereal and intangible. Attempting to truly define either category is, I feel, ultimately a useless exercise, as the boundaries shift and change situationally. However, sculptural furniture and art furniture allow us to sneak a peek into an alternate reality in which those constructed divisions could be easily erased. It creates a space where "the banal can be profound and…when it is we feel uplifted and human."[4] They are objects which we are able to appreciate for simultaneously their function and their artistic merit.

Rietveld believed that the furniture designer was responsible for "the well-being and comfort of the spirit" not just the comfort of the body. I think this is where the difference between art and design lies, particularly in furniture design, and what situates sculptural furniture in between the two. Art is not concerned with any sort of comfort. The statements which art make are myriad and can be as uncomfortable or as comfortable as the artist wishes them to be, either physically, mentally, emotionally, or visually. As for design, the comfort of the user is paramount. Given that design is about creating something which performs a certain function, it is important that the function is able to be performed comfortably. Chairs, objects created for the function of sitting in, should be comfortable to do so. Sculptural furniture makes different types of statements

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[3] Sudjic, 150
[4] Domergue, Denise. *Artists Design Furniture*. New York: Abrams, 1984, 39

than those made by non-functional art. Furniture is able to make statements on materials, manufacturing processes, colors, traditional forms, comfort, and space. Sculptural furniture allows a piece of furniture to make a statement, and affords the user to feel something, or think something, rather than just see it as an object for serving a function

However, there are reasons why we might not often find pieces of art furniture or sculptural furniture in people's homes. These objects can oftentimes come with hefty price tags. The "one-off" nature of much of art furniture makes it prohibitively expensive for most.

Luxury Furniture vs. Sculptural Furniture

It is easy enough to get luxury furniture and sculptural furniture confused, as there is often quite a bit of overlap between these two categories, but I feel it is important to stress that luxury furniture does not imply sculptural furniture, and sculptural furniture does not imply luxury furniture. Despite the fact that more sculptural forms often end up being more expensive, furniture does not need to involve expensive processes or materials in order to be sculptural. Sculptural furniture is about the unexpected, the unusual, and sometimes, the unnecessary. They are pieces of furniture that, if their function was somehow stripped from them, would be able to stand on their own as aesthetically pleasing works of sculpture.

Luxury furniture can also be about the unexpected, the unusual, and the unnecessary. "Traditionally, luxury was signified by conspicuous or elaborate workmanship, and costly materials. Something that was difficult implied scarcity, and

an investment of time and effort."[5] Today, although luxury is more nuanced, this definition still stands.

An excellent example of a piece of furniture which is sculptural, but definitely not luxury, is Gerrit Rietveld's Red Blue Chair (fig. 5). This chair is such a work of sculpture, that one is housed in the Museum of Modern Art's permanent collection. Reminiscent of artist Piet Mondrian's paintings,[6] the Red Blue Chair's rectilinear forms and extreme simplicity were unlike any other pieces of furniture made during the time period. The uniqueness of the chair, even in today's age, is put quite well by design theorist and curator of the London Design museum, Deyan Sudjic, who states that "the Red Blue Chair…has the appearance of a mechanism through which the human body has been threaded."[7]

There is no luxury in this chair, not in comfort, choice of materials, color, or manufacturing process. Rietveld had imagined this chair with mass manufacturing in mind, so the pieces that make up this chair are the standard lumber sizes of the time.[8] And yet, even with the simplest of materials and processes, and the most primary of colors, the Red Blue Chair is still a piece which stands on its own as something beautiful, almost a functional, sculptural version of a Piet Mondrian painting. This chair achieves its beauty through its combination of design elements which subvert our expectations of what a chair should be, and what comfort should look like.

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[5] Sudjic, 104

[6] Rietveld and Mondrian were both part of the Dutch de Stijl movement during the 1920s, which sought to better Europe through design and art after WWI. Despite the similarities between their work, there is no evidence that they ever met each other. "Gerrit Rietveld. Red Blue Chair. 1918–1923 | MoMA." Accessed May 4, 2018. https://www.moma.org/collection/works/4044.

[7] Sudjic, 167

[8] "Gerrit Rietveld. Red Blue Chair. 1918–1923 | MoMA."

Figure 5: Red Blue Chair

Ironically, the Red Blue chair became such a design icon that it is now very expensive. This often happens with pieces of furniture that become famous for being beautiful. When a piece of furniture reaches a place of prestige, even if the materials and processes used to make it are cheap, it becomes an expensive object. For Rietveld, who imagined this chair as a cheap, mass-produced object, I am sure he would be horrified to see these chairs become a luxury object in today's market.

Frequently, luxury furniture and sculptural furniture overlap. Luxury furniture signals wealth and opulence, whether in subtler ways, like the prestige of the name attached to the product, or through more overt methods, like expensive materials. Luxury furniture is as much about communicating a message about the owner's social standing as it is about the user's comfort or physical relationship with the object. The COEXIST coffee table by contemporary design studio Slash Objects is a luxury object as well as a sculptural object. Its material usage is extravagant, and its sculptural nature is derived both from its unusual form and its material choice. The thickness of the

marble table top is excessive, sacrificing function for trend. This table must be incredibly heavy. Brass, a material typically seen in thin rods, or as metal plating on hardware, is used to coat huge cubes which intersect this thick plane of marble. The shapes are simple, and yet the simplicity of the form combined with the extravagance of material implies a more nuanced luxury than, say, a hand carved four poster bed one might find in Versailles. "The counter-intuitive truth is that simplicity is expensive…Simple geometric forms are much less forgiving to the maker, because they leave no margin for error. It suggests understatement, but, paradoxically, it can mean the exact opposite, demanding huge effort to realize it and amounting to a kind of baroque minimalism."[9] The COEXIST Coffee Table embodies this baroque minimalism.

Figure 6: Slash Objects' COEXIST Marble and Brass Coffee Table

"Pricing available upon request"

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[9] Sudjic, 110-111

Historical and Theoretical Context

Historically, there has been a push and pull between the furniture which makes use of decoration, ornamentation, and more artistic elements, and that which sticks to a modernist approach of performing its bare-bones function with little to no decoration. In David Pye's book, *The Nature and Aesthetics of Design,* he analyzes the dichotomies between aesthetics, functionalism, economy, workmanship, and efficiency in design. Pye argues that "streamlining, omission of ornament... 'stark simplicity'...derive directly or indirectly from requirements of economy."[10] By subtracting "unnecessary" elements of a piece of furniture, things such as fine surface quality, flush joints, and quality fabric upholstery, the price of manufacturing goes down, and the utilitarianism of the piece increases. The pared-down designs of functionalist furniture do not make these pieces function inherently better than sculptural furniture. They are simply cheaper to make. A lack of artistic elements does not even make a piece of furniture, or any object really, more efficient to use, as functionalism is derived from economy and not use.

Sculptural pieces of furniture generally require more specialized types of work and take more time to produce than functionalist furniture. As a result, their design elements differ from that of functionalist furniture. Production method, craftsmanship, and materials separate the utilitarian Adde Chair (fig. 7) from the more sculptural Chieftain chair (fig. 8), and thus create their difference in form. The Chieftain Chair is made of teak, walnut, and leather: all expensive materials. The organic shapes of the

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[10] Pye, David. *The Nature and Aesthetics of Design*. London: Barrie and Jenkins, 1978, 34

wood must be hand-shaped and sanded by skilled craftspeople. These processes of hand-crafting require time, and as a result, the chair costs thirteen thousand dollars. By contrast, the Adde Chair costs twelve dollars. IKEA is able to produce thousands of these in a day, due to the speediness of the process of injection molding plastic. The price point of creation and sale determines the production method for both of these chairs. This in turn, creates their differences in form and aesthetic.

Figure 7: IKEA Adde Chair.

Figure 8: Finn Juhl's Chieftains Chair.

Utility Furniture

During World War II economic circumstances drove the English government's Board of Trade to create a line of "utility furniture." Gordon Russel, chairman of the Board boasted that with the introduction of utility furniture, "the basic rightness of contemporary design won the day, for there wasn't enough timber for bulbous legs or enough labour for even the cheapest carving and straightforward, commonsense lines

were both efficient and economical."[11] The furniture created by the government was incredibly functional and cheap, but the forms were rather austere (see figure 9). These designs were created with price, material usage, and ease of manufacturing as their foremost constraints. Any sort of ornamentation or style was seen as a bonus rather than a necessity. Angular, inorganic designs were easier and cheaper to make. This type of furniture did not have any room for the artistic impulses of the designer, or the user's desire for ornamentation. Instead, the design brief was to create furniture which fit a certain price point and dearth of materials during wartime.

Figure 9: Page from a Utility Furniture Catalogue.

An example of more utilitarian, non-sculptural furniture design. Simple, geometric forms take into account manufacturing costs and frugal material usage.

IKEA could be considered the maker of today's utility furniture. The cheapest designs produced by IKEA, things such as the Adde Chair, are created using that same

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[11] Reimer, Suzanne, and Philip Pinch. "Geographies of the British Government's Wartime Utility Furniture Scheme, 1940–1945." *Journal of Historical Geography* 39 (January 1, 2013): 99–112. https://doi.org/10.1016/j.jhg.2012.07.003.

philosophy promoted by the British Board of Trade. IKEA's goal as a brand is to provide "a range of home furnishing products that are affordable to the many people, not just the few."[12] This lofty goal of affordable products on a mass scale results in specific material choices, production techniques, and types of products chosen to be sold at IKEA. This is why you rarely see a piece of sculptural furniture there. Because of this focus on manufacturing costs, IKEA furniture is often visually conservative in a way that calls back to the constraints of utility furniture. The fact that this type of furniture is so widely accessible and affordable is partially the reason why sculptural furniture is regarded as unusual. When IKEA makes and sells around 36.4 billion Euros worth of furniture every year, it's no wonder that this is the furniture which is most visually familiar to us.[13]

Danish furniture designer Finn Juhl said, "the craftsman's ability to form is probably the same as that of a sculptor," but very few comparisons are ever drawn between an injection molding machine and a sculptor.[14] Sculptural furniture requires a focus on aesthetics and materiality rather than a focus on manufacturing costs. As for British utility furniture, the designs were simple, almost to a fault, and "the British public grew tired of the socialist-inspired utility furniture and no longer wished to have good taste dictated to them by the government."[15] People get sick of furniture which places an excessive focus on function over aesthetics. "The useful element in design and

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[12] "The IKEA Concept - IKEA." IKEA /US/EN. Accessed May 5, 2018. https://www.ikea.com/ms/en_US/this-is-ikea/the-ikea-concept/index.html.

[13] "IKEA Facts and Figures - IKEA." IKEA Highlights 2016. Accessed May 5, 2018. https://highlights.ikea.com/2016/ikea-facts-and-figures.

[14] "Chieftains Chair." Design Within Reach. Accessed May 4, 2018. http://www.dwr.com/living-lounge-chairs/chieftains-chair/6779.html?lang=en_US.

[15] Fiell, Charlotte, and Peter Fiell. *Modern Furniture Classics since 1945*. Washington, D.C: American Institute of Architects Press, 1991, 14

manufacture can help to make happiness practicable but it cannot make happiness. The only way in which design can make directly for happiness is by beautifying the environment and constantly enriching its visible quality: in short, by art."[16] It is not the usability and functionality of a piece of furniture that imbues feeling, beauty, and personal connection, but something else. In other words, it is furniture which incorporates art into its design which brings joy and interest.

Cost is not the only factor taken into account when people purchase furniture for their home. Style and visually interesting elements are large considerations into the decisions made on home furnishings. Although the smashing success of IKEA's cheap, quickly manufacturable furniture[17] asserts that price continues to be an important consideration to users and buyers of furniture, the fact that our living rooms look different from the IKEA model apartments proves that we crave visual enjoyment, and moreover, emotion from our furnishings. Websites like ikeahackers.net fill the gap for those who desire a more personal connection from their utilitarian, mass produced furniture. Users on this website upload their own "hacks" of IKEA products, turning mass manufactured objects into one-of-a-kind, sometimes sculptural, pieces of custom furniture.

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[16] Pye, David. *The Nature and Aesthetics of Design*. London: Barrie and Jenkins, 1978, 104
[17]"IKEA Facts and Figures - IKEA." IKEA Highlights 2016.

Figure 10: IKEA Hack "MOJO Table"

Ikeahackers.net user Lotta G. from Switzerland turns IKEA LACK side tables into unique pieces of sculptural furniture using paper machè.[18]

Form Follows Function

The Modernist dogma of "form follows function," is a functionalist approach to design which places the aesthetics of an object in the hands of the function. It asserts that this method of determining form results in the most logical and best outcome. The implication here is that a particular function has a form to which it is most suited. Modernism was concerned with creating objects with materials, processes, and forms that were most rational and logical to the function which it was serving. This design approach is often followed by designers today, although typically in ways that are much less dogmatic than the early 20th century proponents of modernism. A common argument against more artistic and sculptural furniture is that there is no logical reason for it to look that way. If a cheap, easily producible, and simple folding chair serves the

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[18] "Paper Mache Scuplture - Furry Friends Coffee Tables." *IKEA Hackers* (blog), December 18, 2017. https://www.ikeahackers.net/2017/12/paper-mache-sculpture-coffee-tables.html.

same function as a sculptural dining chair, why make the more complex, less rational choice of the sculptural chair?

However, this design philosophy can, and has been, applied in creative ways which allows for forms and processes outside the logical or rational. Isamu Noguchi, sculptor and designer "craved to bring sculpture into a more direct involvement with the common experience of living…[he] thought of function as a determinator [sic] of form, and invention of function as a possible opening to an art beyond the accepted categories"[19] By imagining new functions, the function of bringing sculpture into our daily lives, Noguchi was able to insert himself into the movement of modernism while still pursuing sculptural forms.

Other design movements sought to completely upend modernism's desire for logic and rationality in design. Memphis, an Italian design collaborative from the 1980s, purposefully rebelled against the tenets so widely accepted by designers who followed modernism. Barbara Radice, one of the founding members of Memphis described the movement as one which moves beyond the idea of form follows function. "When a Memphis designer makes a design he or she does not merely define a product that must contain, pour, light, support, hold or rest. He or she thinks, visualizes and formally engineers the design as a set of expressive signs with certain cultural contents."[20] Ettore

[19] Domergue, 41

[20] Radice, Barbara. *Memphis: Research, Experiences, Results, Failures, and Successes of New Design.* New York: Thames and Hudson, 1995.

Sottsass, Barbara Radice's husband and another founder of Memphis felt that "design should also be sensual and exciting,"[21] rather than just focusing on function.

Although these pieces were certainly exciting, and evoked responses (both positive and negative) from those who saw them, they were inaccessible to most. "[Sottsass] professed to want to reach people on an emotional level, but with his limited edition pieces he was only reaching the few. 'That's not my problem,' counters Sottsass. 'Everybody tells me this. 'You are elitist'. But a painter who sells in a gallery is not an elitist, he is a painter. He gives ideas about paintings; I am giving ideas about objects.'"[22] Is it possible to create a less elitist, more accessible type of sculptural furniture which still embodies these ideas of emotionality and connection?

[21] "Postmodernism in Design: Carlton Bookcase by Ettore Sottsass." Dezeen, August 3, 2015. https://www.dezeen.com/2015/08/03/ettore-sottsass-memphis-group-carlton-storage-unit-tahiti-lamp-postmodernism/.
[22] "Ettore Sottsass." Justin McGuirk, November 22, 2013. http://justinmcguirk.com/ettore-sottsass.

Figure 11: Carlton Bookshelf by Ettore Sottsass, 1981

"[Memphis] was the loudest battle cry yet rattled against modernism – a multi-coloured, no-shapes-barred assault on the idea of functionalism and all it stood for."[23]

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[23]"Ettore Sottsass." Justin McGuirk

The Survey

How to Determine Visual Accessibility?

For a piece of furniture to be what I call "visually accessible," the combination of formal design elements, such as size, softness, hardness, color, angularity, etc., must all be acceptable to the user. In David Pye's book *The Nature and Art of Workmanship,* he argues that "every formal element has a maximum and minimum effective range. It can only be 'read'- perceived for what it is- by an observer stationed within those limits."[24] For each element of a piece of design the designer can only get so outside-the-box before the piece of furniture begins to become unrecognizable or unacceptable. The visual accessibility of a piece of furniture depends on where each formal element of that piece of furniture falls in that range. As soon as one of these elements becomes too strange or unrecognizable to the user, for example if the size becomes so small that the user is unsure of how to sit in it, or if the color is so bright that it hurts to look at, the piece is visually inaccessible.

The further these formal elements stray from a place of visual accessibility, theoretically, the more likely it is that the user's comfort while using it will go down. Pete Dormer refers to sculptural furniture which blends elements of art and design as "hybrid furniture." He asserts that "when one uses this hybrid furniture, one is especially self-conscious of the work and one's relationship to it. Hybrid furniture expects you to be conscious of the way it obliges you to sit, or how you look when you are sitting in it, or what the chair itself looks like as a piece of sculpture or as a

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[24] Pye, David. *The Nature and Art of Workmanship*. Herbert Press, 2008, 33

metaphor or as a conversation piece."[25] The more the piece of furniture deviates from the typical, the more likely it is that the user will expect a certain level of comfort or discomfort and focus on the experience of sitting in the chair, rather than just allowing the chair to perform its function as a place to sit. Some art furniture, like the "hybrid furniture" Pete Dormer talks about, lies on the far end of the scale of visual accessibility. If a piece of furniture is so visually unusual that you view it as a piece of art firstly, and a functional object second, it is much less visually accessible, and therefore much less likely to earn a place in the home environment.

My research through this survey sought to identify what the maximum and minimum effective range was for four formal elements in particular, and how the effectiveness of these elements affected its perceived functionality. I hoped to determine why sculptural furniture is often perceived as being less functional. In order to do this, I wanted to identify the elements of sculptural furniture which influence the user's visual perceptions of comfort. This research focuses on four formal elements in particular: angularity, mass, color, and comfort.

Survey Design

People who took this survey were shown twenty-five pieces of furniture which I deemed to be pieces of sculptural furniture, based on the criteria for sculptural furniture which I have laid out in the previous portions of this thesis. These pieces of furniture are varied in form, material, size, and color, although they are all pieces of seating. They are also varied in the years in which they were designed. The earliest piece of

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[25] Dormer, Pete. *Furniture Today- Its Design and Craft*. Penshurst Press, 1995, 46

furniture is from 1917, the latest, from 2017. The rest lie somewhere in between. However, the survey respondent is given none of this information when taking the survey. They don't know the year, the designer, or the title of the piece.

They are presented pictures which place the piece of furniture out of context. The photos have no humans in them and most are shot on a studio backdrop, rather than in a room with other pieces of furniture. By placing these pieces of furniture out of context, I hoped to create a completely neutral survey-taking space for the participant. Leaving humans out of the photos allows for the survey-taker to use other clues to determine the size. It also better fosters a type of imaginative experience for the survey-taker. A lack of people in the photos means that they are forced to imagine themselves in that piece of furniture, and really think about the way they might feel while sitting in it, rather than just gauging a model's expression and posture for their comfort rating. A studio backdrop similarly asks the participant to imagine this piece of furniture in a space. Perhaps this space is their own home, and by imagining the piece in this space, there are able to determine size.

The survey participant is then asked to rate each piece of furniture on a six-point scale for angularity, mass, color, and comfort. In selecting the pieces of furniture for this survey, I was also careful to ensure equal amounts of furniture which was small and large; colorful and monochromatic; and angular and organic. By doing this, I hoped to collect data on the perceived comfort of pieces of furniture which fall on all ends of these spectrums. These particular metrics were selected because I felt they were the formal elements of a piece of furniture which most determined its usability and

acceptability in the home, and most influenced the decisions made when deciding what pieces of furniture to place in the home.
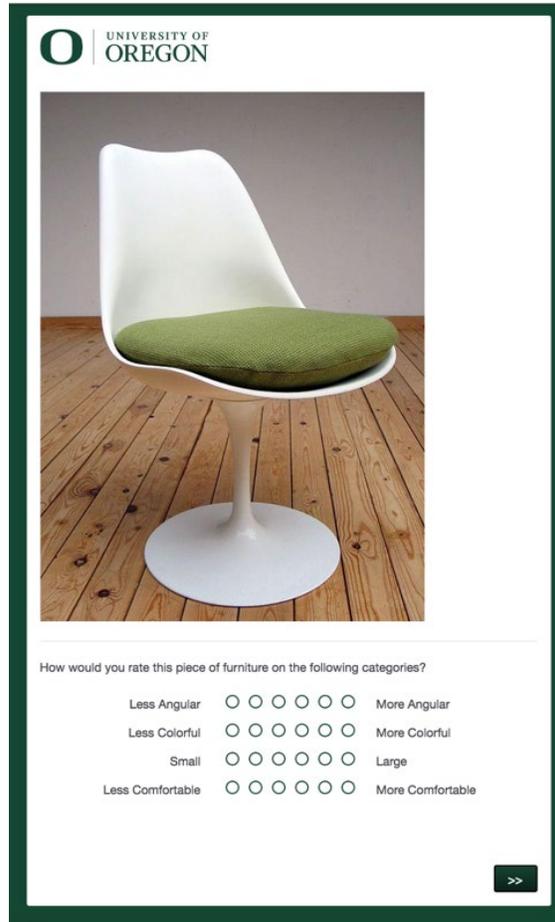

Figure 12: A Sample Question from the Survey

Pictured: Eero Saarinen's Tulip Chair, 1957.

Angularity

Angularity can roughly be defined as visual sharpness. The amount of curving or sharp shapes determines the angularity of a piece of furniture. A La-Z-Boy lounge chair could be considered the least angular, and Rietveld's Red Blue Chair, potentially the most angular. I believe that the angles and padding on a piece of furniture strongly correlates with its comfort. I hypothesized that for this metric, pieces of furniture which

were rated less angular will be rated as more comfortable, due to their visually soft quality.

Mass

Mass refers to the physical size of the object. In asking the survey respondent to rate its mass, I am essentially asking them how much space they think it might take up in a room. Perhaps in doing this, they imagine this piece in their own home. A piece of furniture does not exist in a void. It lives in interiors with other pieces of furniture and with people who move through the space. Sometimes these rooms are institutional, like a classroom, or a doctor's office, but more familiar to us is the environment of our own home. The home is also where comfort matters most in a piece of furniture. We will tolerate uncomfortable furniture in public settings like those, but not in the place which is meant to embody comfort and relaxation.

The size of a piece of furniture can be prohibitive to its use in the home. If it is too large, it is impractical for many homes, and it makes it harder for the object to interact with existing pieces of furniture. However, a large piece of furniture is often a comfortable one. It allows the body space to spread out, relax, and recline. If it is small, it is viewed as uncomfortable, like sitting in a chair meant for a child. But, smaller pieces of furniture are more practical for fitting into smaller homes and around other furniture in settings like a dining room. I hypothesize that larger pieces will be viewed as more comfortable, primarily because of the universal desire to spread out and relax. The question is, will the perceived impracticality of large pieces of furniture play a role in their rating as more or less comfortable?

Color

       Color refers to a scale between monochromatic and multicolored. People often have strong opinions on colors, and this is partially the reason why I chose it as a metric. Our homes sometimes follow a certain color palette or scheme. We will choose furniture which does not clash with the colors of the furniture we already own or the colors of the walls. Many do not want furniture which has colors that are too bright or loud. When was the last time you saw a hot pink sofa in somebody's home? I was interested if rating a piece of furniture as more or less colorful influenced its comfort rating at all. I hypothesized that pieces which are less colorful will be rated as more comfortable, and vice versa, due to our perceptions of more colorful furniture being less acceptable for the home. I think that our perception of comfort is strongly tied to its visual acceptability, and color plays a large role in determining what furniture is or is not acceptable.

Comfort

       Comfort is by far the most subjective metric on the survey. By asking this question last, the respondent is forced to take into account the ways that they have already rated this piece of furniture and use the decisions they made to determine how comfortable they might be while sitting in this piece of furniture. By thinking about how big a piece of furniture is, the respondent is imagining how well their body would fit into it, whether there would be room to spread out, or whether they would be cramped. In considering the piece's angularity, the respondent imagines whether sharp corners or angles of a piece would poke and make them sit in an uncomfortable way, or whether the soft curves would cradle their body comfortably.

Survey Analysis

Why Use a Survey?

Using a survey in the design process is unusual for creating a piece of sculptural furniture. Typically, surveys and other more quantitative research methods are reserved for human-centered design processes. The design process is highly subjective, and the type of research done when designing a piece of furniture is more typically more qualitative than quantitative. Using a survey as a research method for sculptural furniture in particular is a unique approach, as sculptural furniture is more often focused on individual artistic expression than it is the needs and desires of the user. I chose to use a survey in my design process because I wanted to achieve greater visual accessibility, and less elitism from the piece of sculptural furniture I designed. By using real data from real people, I hoped to create a piece of sculptural furniture which was more connected to the needs and desires of the user.

Design is a subjective field, so the analysis of this survey is most definitely not of a scientific type. In order to get understandable, and easily interpretable data from my results, I averaged the answers of all the survey responses to give each piece of furniture a number score in each of the four categories. Rather than attempting to analyze this data in a strictly statistical or scientific method, I hoped to interpret this data in a way that would assist my design process the most.

Comfort

Very few of the pieces of furniture which the survey respondents were questioned about were rated as being higher than a three on the scale of comfort. Three

was the high end of the "less comfortable" range. Thirteen out of the twenty-five pieces of furniture on the survey received a three as their average comfort score. Only seven pieces received higher than a three, and no pieces received higher than an average of 4 in the category of comfort. Five received a comfort score lower than 3. In analyzing this data, I am most interested in the pieces which fall on the far ends of this spectrum, that is, the pieces which are rated as the most comfortable and least comfortable.

I think very few pieces were rated as comfortable partially because of the visual unfamiliarity of these pieces of seating. If I was to create a new survey to be distributed again, I think it might be useful to include a sort of "control group" of more typical looking furniture, or sculptural furniture which was a bit less out of the box, in order to get more pieces which were rated as more comfortable.

Upholstery

The largest trend in the category of comfort, was upholstered pieces of seating being categorized as more comfortable. Six out of the seven pieces which received higher than a 3 on the scale of comfort were upholstered. Upholstery is an element of furniture which fairly reliably corresponds to comfort in our lives. When looking to sit in a chair for a long period of time, would you rather sit in one that was soft and cushioned, or one that was made of just wood, plastic, or some other solid material? Although chairs which are un-upholstered certainly have the capability to be just as comfortable, if not more so, than an upholstered piece, the comfort of these chairs depends on more nuanced and precise methods of creating bodily comfort. Comfortable angles, rounded wooden edges, and back heights must be just right in order to create a

comfortable, un-upholstered chair. Visually, it is much harder to identify these smaller details which contribute to a chair's comfort.

For example, Hans Wegner's Wishbone Chair is made almost entirely of wood. Although there is no upholstery, it is an incredibly comfortable chair, due to the precision the craftsmanship and the careful attention to proportion. Upholstery, on the other hand, is an element of furniture which requires little nuance. It is much more intuitive to read upholstered chairs as comfortable. We know that soft equals comfort, and hard equals discomfort. It is a much more common experience to sit in an uncomfortable, un-upholstered chair, than it is to sit in an uncomfortable upholstered chair.

Furthermore, I feel that upholstery may have provided a type of familiarity for the survey-taker among some of the more unfamiliar forms of these pieces of furniture. Even when the forms, colors, and sizes of the pieces of furniture were unfamiliar, the fact that they were upholstered was able to provide a concrete clue as to how comfortable they might be. A strange looking, but upholstered piece of furniture is more likely to be comfortable than one that is strange looking, but un-upholstered. However, only six out of the sixteen pieces of upholstered furniture on the survey received higher than a 3 on comfort, meaning that upholstery was certainly not the only factor which went into determining the comfort of the piece. To better gauge the full effect that upholstery might have on the perceived comfort of a piece of furniture, I think it might be useful to include a metric of "softness" or "hardness" on the survey, separate from angularity.

Figure 13: Hans Wenger's Wishbone Chair

Comfortable? Very. Upholstered? No.

Angularity

Six out of the seven pieces rated most comfortable received a 3 or lower on the scale of angularity. The pieces of furniture which incorporated the most organic and soft shapes, were viewed as the most comfortable. Angularity also seemed to play a greater role than most of the other metrics in the extent of its effect on the perceived discomfort of a piece. Six out of the seven pieces rated higher than a 3 on angularity also rated as some of the most uncomfortable looking pieces. A relevant example of the intersection between softness and angularity is the Big Sur Sofa (see figure 14). This was one of the pieces on the survey, and was also rated as being one of the most angular. However, this is an upholstered piece. The upholstery is unusual in that it is very angular, and the cushioning is upholstered in a way that makes the cushions looks hard, with very harsh, sharp angles. Here was a piece where the fact that it was upholstered did not matter in its comfort rating. Its extreme angularity seems to cancel out any sort of potential comfort that might be present in the piece because of its cushioning.

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Figure 14: Peter Shire's Big Sur Sofa

Most people are aware, if only subconsciously, that the angles of a chair's backrest, seat, and armrests contribute to its comfort. When these angles look off, or are unusual in some way, especially in sculptural furniture, the impulse is to categorize them as less comfortable. The piece's visual accessibility relies on its ability to be categorized as more comfortable, and the angularity of the piece contributes heavily to this categorization.

Size

Size was also attributed to pieces which were viewed as more comfortable. Out of the seven pieces rated most comfortable looking, five of them were also rated higher than a 3 on mass, meaning that they were on the larger end of the spectrum of scale. This follows with my hypothesis that chairs which allowed more room for the body to sit were seen as more comfortable.

Color

    Color did not end up correlating with comfort at all. Some very brightly colored

pieces were rated as very comfortable. Some brightly colored pieces were rated as very

uncomfortable. The same went for monochromatic pieces. In the end, I think color was

viewed more as a surface treatment than it was as an aspect of physical or psychological

comfort. My hypothesis of brightly colored furniture being perceived as less

comfortable relied on an assumption that our comfort in a piece of furniture was tied to

how visually accessible the color was to us. Bright colors are often visually

inaccessible, but it seems that assumption was wrong.

Figure 15: Finn Juhl's Pelican Chair

Rated an average of 5 on color, and an average of 4 on comfort. A piece that was both
more colorful, and more comfortable.

    Upon reviewing the survey results, it seems that color plays more of a role in the

styling and overall cohesiveness of an interior than it does in physical comfort. People

can still be physically comfortable in a brightly colored object, even if they might not want that piece of furniture in their home environment.

Research Limitations

The sample size for this survey is relatively small. The survey had a total of 122 respondents. This size limits the application of this research to my own personal uses, and to the design of a single chair. If I were to design a more extensive line of products based off this data, or use it to design furniture for a more commercial, widely used space, I would seek out a larger a sample size in order to get the most accurate data. However, for my purposes as an independent designer creating a single piece of furniture from a survey, it is more than enough data to go off.

Perceptions of comfort are cultural. In some other non-western cultures, such as Japan and India, sitting on the floor is much more common than sitting in chairs. Given that this survey was given to people living in the United States, a chair sitting culture, the responses to this survey will be much different than if I had given the survey to people in another part of the world. My data is limited in this way, and it would be much stronger if the sample group was more diverse in their location. Because I have surveyed people who likely have a cultural homogenous view of comfort, the results will be skewed towards that particular cultural interpretation.
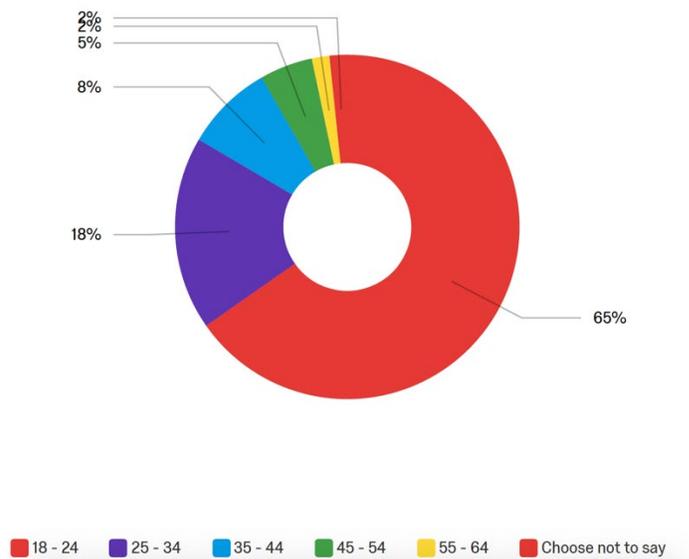
Figure 16: Survey Age Breakdown

Very few people older than 54 took this survey. No people over 64 took the survey. In fact, 65% of survey respondents were people ages 18-24. This lack of variety in age among the survey respondents may have skewed the results slightly, although it's impossible to ascertain in which way. However, I can speculate that young people might be more willing to accept stranger looking designs, and thus might be more likely to rate certain pieces of furniture as being more comfortable. Furthermore, our perceptions of comfort are likely to change throughout our lives. As we age, certain pieces of furniture which we had no problem sitting in at 18 become impossible to sit in at the age of 80. Certain back angles, materials, and furniture types become less and less comfortable the older we get. If a greater number of older people had taken this survey, perhaps some of the more outlandish pieces which were included in the survey would have been rated as less comfortable, given the changes in relative comfort which occur throughout our lives.

Correlation does not equal causation. A piece of furniture is not always more comfortable the larger it is. It may not even be more comfortable if it uses soft upholstery instead of hard plywood. I want to stress that there are not certain elements which are a fool-proof way to make a piece of furniture more comfortable. Just because there was a correlation in this survey between size, angularity, and comfort, does not mean for certain that these particular elements were the determining factors behind their average comfort rating. The participant might have sat in one of these pieces before and remembered that it was comfortable or uncomfortable, or seen it in a store somewhere and made a value judgement about it then. Rather than being a direct equation, this correlation between angularity, size, and comfort provides a rich framework in which to begin a design process.

The Chair

Through the primary research I conducted in my survey and my background research on the historical and theoretical context of sculptural furniture, I designed a piece of seating which embodies the insights gained. I was inspired by the "cocooning" movement of the 1980s, which "endorsed interiors with voluptuous seating."[26] In my search for pieces of furniture which are both beautiful and comfortable, I found that there are few contemporary pieces of sculptural furniture which attempt to do both. Upon observing friends and family look for places to sprawl out low to the ground, near fireplaces, I was inspired to create a piece of furniture which fit that need. The survey pointed to large, upholstered, and organic shapes as being perceived as the most comfortable. These key words seemed to fit perfectly into this problem space I had identified. So, I used them as driving points in my design process.

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[26] Gura, Judith, and Sophia Yi-Ying Lu. *Design after Modernism: Furniture and Interiors, 1970-2010.* 1st ed. New York: W.W. Norton & Co, 2012, 79

Figure 17: DIY Floor Furniture

People will often use bean bags, floor cushions, or pillows as impromptu furniture when seeking low-to-the-ground seating. Comfortable, but certainly not beautiful.

Figure 18: Relaxing on the ground

If no such cushioning is available, sitting or lying on the ground is the next best option.

The ideal, non-sculptural piece of furniture which fits this need is the oft-reviled bean bag chair. The bean bag is pure upholstery, incredibly organic in form, and sometimes, enormously sized. It positions you low to the ground, a more casual form of seating. You can sit upright in it, lay down and nap on it, or lay somewhere between the two. The larger of them can accommodate more than one person. I loved the versatility, casual nature, and comfort of the bean bag, but as an object, it's often one of shame, symbolizing adolescence and immaturity. Furthermore, they are always quite ugly, given that they are shapeless blobs of fabric filled with plastic beans. Few people over the age of 19 proudly display a bean bag in their home, and as a result, this category of casual, comfortable seating barely exists in a beautiful, sculptural way.

My ultimate design goal was to create a piece of seating which fell within that sweet spot of sculptural and comfortable, while also meeting these criteria of comfort and informality. It should be visually fun, be sculptural while still reading as something people want to sit in, and have that "cocooning" effect which is so enjoyable. Upholstery seemed to be the most obvious choice of technique and material to fit this need, due to the data gathered in the survey.

For a more in depth look into the process of designing and making this chair, refer to the Process Book.

Conclusion

Through this thesis, I have found that although pieces of sculptural furniture may be more visually fun and evoke more emotions and connection than the typical piece of IKEA furniture, it is a challenge to see this type of furniture as comfortable for the home environment. The small number of pieces rated as comfortable in the survey proves that we are more likely to view these as pieces of art than we are as pieces of functional furniture which could live with us. This view is one that is very pervasive, and one that makes sense due to the historical and economic context in which both sculptural and utilitarian furniture exists.

I hope that the design of this chair has succeeded in creating a piece of furniture which is seen as simultaneously comfortable, sculptural, and acceptable for a home environment. I do not expect that this chair will drastically change home environments or become some kind of turning point for people wanting more sculptural furniture in their homes, but I do hope that it can provide a little bit of happiness for the person who sits on it or sees it. Maybe it could even spark an interest in furniture which goes beyond the typical for someone who didn't know they enjoyed furniture which looks more like art than they are used to.

In conclusion, I hope that this thesis, in both its written and physical portions, makes people think about the types of objects they want and have in their homes, and question why that is. I do not want to impose my aesthetic or love of sculptural furniture upon people, I merely hope that those who read this paper and sit on my chair are able to look beyond the typical, the regular, the easy to obtain, and open themselves up to new types of objects.

Bibliography

"'Carlton' Room Divider | Ettore Sottsass | 1997.460.1ab | Work of Art | Heilbrunn Timeline of Art History | The Metropolitan Museum of Art." The Met's Heilbrunn Timeline of Art History. Accessed May 21, 2018. https://www.metmuseum.org/toah/works-of-art/1997.460.1ab/.

"Chieftains Chair." Design Within Reach. Accessed May 4, 2018. http://www.dwr.com/living-lounge-chairs/chieftains-chair/6779.html?lang=en_US.

Domergue, Denise. *Artists Design Furniture*. New York: Abrams, 1984.

Dormer, Pete. *Furniture Today- Its Design and Craft*. Penshurst Press, 1995.

"Ettore Sottsass." Justin McGuirk, November 22, 2013. http://justinmcguirk.com/ettore-sottsass.

Fiell, Charlotte, and Peter Fiell. *Modern Furniture Classics since 1945*. Washington, D.C: American Institute of Architects Press, 1991.

"Gerrit Rietveld. Red Blue Chair. 1918–1923 | MoMA." Accessed May 4, 2018. https://www.moma.org/collection/works/4044.

Gura, Judith, and Sophia Yi-Ying Lu. Design after Modernism: Furniture and Interiors, 1970-2010. 1st ed. New York: W.W. Norton & Co, 2012.

"The IKEA Concept - IKEA." IKEA /US/EN. Accessed May 5, 2018. https://www.ikea.com/ms/en_US/this-is-ikea/the-ikea-concept/index.html.

"IKEA Facts and Figures - IKEA." IKEA Highlights 2016. Accessed May 5, 2018. https://highlights.ikea.com/2016/ikea-facts-and-figures.

"Paper Mache Scuplture [sic] - Furry Friends Coffee Tables." IKEA Hackers (blog), December 18, 2017. https://www.ikeahackers.net/2017/12/paper-mache-sculpture-coffee-tables.html.

"Postmodernism in Design: Carlton Bookcase by Ettore Sottsass." Dezeen, August 3, 2015. https://www.dezeen.com/2015/08/03/ettore-sottsass-memphis-group-carlton-storage-unit-tahiti-lamp-postmodernism/.

Pye, David. *The Nature and Aesthetics of Design*. London: Barrie and Jenkins, 1978.

Pye, David. *The Nature and Art of Workmanship*. Herbert Press, 2008.

Radice, Barbara. *Memphis: Research, Experiences, Results, Failures, and Successes of New Design*. New York: Thames and Hudson, 1995.

Reimer, Suzanne, and Philip Pinch. "Geographies of the British Government's Wartime Utility Furniture Scheme, 1940–1945." Journal of Historical Geography 39 (January 1, 2013): 99–112. https://doi.org/10.1016/j.jhg.2012.07.003.

Sudjic, Deyan. *The Language of Things: Understanding the World of Desirable Objects*. 1st American ed. New York: W.W. Norton & Co, 2009.